Regulating Finance: Expert Cognitive Frameworks, Adaptive Learning, and Interests in
Financial Regulatory Change

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Dissertation submitted in partial fulfillment of
the requirements for the degree of Doctor of Philosophy in the Department of
Political Science in the Graduate School
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ABSTRACT

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Abstract

My dissertation seeks to understand how and why governments make major changes in financial sector regulations. I focus on two specific puzzles. First, why is financial sector regulation not normally central to electoral competition and why are changes in financial sector regulation rare events? Second, why do we observe substantive intellectual debates and efforts of policy persuasion despite the conclusion of many researchers and observers that financial regulatory policy outcomes are driven by the preferences of powerful special interest groups? What are the mechanisms precisely by which ideas versus interests shape policy outcomes in a domain that is not often central to electoral politics? I investigate these questions through a formal game theoretical model of the regulatory policymaking process and through case studies of historic episodes of financial regulatory change in the United States which draw upon a wide variety of primary and secondary source historical materials. I conclude that financial regulatory change is most likely to occur when events of different types cause heads of government to perceive that the existing regulatory status quo threatens the realization of broader policy objectives. Heads of financial sector policy bureaucracies shape outcomes by providing cognitive frameworks through which leaders understand regulatory consequences. Interest groups influence policy outcomes primarily through their ability to act as veto players rather than by controlling the policy agenda.
Dedication

This dissertation is dedicated to the people who have loved and sustained me throughout this process: My mother Carolyn, my father Darwin, my brother Michael, and my wife Aurora, our beautiful baby boy Alexander and his brother and sister who will be born shortly after this is completed.
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Even a cursory familiarity with the history of the twentieth century reveals how important the health and development of the financial system is to the welfare of average people and to the fate of nations. The Great Depression of the 1930s was primarily caused by a financial crisis originating in the United States and brought immense suffering to millions of people around the world (Bernanke, 1995; Romer, 1993). The transmission of the financial crisis to Europe, beginning with the collapse of Austria’s Kreditanstalt in May 1931 and rapidly spreading to other countries and the wider economy, took a sledgehammer to an already strained political order in Europe, contributing to the rise of the Nazi regime in Germany which was to plunge much of the world into the terrible suffering of the Second World War. After decades of deliberately limiting cross-border capital flows and restricting financial markets, starting in the late 1970s countries around the world began a wave of capital market liberalization and financial deregulation which accelerated in the 1980s and 1990s (Abiad & Mody, 2005; Obstfeld & Taylor, 2004). These changes were accompanied by increasingly frequent financial crises in many developing nations throughout Latin America and Asia in the 1980s and 1990s, resulting in national defaults, widespread economic pain and severe disruptions to economic growth that rocked governments throughout these regions (Obstfeld & Taylor, 2004; Reinhart & Rogoff, 2009). Most recently, the financial crisis of
2008-2009 threatened the possibility of a second Great Depression, forcing the U.S. and European governments to engage in hugely costly rescues of their banking and financial systems to prevent broader collapse.

In addition to the suffering which the failure of financial markets can bring, economic research has pointed to a strong connection between the depth and sophistication of countries’ financial sectors and their economic growth over time (Levine, 2004). Financial markets play a critical role in allocating capital to productive uses and in enabling transformative economic innovations (Rajan & Zingales, 2003b). Although the precise linkages and effects are complex and subject to debate, the organization of financial markets is unquestionably central to corporate governance and, therefore, to the structure of incentives that managers face in their investment and productive decisions, to the relative positions of different “stakeholders” within modern firms, and to patterns of national comparative advantage (Fama & Jensen, 1983b; Gourevitch & Shinn, 2005; Hall & Soskice, 2001; M. C. Jensen, 1986).

The regulation of the financial sector by governments is centrally important to all of these outcomes. By “regulation” I refer to the choices which governments make regarding the major “rules of the road” which shape the competitive environment, incentives, and market structure within which financial firms operate. This conception of regulation includes regulation of competition and entry in the financial sector; policies regarding government and foreign ownership of financial sector firms; capital account
liberalization; the activities permitted to different types of financial firms and the relationships that are permitted to exist between different types of financial firms and between financial and non-financial firms; as well as what economists and regulators would call “prudential” regulation of financial firms such as the regulation of required levels of capital levels. These regulations include laws enacted by governments as well as the rules set by regulatory agencies within the framework of these laws, although I concentrate mainly on the former. This definition excludes, however, aspects of financial policy such as monetary policy and exchange rate policy that are primarily directed at macroeconomic management.

I focus in this dissertation on understanding how and why major changes in financial sector regulation occur within democratic countries. In addressing this larger question, I focus, in particular, on two sets of puzzles raised by the politics of financial sector regulation. First, I seek to understand why, if the health and development of the financial sector is so important, debate regarding financial sector regulation is not normally central to electoral political competition and why changes in financial sector regulation are such rare events in the history of nations.1 We might reasonably expect financial regulatory issues to be a central issue in party and electoral politics as different constituencies fought for regulatory changes that benefited their members. Similarly,

1 Abiad and Mody (2005) document the fact that financial regulatory changes are rare events in most countries and tend to cluster within time within countries.
we might expect frequent changes in financial regulation as governments of different stripes sought to shift regulation in favor of their supporters and to undo changes wrought by their predecessors. Instead, this is not normally the case. Most elections are fought over other issues and financial sector regulations are remarkably stable. For example, no major changes occurred in the regulation of U.S. banks between 1935 and 1980.2

The second puzzle that I confront concerns the relationship of ideas and interests in the shaping of financial regulatory policy. On the one hand, academics, journalists, regulators, market participants, and other policy experts have engaged in heated public debates for years in many countries about the merits of different types of financial regulatory changes. In the U.S., Congressional hearings on financial regulatory issues typically involve lengthy testimony by regulators and by academic and other policy experts who argue for and against the merits of different proposals, while Congressional committees, government agencies, industry groups, and policy think tanks produce lengthy reports that produce blueprints and coherent intellectual arguments for different changes. On the other hand, journalists, politicians, academics, and many in the public have complained for years that financial sector regulatory policy is dominated by well-moneyed special interests that jockey for advantage and effectively purchase

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2 The most important exception was the Bank Holding Company Act of 1956, which reinforced the basic structure of financial sector regulation that emerged during the Depression era.
policy outcomes with little resistance or scrutiny within the democratic process. This view is bolstered by the extensive lobbying and financial contributions of the financial industry and other interest groups and by the apparent frequent disinterest and ignorance of much of the wider public with regard to financial sector regulatory policy debates. Are those who present intellectual arguments advocating particular regulatory policies merely wasting their breath or is it actually possible to affect policy through persuasion? If their arguments are really meant just as cover for actions taken in the service of powerful groups why expend the effort to fool a disinterested and ignorant public? Do the beliefs and intellectual commitments of policymakers matter or only their narrow electoral and material interests? Is there a way to reconcile the existence of substantive intellectual debates over policy with the evidence that powerful interest groups have significant influence over regulatory choices? Most interestingly, what are the mechanisms precisely by which ideas and interests shape policy outcomes in a domain that is not often central to electoral politics?

A large body of valuable research has emerged over the past two decades exploring the determinants of changes in financial regulations. Much of this research has involved cross-national statistical research focused on the broad correlates of financial regulatory change across nations (Abiad & Mody, 2005; Omori, 2007) and has often focused on the narrower question of the determinants of current and capital account liberalization rather than broader changes in the structure of financial regulation
(Alesina, Grilli, & Milesi-Ferretti, 1993; S. Brooks, 2004; S. M. Brooks & Kurtz, 2007; Leblang, 1997; D. P. Quinn & Inclan, 1997). These studies have offered interesting and insightful discussions of the relationships between financial regulatory change and a variety of political and economic variables including the partisan composition of governments, exposure to trade, different measures of economic structure, and exposure to international shocks. By necessity of their design, however, these studies do not look closely at the details of the political processes by which financial regulatory change occurs within nations. Thus, for example, while studies of transnational policy diffusion offer strong evidence to suggest that changes in the policies of a country’s major trading and investment competitors as well as common cultural and religious affinities between countries affects the likelihood that a country will undertake policy changes (Simmons & Elkins, 2004); these studies do not examine the mechanisms by which these external pressures are translated into domestic policy choices.

Moreover, most existing research does not look at policy change over longer periods of time within countries. Although a valuable body of case study research exists, many case studies cover policy change over relatively short periods of time of a decade or two during which regulatory policy moved in a particular direction (e.g., towards “liberalization”) or focus on policy change in non-democratic countries (Armijo, 1999; Auerbach, 2001; Haggard & Maxfield, 1996; Kessler, 1999; Loriaux, 1997; Lukauskas & Minushkin, 2000; Maxfield, 1990). Similarly, data restrictions have meant
that most large-N studies have only looked financial regulatory change (or simply current and capital account liberalization) over the period from 1973-1996 at the longest (Abiad & Mody, 2005), and often over considerably shorter time periods, so that cross-national variation dominates longitudinal variation. This has meant that it is often difficult to disentangle the effects of different variables upon policy change over time within countries. More importantly, there is no reason to believe that the relationships that are discovered to exist during one short historical period will necessarily be the same as those that exist in past or future periods.

In my dissertation I argue for a shift in the emphasis of research toward understanding the political process by which financial regulatory change occurs within countries and the way in which the politics of the financial sector regulatory process differ from that of other policy domains. I argue, moreover, that the model of financial

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3 See Rajan and Zingales (2003a) for an innovative effort to expand measures of policy outcomes in order to examine policy “reversals” over longer time periods.
4 An interesting example of the potential dangers of extrapolating from historical data is offered by the recent financial crisis. One of the criticisms that has been made in the wake of the 2008-2009 financial crisis is that the mathematical risk models (i.e., so-called “value at risk” or “VAR” models) upon which large banks relied to estimate their capital requirements under Basel II capital regulations based their projections of the probability of different magnitude portfolio losses by relying on data spanning only a few decades for newer types of financial products and assumed that historical ranges of volatility and cross-correlations between different assets would remain constant (Smith, 2010). The data sets on which these models drew were very large and were based on very high frequency data (intraday and even “tick by tick” prices of different assets). The prices of different assets which these models, on the basis of historical data, assumed to be largely uncorrelated or even negatively correlated (and therefore to serve as hedges) in fact saw their correlations quickly move towards 1 while their volatility increased exponentially as hedge funds and other large investors sold unrelated assets in massive quantities in the attempt to raise cash to meet their liquidity needs. For an interesting perspective on these issues, see the discussion by Skidelsky (2009) of Keynes’ arguments regarding the limitations on econometric inference. Keynes had been an important contributor to the development of probability theory.
regulatory policymaking process which explicitly or (more usually) implicitly underlies much of existing research on financial regulatory policy has important limitations. The prevailing model either (i) assumes that changes in financial sector regulations are driven by external economic pressures (e.g., balance of payments shocks) without specifying the political process by which governments choose to change or not change financial regulatory policy in response; or else (ii) assumes that changes in financial sector regulation are driven by the changes in the “demands” of interest groups that result from changes in the preferences of interest-group actors that, in turn, arise from secular changes in economic structure, as perhaps better explains policy change in other domains.

I argue instead for a different model of the financial regulatory policymaking process and argue that important financial regulatory change is better understood as the outcome of the conscious search by political leaders for feasible solutions to the “design problems” that they perceive. My argument emphasizes the connections between financial regulatory policy and the success of political leaders’ broader policy objectives; the role of “events” of different kinds (and not only external shocks) in shaping leaders’ perception that the existing regulatory status quo is no longer consistent with the realization of their broader policy goals; and the important role of the leaders of specialized financial bureaucracies (i.e. the Treasury and Central Bank) in shaping policy outcomes through their role in supplying the cognitive frameworks through which
policy problems are understood and in taking policy initiatives or other actions that change leaders’ expectations. My argument provides a basis for understanding why, contrary to the expectations of many prevailing accounts, political leaders (and especially the heads of governments) often act relatively autonomously from interest group pressures in setting the regulatory policy agenda, and suggests a more nuanced understanding of the role of interest groups in the formation of regulatory policy, in which interest groups constrain rather than dictate the policy choices of leaders.

Moreover, the theoretical model of the financial regulatory policymaking process which I offer points to empirical predictions that differ from those of prevailing “demand-driven” explanations. My argument offers a theoretical basis the conclusion that there are important limitations on the extent to which it is possible to make general statements about the relationship between financial regulatory outcomes and the composition of interest groups within society or to predict the occurrence of regulatory change based upon changes in economic or social structure. There are, however, as I argue below, a variety of observable implications which follow from my argument and which differ in certain important respects from those offered by prevailing arguments.

I elaborate my theoretical argument in the following chapters. In this chapter I offer a summary of existing arguments and discuss some of the limitations in those arguments which motivate my alternative theoretical account of the financial regulatory policymaking process.
1.1 Demand-Side Explanations of Financial Regulatory Policymaking

Most existing research on the political economy of financial sector regulatory policy begins explicitly or implicitly with the premise that financial sector regulatory policy outcomes are ultimately driven by the “demands” of different societal economic interest groups. This emphasis flows naturally from the general models which inform our understandings of the incentives that govern the behavior of politicians in democracies\(^5\). Voters, firms, and other societal actors have preferences over economic policy outcomes that vary according to their economic position. Office-seeking politicians compete to attract votes by offering policy promises to voters and are held accountable by voters in subsequent elections for their policy record (Downs, 1957). Moreover, since politicians must raise money to fund their electoral campaigns or are sometimes simply venal, they will often be willing sell policy outcomes in return for financial contributions, particularly if they believe they will face a low electoral price for doing so. Political leaders are assumed to respond largely passively to the demands of different societal interest groups rather than to try to advance positive conceptions of policy or of the national interest, unless of course they do so as a means of demonstrating their commitment to broader ideological positions as a vote-maximizing strategy of communication (Hinich & Munger, 1997). Political institutions are an

\(^5\) I do not claim, of course, that all political scientists follow precisely the conception of the democratic policymaking process that I outline here; only that it is implicitly very influential in how many have conceived financial sector regulatory policy to be determined.
important adjunct to many such arguments: political institutions are the “filter” through which interest group “demands” are processed and therefore shape which interests are best represented in the decision-making process.

This implies, therefore, that research on financial sector regulatory policy should proceed by imputing preference over financial sector outcomes to different economic interest groups based on their position within the economy. Once preferences over financial policy outcomes have been attributed to economic interest groups, it becomes possible to reason about how the policy preferences of different groups and hence their “demands” within the policy process will change as the relative size of different interest groups changes over time or as new “coalitions” of interests form in response to various types of short-run or long-run economic, social or other changes. As always, political institutions help to determine which groups overcome collective action problems, how interests are aggregated, and which interests are listened to most closely by policymakers. This general model of policy choice is articulated very clearly, for example, by Garrett and Lange (1996) and by Gourevitch and Shinn (2005).

I use the term “economic interest group” broadly here to refer to any categorization of a set of individuals or organizations (e.g., corporations, unions, etc.) based upon objective economic characteristics of the individuals or organizations included in the set. Such objective economic characterizations can include the relative factor endowments of agents (i.e., do the actors generate their income primarily from
land, labor, or capital); differences in the asset-specificity of the activities from which the agents generate income; differences the type of asset portfolio held by the agent (e.g., is the individual or organization a net creditor or a net debtor; or does the agent draw income primarily from a portfolio of equity assets or a portfolio of debt holdings); the “class” to which the agent belongs (i.e., labor versus capital – the relationship between the agent and the “mode of production”); the degree of exposure to trade of the activity from which the agent gains income; whether the agent gains income primarily from the “state sector” or the “private sector”; the specific economic sector from which the agent primarily draws its income; the degree of diversification of the income streams of the individual; or other such characteristics.

Most existing research on the political economy of financial sector regulatory policy explicitly or implicitly adopts one of four variants of the general “demand-side” understanding of how financial regulatory policy is formed, or often overlapping combinations of these. These include (i) “interest-group” accounts; (ii) “regulatory-capture” accounts; (iv) “partisanship” accounts; and (v) “institutionalist” accounts. I explain these in turn below.

1.1.1 Interest group accounts

Interest group accounts are the most general category of “demand-side” understandings of the financial sector regulatory policymaking process. The common feature of interest group accounts is that they assume that financial sector regulatory
policy outcomes are shaped by political competition between different sets of economic interest groups which have well-defined preferences over financial regulatory policy choices. The usually implicit assumption is that financial regulatory policy choices are not central to electoral political competition and, therefore, the main actors in policy debates are firms from different economic sectors or organized lobbies representing well-defined “special interests” of various kinds including sets of firms with common interests, unions, and other such organized groups. Interest group approaches usually assume that regulatory policy outcomes are determined by the most “powerful” group or coalition of groups within society. These approaches do not usually specify how exactly such “power” is exercised or from whence it derives, but generally implicitly assume that the interest group or coalition with the most money (i.e., the greatest capacity to make financial contributions) or which represent the largest or most important areas of national economic activity will prevail and will be able to impose its preferences on regulatory policy outcomes.

The interest group account of regulatory policy outcomes has important implications for how researchers understand the determinants of changes in financial regulatory policy. Changes in financial sector regulatory outcomes occur, this approach suggests, because the preferences or relative power of different interest groups or coalitions change over time, implying that the “demands” on political leaders change over time. Changes in the preferences, composition, and relative power of different
interest groups occurs in turn as the result of longer term structural changes in the economy such as the emergence of new technologies, organizational innovations, or changes in the structure of markets. By their nature, such structural changes in economies tend to emerge gradually as the result of longer-term secular processes rather than occurring abruptly or by “quantum leaps.”

Rajan and Zingales (2003a) offer an elegant example of such arguments. They argue that financial regulatory change is driven by gradual changes in the exposure of economies to trade and capital movements, which shift the preferences of industrial and financial sector “incumbents” who would otherwise prefer to maintain financial systems that are closed and dominated by “relationship” financing between financial and industrial firms with close connections rather than “arms-length” financial relationship in competitive financial markets. Only when increases in both the economy’s exposure to trade and capital movements will the preferences of financial and industrial incumbents become aligned and will financial regulatory change occur.6

Sometimes arguments about effects of long-term structural changes on interest group preferences are combined with arguments about the effects of external shocks such as balance of payment crises. (Haggard & Maxfield, 1996), for example, argue that

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6 Rajan and Zingales (2003a, p. 21) argue that the preferences of these two economic interest groups is decisive to policy outcomes, “In an industrialized country, incumbent industrialists and financiers ordinarily would have enough political power, because of their large economic weight and small numbers, to collectively decide the development of the economy’s financial sector….So financial development will take place only when the country’s political structure changes dramatically, or when the incumbents want development to take place.”
balance of payments crises have frequently tipped the balance in policy competition between different coalitions. Balance of payments crises operate through their effects on interest groups, however, by shifting the preferences and relative power of different interest groups and thus realigning the composition and political strength of pro and anti-reform coalitions. Moreover, the effects of balance of payments crises in tipping the balance of power between different coalitions of interests occur against the backdrop of longer term structural economic changes that gradually shift the preferences and relative power of different interest groups and thus make conditions ripe for a balance of payment crisis to shift policy outcomes. The general implication of these arguments is that regulatory policy change rests ultimately upon interest group preferences. As a consequence, researchers should concentrate upon identifying the most important correlates of financial regulatory change that emerge from changes in economic structure, with these structural economic correlates perhaps supplemented by crises as proximate causes of policy change (D. P. Quinn & Inclan, 1997).

1.1.1.1 Economic interests and financial regulatory policy preferences

Different authors are more or less explicit in basing their reasoning upon imputations of preferences over financial policy to different economic interest groups. Given the wide variety of ways that it is possible to define economic interest groups based upon the income streams, assets, and other endowments of different actors there is a correspondingly large number of ways in which different authors have imputed
preferences to different economic interests. I offer a non-exhaustive list of examples in this section.

A number of different authors have pointed to the factor endowment of different economic actors as a source of their preferences over financial regulatory policy. The intellectual godfather of much existing research on financial sector policy is Frieden’s (1991) account of the sources of domestic interest group preferences over financial sector policy, and in particular preferences over the degree of capital mobility. Frieden draws upon the specific-factors model of international trade in which certain factors of production (land, labor, or capital) are fixed in the short-term so that they cannot easily shift to other occupations. An implication of this standard model of trade is that factors of production that are relatively scarce relative to the rest of the world will be harmed by increasing trade while factors of production that are relatively abundant will benefit. Frieden (1991) extrapolates from this to reason that an increase in capital mobility should have similar effects for the income of actors endowed with labor and actors endowed with capital, depending upon the whether the country is comparatively labor or capital abundant or scarce and depending on the extent of international diversification of the investment portfolio of financial actors. These arguments lead to corresponding predictions regarding the source of interest group preferences over capital account liberalization, with owners and managers of financial assets and multinational firms favoring capital account liberalization and firms tied to the domestic
market opposing capital account liberalization, while the reverse pattern holds in developing countries.

A variety of other arguments that rely upon the factor endowments of actors as a basis for inferring their preferences are possible. Freiden and Rogowski (1996) in a more general context point out that the specific-factors model discussed in Frieden (1991), in which factors of production are fixed in the short term, and the Hecksher-Ohlin model in which all factors of production are assumed to be mobile in the short term are merely different ends of a continuous spectrum of possibilities. Garrett and Lange (1996) endorse the argument of Freiden and Rogowski (1996), but emphasize how political institutions affect which interest groups have the greatest influence. Mahon (1996) focuses on how changes in capital mobility affect financial sector policy and other policies over time – his account implicitly draws upon factor endowments.

Other authors have imputed interest group preferences over financial regulatory policy outcomes based upon differences in the interests of actors in tradeable versus nontradable sectors. Maxfield (1990), Haggard and Maxfield (1996), and Auerbach (2001) all argue that export-oriented firms in developing countries have been key advocates of financial sector opening.

A number of authors have also argued that the domestic financial sector and industrial firms are key actors in the financial regulatory policy process and impute preferences to these actors as a basis for their predictions of policy outcomes (Armijo,
1999; Auerbach, 2001; Loriaux, 1997; Maxfield, 1990; Omori, 2007). Omori (2007), for example, argues that banks in developing countries will generally oppose liberalizing financial regulatory reforms because they benefit from protected markets and the pervelance of relationship-based financing. Manufacturing firms, however, will have incentives to press for regulations liberalizing the domestic financial sector (e.g., encouraging foreign bank entry, eliminating interest rate controls, eliminating capital account controls) as they will be better able to access capital and to compete internationally if their domestic financial sectors are competitive. Where industrial firms and banks have strong cross-ownership ties as is typical in many developing countries, Omori argues that the manufacturing interests will usually dominate interests of such financial-industrial groups.

Other authors have argued that the key division of preferences over financial sector regulation occurs between established large firms in manufacturing and financial firms (i.e. “industrial and financial incumbents”) on the one hand, which usually prefer to maintain closed financial systems dominated by relationship-financing, and new smaller new entrant firms on the other hand, which prefer open financial systems based on arms-length finance in which they will not be discriminated against in raising capital by established firms. I have already discussed the arguments of Rajan and Zingales (2003) above.
Other authors, however, have suggested that these various accounts have missed the mark, and that the most important cleavages are based on the centered on the interests of owners, workers, and managers who typical represent competing interest groups with clear preferences over financial sector regulatory policy. Gourevitch and Shinn (2005) focus on explaining corporate governance outcomes across countries and thus present arguments regarding the determinants of financial sector policy choices that impact corporate governance outcomes. Their theoretical framework imputes preferences to owners, workers, and managers and then reasons as to how interests are filtered through political institutions. They suggest several patterns of competition are thereby possible: class conflict, sectoral conflict, and patterns of competition over pensions.

This is a non-exhaustive list. It is possible to imagine many other plausible cleavages between economic interest groups in their preferences over financial sector regulatory outcomes. An important such economic interest group cleavages which I discuss below concerns the very different preferences of different segments of the U.S. financial services industry at different points in time toward various financial regulatory policy.

1.1.2 Regulatory Capture Accounts

Regulatory capture accounts are really just a subset of interest group accounts, in that they assume that economic interest groups are able to determine regulatory policy.
outcomes, although it is useful to consider them separately given the long general history of regulatory capture arguments in economics and political science. Moreover, regulatory capture arguments have emphasized somewhat different specific theoretical concerns as I discuss briefly below.

Regulatory capture arguments generally begin by assuming that some sort of "optimal regulation" exists at least in principle, by which social welfare will be maximized, where social welfare is defined as the sum of consumer surplus, producer surplus and agency surplus as these terms are generally defined within economics.7 Regulatory capture arguments usually begin by assuming that the legislature acts as a benevolent maximizer of social welfare and then asks how far social welfare will deviate from that existing under optimal regulation if the industries that are the targets of regulation can collude with the agency that the legislature appoints to regulate them, with such collusion defined as "regulatory capture".8 Regulatory capture arguments usually assume the existence of information asymmetries between the legislature and the regulatory agency with its specialized knowledge of the industry and, therefore, conceive of regulation as a principal-agent problem between a legislature “principal”

7 My summary of regulatory capture arguments draws upon Przeworski (2003).
8 See for example the set-up of the model in Laffont and Tirole (1991). Much of this literature assumes that regulators seek to regulate the price at which natural monopolies sell their output and so relates to issues raised by the regulation of public utilities. This, I would argue, is actually a rather different regulatory issue than that typically raised by financial regulation were the public policy goal is usually to contain systemic risks or protect depositors. While financial regulatory actions can certainly affect the price at which different financial services are offered, financial sector regulation is not generally targeted at controlling the prices that consumers face.
and the regulator “agent”. Regulatory capture arguments assume that target industries (i.e., an interest group) will be able to capture their regulators by sharing some of the private gains of regulatory collusion. The effects of regulation are, therefore, generally assumed to be harmful to social welfare. As Stigler (1971, p. 3) concludes, “…as a rule, regulation is acquired by the industry and is designed and operated principally for its benefit.”

Regulatory capture arguments make very clear arguments about the role of money in politics. “Chicago School” regulatory capture arguments generally follow Downs (1957) in assuming that voters are “rationally ignorant” and that regulators use part of the financial contributions which they receive from special interest contributors (i.e. the regulated industry) for public relations campaigns to fool the “losers” of regulatory actions into voting for them (i.e., for their sponsors in the legislature) (Przeworski, 2003, pp. 109-112). The “Virginia School” variant of regulatory capture focuses its explanation on the private gains available to regulators so that the regulator is seen as a rent-maximizer rather than as a vote-maximizer (Przeworski, 2003, pp. 112-113). Interest groups can influence policymakers through a variety of specific means including monetary bribes; promises of lucrative future employment in private industry; personal relationships; public criticism or restraint in public criticism; and campaign contributions and direct advertising expenditures to influence public opinion more generally (Laffont & Tirole, 1991, pp. 1090-1091).
I argue in this dissertation that although the principal-agent issues which regulatory capture arguments examine are interesting and important, this focus completely ignores the active and central role that financial regulatory agencies play in shaping regulatory outcomes in the legislature – that is, in shaping the content of the regulations that their legislative “principles” impose. In addition, I follow Przeworski’s (2003) more general criticisms of the regulatory capture literature in arguing that there are limits on the extent to which money can buy regulatory outcomes.

1.1.3 Partisanship Accounts

Partisanship accounts of financial sector regulatory policy outcomes are closely related to interest group accounts. Just as with interest group accounts, they explicitly or implicitly assume that financial regulatory policy changes are driven by the preferences of societal actors who place demands upon political leaders. The main difference between these approaches and interest group approaches is that they focus on the role of parties in aggregating the preferences of societal actors and tend to assume that financial sector regulatory policy issues are generally perceived to be important by the wider public rather than just to narrow economic interests (e.g., bankers and industrial leaders). As result, these approaches generally impute preferences over financial sector policy to broader societal groups such labor versus capital, or to broad economic sectors such as agricultural versus urban interests, and assume that financial regulatory policy will be contested within the electoral arena along partisan lines.
Examples of approaches which emphasize the role of partisan alignments and broader societal interests in shaping financial regulatory outcomes include Quinn and Toyoda (2007), Quinn and Inclán (1997), Kastner and Rector (2005), Brooks and Kurtz (2007), and Brooks (2004).

A number of partisan approaches move in the direction suggested by this dissertation in that they identify specific linkages between financial sector regulatory policy and the broader policy objectives of political leaders. Bernard (2002), for example, suggests that political party leaders have found it useful in many countries to create independent central banks in order to remove monetary policy from the realm of political party conflict and to avoid electorally costly policy splits within their parties. I suggest below, however, that it difficult to generalize about partisan or interest group preferences over the full range of different financial regulatory policy issues across countries and over time. Moreover, while parties (or party factions) sometimes have clear preferences over financial regulatory outcomes, there are many financial regulatory policy issues which cut across partisan divides or which do not neatly tie to electoral conflict over distributive issues.

1.1.4 Institutionalist Accounts

Institutionalist arguments often form an important adjunct to interest group or partisan accounts of regulatory policymaking, although they are rarely offered as the central explanatory factor for financial regulatory policy outcomes. Political institutions
such as constitutional structure or electoral rule help to determine which groups
overcome collective action problems, how interests are aggregated, and which interests
have greatest representation in the policymaking process. Gourevitch and Shin (2005)
and Garrett and Lange (1996), for example, stress the importance of institutions in
shaping the policy demands that leaders face.

An implication of these arguments is that institutional variation across time and
space can be an important source of variation in financial regulatory policy outcomes. I
do not explicitly examine this proposition in this dissertation, but I do examine the
related proposition that financial regulatory policy change requires institutional change.
I argue that financial regulatory change in fact occurs quite often in the absence of
institutional change.

More generally, I argue that institutional arguments are an important
compliment to the theoretical argument that I present in this dissertation, but that
institutional arrangements are not themselves sufficient to explain the occurrence of
financial regulatory change. Financial regulatory change occurs, I argue, because
“events” of different kinds cause political leaders to perceive a conflict between the
existing regulatory status quo and their ability to realize broader policy objectives.
These timing or nature of these events is generally exogenous to institutional
arrangements. I argue that interest groups (and particularly the domestic financial
sector) play on important role in constraining the policy choices of political leaders by
their ability to act as “veto players” and to move policy outcomes closer to their preferences. My argument, therefore, implicitly assumes that institutions are important because the structure of political institutions clearly influences the ability of different interest groups to act as veto players in the policy process. The number of different institutional features which can affect the ability of different interest groups to act as veto players is large and includes such institutional features as the electoral system; whether or not the system is presidential or parliamentary; the representation of regional interests within the constitutional structure (e.g., federalism and the powers of sub-national governments, bicameralism); the structure of the party system (e.g., the degree of party fractionalization and patterns of interest group cleavages); and the degree to which centralized bargaining institutions exist representing labor and capital. I argue, however, that it is difficult to offer universal generalizations about which institutional features will be most important to the ability of different groups to act as veto players in the financial regulatory policymaking process. I, therefore, implicitly assume that such institutional features are important to the financial regulatory policy process in shaping the ability of different groups to act as veto players, but do not attempt to offer a general theory of which institutional factors should matter most in what settings.
1.2 Limitations of Demand-Side Explanations of Financial Regulatory Policymaking

I argue that there are three important limitations to demand-side explanations of financial regulatory change. First, the preferences of different interest groups and the composition of groups involved in the policymaking process are typically very contingent. Second, the preferences of interest groups are themselves dependent upon prevailing cognitive frameworks which change over time for complex reasons. Finally, demand-side explanations do not sufficiently appreciate the fact that political leaders are often willing to act relatively autonomously of interest group pressures or the role of specialized financial sector bureaucratic actors in the financial regulatory policymaking process.

As a consequence, while it is certainly true that different interest groups are important actors in the regulatory policymaking process, there are limitations on the extent to which it is possible to offer general statements about the preferences or influence of different interest groups that hold true across time and place. A more fruitful approach, I argue, is to focus research upon understanding the aspects of the financial regulatory policymaking process about which it is possible to make general statements. The specific theoretical framework that I offer suggests, moreover, that financial regulatory policy change is best understood as the outcome of an evolutionary process in which political leaders respond to new “events” and adjust the existing
regulatory status quo to fix problems that they come to perceive in a process of “adaptive learning”.

1.2.1 The Contingency of Interest Group Preferences

The preferences of different interest groups and the composition of groups involved in the policymaking process are highly contingent, depending upon specific features of the existing regulatory framework, the structure and organization of markets, and technology. Not only is the number of possible ways of categorizing actors according to “objective” economic criteria very large (i.e., the plausible ways of defining relevant economic interest groups), but the possible ways in which financial sector policies can affect the well-being of actors with particular types of economic characteristics is much greater than is typically acknowledged in existing theoretical accounts. As a result, I argue that there are limitations in the usefulness of trying to offer general explanations of financial regulatory policy outcomes based upon the preferences of economic interest groups.

Consider, for example, the logic of the argument in Frieden (1991). Frieden’s argument essentially proceeds from the assumption that the primary effect of financial sector policy is to change the degree of capital mobility and therefore to make capital relatively more or less abundant within the domestic economy. Depending on relative factor abundance in relation to the rest of the world, increasing capital mobility will therefore either increase or reduce the incomes of agents who are endowed primarily
with labor or primarily with capital. Even if we limit our attention to the specific policy choice of the degree of capital mobility permitted by financial regulation, it is obvious that the ways in which policy affects the incomes of actors in the domestic economy is much greater than simply changing the abundance and hence cost of capital in the economy generally. Other effects include changing the volatility of income to all actors in the economy as a result of the possible volatility of cross-border capital movements (J. Stiglitz, 2000); changes in the ability of exporters to hedge currency risk, and so forth.

It is worth considering the issue more generally. I argue, that, in general, any given financial sector policy choice is likely to affect the income streams of actors in the domestic economy by at several of the following possible ways at the same time. The list below is far from exhaustive.

1.2.1.1 Policy effects on the cost of capital generally.

Financial sector regulatory polices may affect the overall abundance or scarcity of capital in the domestic economy, and hence the overall cost of capital that firms face, in a number of ways. Policies that ease capital mobility may make capital relatively more abundant or scarce within the domestic economy depending whether the country is “capital rich” or “capital poor” as argued by Frieden (1991). Other financial sector policies can make capital either more abundant or scarce by encouraging or discouraging households and firms from saving within the formal financial sector (e.g., policies of financial repression may discourage saving by reducing returns to savers,
although some financially repressive countries have high savings rates). In addition, the effect of specific financial sector policies on the overall availability of capital may depend upon features of the broader institutional and political environment – for example, removal of financially repressive policies may not lead to a significant increase in savings in the formal financial system if households fear subsequent expropriation.

1.2.1.2 Policy effects on the cost of capital to specific sectors.

Separately from their effect on the overall scarcity or abundance of capital within the domestic economy, financial sector regulatory policies may act directly or indirectly to make capital more or less abundant to specific sectors and thus affect the cost of capital faced by different actors. For example, directed lending programs may make capital more abundant to specific favored sectors, but simultaneously make capital less abundant in the economy as a whole, by discouraging savings as if such policies imply that savers face lower returns than they would be able to obtain if their savings were directed without such restrictions. Whether or not the removal of directed lending programs affect the ability of different sectors to borrow is, however, likely to be contingent on the overall environment for contract enforcement and information scarcity. Moreover, a separate theory is required to predict which actors will be favored recipients of credit under directed lending or similar capital allocation policies.
1.2.1.3 Policy effects on the volatility of capital markets

Financial sector regulatory policies can make domestic capital markets more or less volatile in many different ways. As Stiglitz (2000) has argued, capital account liberalization may significantly affect the volatility of portfolio capital flows into and out of the domestic economy. Whether or not increased capital mobility will be associated with increased volatility of portfolio flows depends in a variety of ways upon how foreign investors perceive the political environment of a given country (Bartolini & Drazen, 1997; Mosley, 2003; Stasavage, 2003). Other financial sector policies may have similar if effects. For example, policies that liberalize and promote the development of domestic stock and bond markets may increase the availability of capital to firms, thus decreasing their cost of capital, but also increase the volatility of financial flows.

1.2.1.4 Policy effects on the efficiency of domestic capital allocation

Financial sector regulatory policies can hinder or promote the efficiency of domestic capital allocation in complex ways, where by “efficiency” I refer to the likelihood that capital is allocated to its highest marginal productive use and new market and technological innovations are able to receive funding, thus enabling the economy to reach its growth potential. Among the ways that financial sector policies can alter the efficiency of domestic capital allocation are by changing the availability of information to different actors, by changing the scope of available financial products, by affecting the overall “depth” and development of capital markets, or by imposing fewer
or greater administrative mandates on the allocation of capital or conversely helping to overcome information asymmetries between lenders and borrowers.

1.2.1.5 Policy effects on the ability of economic actors to hedge against risks

Financial sector regulatory policies can also affect the ability of actors to hedge against various contingencies. Financial sector policies can affect the ability of actors to hedge risks by restricting or permitting different types of financial contracts (e.g., derivatives, complex insurance products like guaranteed investment contracts or catastrophe bonds); by affecting the overall “depth” and development of domestic financial markets; or by affecting the ability of domestic agents to buy insurance (broadly conceived) from foreign providers or to participate in foreign financial markets.

1.2.1.6 Policy effects on the likelihood of financial crises

Financial sector regulatory policies can also affect the likelihood of financial crises in a variety of ways. For example, permitting actors to engage in new types of derivatives contracts may increase their ability to hedge risks, but may also increase the likelihood of an overall systemic financial crisis.

1.2.1.7 Policy effects on the level and volatility of returns to savers and investors

Financial sector regulatory policies may affect the long-range returns that households and firms are able to realize on their savings and their investment portfolios in a wide variety of ways. Financial sector regulatory policies also the volatility of such asset portfolios in a variety of ways. Such regulatory policies may, for example, change
the equity risk premium demanded by investors or may make secondary markets in assets such as equities or bonds more or less deep.

1.2.1.8 Policy effects on corporate governance

Financial sector regulatory policy can have important implications for the structure of corporate governance and for the incentives facing actors under alternative or similar corporate governance arrangements. A common distinction in the corporate governance and variety of capitalism literatures is between bank-based and market-based systems of corporate governance, with financial sector policies clearly affecting the evolution of either type of system (Gourevitch & Shinn, 2005; Hall & Soskice, 2001). The structure of corporate governance in turn has important but complex implications for the pattern of specialization that is likely to prevail in the domestic economy (Hall & Soskice, 2001) and thus, by implication, important implications for the income prospects of different categories of economic actors.

1.2.1.8 Policy effects on the time horizons of economic agents

Separately from any affects on the structure of corporate governance, financial sector policies can alter the investment time horizons of economic agents in a variety of ways.

1.2.2 The Importance of Cognitive Frameworks to Policy Preferences

The complexity of the potential ways in which financial sector policies can affect the economic well-being of economic agents raises a second set of reasons why there are
limitations on the extent to which it is possible to offer general statements about the policy preferences or influence of different interest groups that hold true across time and place. These problems arise from the difficulties that agents have in reasoning as to how different financial sector policy choices will affect their well-being and thereby forming preferences over different policy choices.

These difficulties are deeper than simply the information costs of gathering sufficient data and ascertaining facts with sufficient precision to be able to calculate the net effect of the different possible effects of a given financial policy upon an actor’s expected income stream – although these information costs can indeed be formidable. Rather, the difficulty lies in the ability of actors to form expectations about the effects of financial sector policies even if they can acquire information without cost.

In order to form such expectations about the effects of financial sector policies upon their economic well-being, and thus to form preferences over financial sector policy choices, economic agents require a theoretical framework (i.e., a “cognitive framework”) that provides them with expectations of how change changes in financial sector policy are likely to affect their well-being given what they know factually about the state of the world. Cognitive frameworks can be sophisticated or simple heuristic devices, but without a cognitive framework agents will be unable to form expectations about the effects of policy.
A very important implication of this observation is that logically there need not be any necessary connection between the “objective” economic characteristics of economic agents and the preferences that they hold over different financial sector policies. Economic agents in export industries in one country may be more inclined to believe that liberal financial sector policies will improve their income prospects than are similarly situated economic agents in another country simply because prevailing economic ideologies (i.e. cognitive frameworks) differ across the countries.

While similar issues exist with respect to other policy areas, as economic agents always require some sort of cognitive framework to relate policies to outcomes and hence to form policy preferences, I argue that these problems are especially acute with respect to financial sector policies. In simple terms, the average economic agent will be more confident of their ability to predict the connection between a trade policy or social insurance policy and their own economic well-being than they will be of their ability to predict the connection between most financial sector policies (e.g., different proposals for derivative regulation or bank capital requirements) and their own economic well-being. This is also likely to be true for most individuals who hold elective office.

I argue below in Chapter 2 that a consequence of this observation is that the actors who head specialized financial sector bureaucracies, and in particular the finance ministry and the central bank, are likely to have greater ability to influence policy outcomes through the advice that they provide (i.e., their ability to offer a cognitive
framework to decision-makers that maps policies to outcomes) than are bureaucratic actors in other policy domains.

1.2.3 The Incentives and Capacity of Political and Bureaucratic Leaders to Act Autonomously

A final important limitation to demand-side arguments arises from the fact that political leaders and bureaucratic actors often have the incentive and the capacity to act relatively autonomously from the demands of societal interest groups. Political leaders typically have policy objectives which are broader than the issues raised by particular financial regulatory policy disputes. Moreover, they often perceive financial regulatory policy to be instrumental to the realization of these broader policy objectives. They are, therefore, often willing to confront powerful interest groups when they believe that the financial regulatory policies that such groups advocate would harm their ability to realize their broader policy goals. Similarly, the leaders of the specialized financial sector bureaucracies often have significant power to influence the financial regulatory policymaking process. I develop these arguments in greater detail in the following chapter.

1.3 Summary of Argument, Methodology and Research Design

In the following chapters I outline an analytic framework for understanding how and why governments choose to make major changes in the regulation of their financial sectors. I argue that major changes in financial regulation are not typically “demand-driven” responses by governments to changing interest group pressures that arise from
secular changes in economic structure, as seen by many accounts and as perhaps better describes policy change in other domains. Rather I argue that important financial regulatory change is better understood as the outcome of the conscious search by political leaders for feasible solutions to the “design problems” that they perceive. As such, the arrival and structure of “problems” that political leaders face and the cognitive frameworks through which they understand policy options are very important factors in determining the timing and nature of major financial regulatory change. I argue that political leaders – and most importantly political executives (i.e., heads of government) – frequently see financial regulatory policy as instrumentally important to their ability to realize other key policy objectives. “Events” of different kinds (and not only external shocks) can cause political executives to perceive that the existing regulatory status quo is no longer consistent with the realization of their broader policy goals and lead them to search for new alternatives and to update their cognitive frameworks in a process of “adaptive learning”. I argue, moreover, that the leaders of specialized financial bureaucracies (i.e. the Treasury and Central Bank) often play a critically important role in shaping regulatory policy outcomes – even in the legislature – through their role in supplying the cognitive frameworks through which policy problems are understood and in taking policy initiatives or other actions that change leaders’ expectations. I argue that economic interest groups, and particular the domestic financial sector, are important actors in the policy process, but that their role is more usually to constrain the
policy the feasible policy choices of leaders by their ability to act as veto players on regulatory policy change than to dictate policy change or control the regulatory policy agenda.

My theoretical arguments lead to a number of important observable implications. First, the cognitive frameworks of different actors will be important to how they interpret their own interests and to their financial regulatory policy preferences. Second, financial regulatory change will be a rare event and change will often be discontinuous and abrupt. Moreover, the arrival of “events” of different types – including both internal and external shocks of various types – should be more a more important predictor of financial sector regulatory change than gradual secular realignment of the composition or relative size and of different economic groups. Third, major financial regulatory change is most likely to advance when the political executive (the president or prime minister) becomes attentive to financial sector policy and makes financial regulatory change a priority within their policy agenda. Other political and societal actors can play important roles in pushing for reform, but political executives have the greatest ability to set the policymaking agenda and major change is unlikely to proceed when opposed by the political executive. Fourth, close examination of the policy process in particular cases should reveal that the heads of the specialized financial sector policy bureaucracies are typically important participants in the policy process and are usually influential in shaping the direction of financial regulatory change once the
political executive becomes attentive to the financial regulatory reform. In particular, we should expect financial regulatory policy choices to reflect the cognitive frameworks supplied by such bureaucratic policy experts – and especially the diagnoses and solutions proposed by such experts in response to perceived failures in the regulatory status quo. Finally, the financial sector will typically be an important actor in the regulatory policy process, but will more typically exert influence by acting as veto player and constraining the policy choices of political leaders than in dictating the overall financial regulatory policy agenda.

I offer an empirical test of my arguments though case studies of successive “episodes” of financial regulatory change in the United States. I draw upon a wide variety of primary source and secondary source historical materials including memoirs of key participants, legal texts, testimony of key officials, official reports of government agencies, reporting on the legislative process, academic publications in which authors advance theoretical frameworks relevant to financial regulatory policy, and a large variety of secondary source research by both academics and journalists.

Although I argue that both ideas and interests matter in the formation of financial regulatory policy, my methodology is explicitly positivist: I offer positive arguments for why ideas should matter to policy outcomes and seek to test my arguments empirically. I test my arguments by offering a game-theoretic model to test the consistency of certain of my predictions with my assumptions and though
examination of the historical record to test the consistency of my observable implications with that record.

The research design that I employ has a number important advantages. First, by examining historical cases closely I am able to examine the “process” features of financial regulatory change in detail and which are central to my theoretical argument. Second, I am able to test a variety of important observable implications of my theoretical argument that would otherwise be very difficult to examine. For example, I am able to examine closely the role of cognitive frameworks in shaping the decisions of key participants as evidenced by their own arguments and accounts of their actions, by the presentation of the theoretical arguments made by contemporary academic and policy experts, and by the secondary accounts of well-informed observers. In addition, I am able to closely examine the behavior of key actors in the domestic regulatory process and the consistency of that behavior with my theoretical arguments that would be difficult to examine in a cross-national study. Third, by examining successive episodes of financial regulatory change within a single case I am able to hold relatively constant a variety of institutional, cultural and other factors, allowing me to better isolate the effects of other variables such as “events” and structural economic changes. Moreover, since these variables change over time I am able to test whether changes in these variables are consistent with the timing of changes in financial regulation.
There, of course, remain limitations in this research design. It is always desirable to test the observable implications of theoretical arguments against as many observations as possible in order to draw more robust inferences about causal relationships. It would be ideal, for example, to conduct detailed case studies of many different cases according to a standardized methodology or to construct a data set that included codings of the details of the cognitive frameworks of many different types of policymakers in many different cases. Problems of interpretation would of course remain, however. Moreover, there are practical constraints on any single empirical investigation. My hope is that the arguments and empirical evidence that I offer in this dissertation will stimulate further research into the questions that I present.

1.4 Plan of the dissertation

I develop and examine my argument in the following chapters. Chapter 2 presents and elaborates my theoretical argument in detail. Chapter 3 presents a game theoretic model in which I examine the consistency of certain of my predictions with the assumptions and theoretical arguments that I make. Chapter 4 examines the observable implications of my theoretical arguments against the historical record of financial regulatory change in the nineteenth and early twentieth century in the U.S.. Chapter 5 examines my arguments against the record of financial regulatory change during the era of the Great Depression. Chapter 6 examines my arguments against the record of financial regulatory change over the period from roughly 1980 through the early 2000s.
Chapter 7 reviews my conclusions; examines the broader applicability of my theoretical arguments, examining the applicability of my arguments to understanding the process of financial regulatory reform in India from roughly 1991 to 2008, as well as to other policy domains; and considers the implications of my research for future research agendas within political science.

This chapter presents an alternative theoretical framework for understanding how and why governments chose to make major changes to the regulation of their financial sectors. I argue here and in the following chapters that this framework offers a more accurate description of the process by which governments formulate financial regulatory policy and better explains the correlates of financial regulatory change than do the various “demand-driven” accounts that I discuss in the previous chapter – including interest group, regulatory capture, and partisanship explanations – or than do related “institutionalist” arguments. As I discuss here and in following chapters, however, there remain important complementarities between the argument that I present and the insights offered by these approaches.

The argument that I make is that political leaders – particularly the head of government or “political executive” – typically set the agenda for financial regulatory reform and take a more active and coherently intentional role in formulating policy than is generally appreciated by “demand-driven” accounts. Political executives do not chose financial regulatory policy on the basis of simple tallies of the demands and monetary or other contributions of competing interests, although these of course do enter into the calculations of political leaders. Rather, political executives see financial regulatory policy as instrumentally important to their ability to realize their broader policy
objectives such as economic growth and stability and, therefore, generally take a coherently intentional role in shaping the details of financial sector policy. Moreover, when political executives perceive financial regulatory policy to be instrumentally critical to the success of their broader policy objectives, they are often willing to pursue financial regulatory change even if this requires confronting substantial interest group opposition.

However, because financial regulatory policy is not usually itself directly electorally salient, political executives are not normally attentive to financial sector policy and are often content to maintain the regulatory status quo rather than expend political effort to change policy. Political executives focus on financial regulatory policy when exogenous shocks of various types, whether cumulative pressures such as chronic economic stagnation or sudden financial crises, cause them to perceive threats to their broader policy objectives that have plausible connections with financial sector regulation and, thus, cause them to reevaluate the expected outcome of maintaining the financial regulatory status quo.

I argue, moreover, that because financial sector policy is both highly complex and consequential, the leaders of the specialized financial policy bureaucracies – most importantly the central bank and finance ministry – typically exercise substantial influence over the policymaking process. On the one hand, such bureaucratic leaders control the implementation of important areas of policy, which enables them, within
limits, to take policy initiatives and to threaten to obstruct policies which they disagree.

On the other hand, the leaders of the specialized financial policy bureaucracies are also typically “policy experts” who possess specialized policy knowledge and expertise. Political executives depend upon the specialized cognitive frameworks which these policy experts supply to interpret the nature of financial sector policy problems, to formulate policy options, and to understand the consequences of different regulatory policy choices.

An important feature of the (sometimes competing) cognitive frameworks which bureaucratic policy experts supply is that they reflect “adaptive learning” and evolving knowledge of the links between policy choices and outcomes. In particular, policy experts adjust their cognitive frameworks in response to major events and the perceived failures of previous and existing policies. As a consequence, the regulatory policy advice of such experts and the resulting regulatory change is typically reactive. Regulatory changes are usually “fixes” to “problems” with existing regulatory arrangements that policymakers come to perceive as result of cumulative experience or unexpected events. The cognitive frameworks that bureaucratic policy experts supply, and which they update in response to experience, are a crucial link between political executives’ perception that some sort of policy response is needed to address exogenous shocks and the formulation of specific proposals for financial regulatory change. Such cognitive frameworks provide political executives with detailed accounts of the origins
and effects of exogenous shocks, explanations of the linkages between financial sector regulation and other policy objectives, and projections regarding the likely outcomes associated with different regulatory responses, including that of maintaining the regulatory status quo.

The analytic framework that I outline below suggests, moreover, a somewhat more nuanced understanding of the influence of interest groups – and in particular of the financial sector itself – upon the regulatory policymaking process than presented in many accounts. I argue that the financial sector is influential in the regulatory policymaking process and is sometimes able to lobby policymakers to change financial regulations which financial sector actors find objectionable. I argue, however, that it is easier for financial sector lobbies to obstruct and force modifications to new regulatory initiatives than it is for such lobbies to set the policy agenda and initiate regulatory reform. This is because it is easier for a private actor to capture “veto points” in the policymaking process than to compel a change in the policy direction of the political executive. The political executive, moreover, will generally be willing to confront even well-organized and well-financed lobbies in order to support financial regulation that it perceives as essential to the realization of its broader policy objectives.

In more general terms, I offer a positive argument for why and how ideas and events matter to the formation of public policy in addition to “interests” understood in terms of the efforts of individuals and groups to maximize their claims to tangible
resources and opportunities. I offer an argument, moreover, for why governments often act relatively autonomously in certain policy domains and for why the policy choices of governments are not always easily reducible to the demands of some set of groups within society. I develop my argument in the remaining sections of this chapter.

2.1 Financial Sector Regulation and Electoral Competition

I argue that financial sector regulatory policy is typically, but not always, of low salience to electoral politics. In this section I explain the general reasons why the dimensionality of electoral politics is constrained and the specific reasons why financial sector regulatory policy does not usually map onto the main dimensions of electoral competition or weigh heavily in voter decisions. These specific reasons include, I argue, (i) the complexity of the financial regulatory policy domain, which makes understanding the effects of such policy informationally complex for voters; (ii) fact that financial policy frequently has mainly diffuse and general effects on the well-being of voters, for example by affecting the general condition and efficiency of the economy, rather than clear distributive consequences for different groups; and (iii) even where financial policy has clear distributive consequences for different groups, these are frequently orthogonal to the main distributional and other dimensions of electoral competition and of lesser importance to most voters than other issues. These are characteristics which financial sector regulatory policy shares with certain other policy domains such as regulatory
policy in other industries (e.g., telecommunications), science and technology policy, and foreign policy.

I argue in the next section of this chapter that the low electoral salience of financial regulatory policy has important consequences for the circumstances under which political leaders will chose to devote political effort to changing financial sector regulation. In particular, I argue that political leaders – and most importantly political executives – are only “episodically attentive” to financial regulatory policy and usually find it rational to expend political resources to change financial regulatory policy only when exogenous shocks of various types cause them to believe that the existing regulatory status quo poses a threat to their ability to realize their broader policy objectives. Further below, in section 2.5, I examine the argument that the low electoral salience and informational complexity of financial sector regulatory policy implies that interest groups can manipulate policy outcomes by monetary and other contributions to politicians and regulators, arguing that there are important constraints on the extent to which this is possible.

The low electoral salience of financial regulatory policy is surprising at first view as financial regulatory choices can have greater consequences for the economic well-being of average citizens than most other types of policy choices – by affecting the likelihood of catastrophic financial crises that devastate the incomes and assets of families and by shaping the depth and structure of financial markets in ways that
profoundly affect long-range productivity, patterns of comparative advantage, and the prospects for economic growth. Given these stakes, we should expect most voters to find it rational to invest the effort required to understand financial regulatory alternatives and that politicians should find the effort required to communicate the consequences of financial regulatory alternatives to voters to be cost effective in terms of the votes gained for the required expenditure on communication. If, for example, a politician were to propose a regulatory policy change that benefited a segment of the financial industry but which greatly increased the risk of a major financial crisis, we should expect that their political rivals should be able to gain many votes by explaining the consequences of such a regulatory change to voters.

The fact that financial regulatory policy is only rarely electorally salient is, however, less surprising upon further examination. It is of course possible to extend the basic spatial model of electoral competition developed by Downs (1957) and Black (1958) and to consider the possibility that voters may have preferences and that politicians may compete for votes over multiple policy dimensions simultaneously (Hinich & Munger, 1997). Financial regulatory policy could, in principle, be one of multiple different important dimensions of spatial electoral competition. As students of politics have recognized, however, there are important reasons why the dimensionality of electoral competition is significantly reduced in practice, typically to as few as one or two dimensions. As Hinich and Munger (1994, 1997) argue, politicians typically present
voters with broad ideological messages that reduce voter choices to simple choices over one or two ideologically defined dimensions rather than presenting voters with detailed policy positions on multiple dimensions. Not only do political ideologies reduce the cost of communication with voters; they also impose certain limitations on the positions politicians can take because ideology requires a degree of internal intellectual consistency and coherence that structures how voters view the desirability and attainability of different policy objectives (Hinich & Munger, 1994, 1997). Moreover, not only is the dimensionality of electoral competition constrained in practice, but also the content of the dimensions along which electoral competition occurs is not arbitrary and is not freely chosen by politicians. The dimensions along which electoral competition actually takes place are constrained by broad patterns of market and social life experiences of voters and long-established competing conceptions of ultimate values and desirable social order (Kitschelt, 1993). These are, in turn, as Kitschelt argues, shaped by economic and social structure and historical experience, and exhibit certain broad empirical regularities that change only slowly over time.

There are a number of important and closely related reasons why financial regulatory policy is usually not very electorally salient and does not map easily onto the main ideological dimensions of electoral political competition. First, as discussed in the prior chapter, financial policy and the connections between financial policy choices and the welfare of individual citizens is more complex than that of most other types of
policy. This complexity implies that, even where the potential consequences of a particular policy for the economic welfare of voters are large, it is often much more costly for politicians to explain such consequences to voters than it is in the case of other policy areas. It is exponentially more difficult, for example, to explain to voters the connections between a particular choice of derivates regulation and their economic well-being than it is to explain the implications of changes in marginal tax rates to different groups of voters.

A second reason why financial sector regulatory policy does not often easily map onto the major dimensions of electoral competition is that the consequences of financial regulatory policy often affect voters in only a diffuse and general way, rather than having clear distributive consequences for different groups of voters. For example, financial regulatory voters may affect voters’ economic wellbeing primarily by affecting the prospects for maintaining general economic stability or the long-range productive potential of the economy through the effects of such policies on the efficiency with which capital is allocated to alternative uses and on the incentive structures of those who control firms. While politicians may present voters with arguments about consequences of alternative financial regulatory policy choices for general economic wellbeing (e.g., for the likelihood of financial crises or potential economic growth), voters must be able to evaluate the competing arguments which different politicians offer regarding such consequences. Given the typical complexity of financial sector
policy, however, voters are frequently likely to find the cost of becoming sufficiently informed to evaluate such effects to be prohibitive and may remain “rationally ignorant” (Downs, 1957).

Finally, even where relatively clear and simple connections can be drawn between financial sector regulatory choices and the economic wellbeing of different groups of voters, the winners and losers from particular financial regulatory decisions often cut across (i.e., are “orthogonal to”) the main partisan and ideological camps along which electoral competition is structured. For example, policies that seek to channel lending to particular industries or types of economic activity have distributive consequences that are likely to be felt primarily along sectoral or regional lines rather than along class or left-right lines. Under representative democracy voters do not cast votes for or against individual policies but rather have the opportunity only periodically to express their preference over a very limited set of candidates or parties who present voters with “bundles” of policies (Hinich & Munger, 1997). When voter preferences over financial sector policy cross-cut the main dimensions of ideological competition, voters will only cast votes on the basis of their financial policy preferences when voters perceive that differences in the positions of candidates or parties regarding financial policy issues are more important to them than differences in their positions regarding the set of all other issues in the bundles with which they are presented. Similarly, under these circumstances, politicians will not be eager to highlight their differences over
financial sector policy to voters as the expenditure required to highlight such differences will typically be either superfluous or positively detrimental to their electoral success, implying that financial regulatory policy will not become a staple issue of electoral political competition.

Notwithstanding what I have argued above, there are however circumstances where financial regulatory policy will be electorally salient. First, financial regulatory policy will be electorally salient to some voters most of the time. Some voters will find that their preferences over candidates’ or parties’ stances on financial sector policy are of greater importance to them than the position of candidates or parties on other issues. In such cases, electoral competition over certain financial sector regulatory policies can be of great importance to particular politicians or parties or even have important consequences at the margin for national electoral outcomes. I argue, however, that such circumstances are empirically rare and, for the reasons I discuss in the previous chapter, generalizations about such configurations of preferences are not easily made. Second, financial regulatory policy will be electorally salient to most voters on some occasions. This is likely to be true when particular events such as a major financial crisis highlight the connection between financial sector policy and the well-being of average voters. In these circumstances politicians are likely to see electoral advantages in taking public positions on financial sector policy and in casting blame. Third, complexity is not an absolute barrier to voters becoming informed about financial sector policy. There are
thresholds above which financial regulatory choices can have sufficiently large consequences for groups of voters or voters in general that voters will find it rational to become informed and politicians will find it rational to expend the costs of informing voters about these consequences. This is one important constraint on the ability of interest groups to “purchase” regulatory policy that is detrimental to public welfare through financial contributions as the “regulatory capture” literature argues is typical.¹

2.2 Episodic Attentiveness, Events, and Financial Regulatory Agenda-Setting

But if financial sector regulatory choices are rarely sufficiently important to most voters to form a basis of their voting decisions why should politicians in a democratic country ever expend effort to change financial sector regulations? Under what circumstances will they find it worthwhile to do so? Why is financial sector regulation important to political leaders in the first place?

In this section I argue that the fact that financial sector regulation is only rarely electorally salient has important implications for how and why changes to financial sector regulation come about under democratic governments. I argue that political leaders are typically only episodically attentive to financial sector regulatory policy and tend to focus on financial sector regulation only when various types of exogenous events force this onto their agenda and cause them to believe that the existing regulatory status

¹ Przeworski (2003, pp. 120-122) makes this criticism of regulatory capture theory more generally.
quo poses a threat to their ability to realize their broader policy objectives. The broader policy objectives of leaders typically include the basic prerequisites of political survival – such as the maintenance of basic economic stability or a rate of economic growth sufficient to meet the expectations of the public – as well as the core policy commitments of leaders to their main constituencies (e.g., commitments to promote development of particular economic sectors through state assistance; commitments to the protection of certain sectors; commitments to maintain an open trading system and the free flow of capital across borders; or the commitment to privatize and marketize a previously “statist” economy). Although the linkages may be complex, leaders will often have good reasons to see financial sector regulatory policy as instrumentally important to the achievement of these broader objectives given the central role of the financial system in allocating capital and in corporate governance. Events such as financial crises or a cumulative decline in economic competitiveness and stagnating growth may cause leaders to reevaluate the effects of the existing regulatory status quo and to see change in the regulatory status quo as important to their ability to achieve their broader objectives. A consequence of the argument that I make is that change in financial sector regulation should tend to follow a more stochastic, discontinuous and “event-driven” path than is generally appreciated by conventional “demand-driven” arguments which imply that regulatory change should follow a more continuous and secular path of
evolution that follows predictably from long-range political and economic processes that realign the coalitions supporting or opposing particular types of regulation.

My argument begins with the observation that, although other politicians can sometimes play important leadership and agenda-setting roles, the elected head of government (i.e., the president or prime minister, whom I will refer to as the “political executive”) is usually the politician with the greatest ability to set the financial regulatory policymaking agenda and the greatest incentive to take the initiative and to bear the costs of organizing support for making changes to financial regulation. The political executive’s influence over the policymaking agenda has many bases: the ability to initiate and lead public debate; significant formal and informal control over the legislative agenda; and control over the executive machinery of government. The greater incentive of the political executive to bear the costs of setting the policy agenda stems from the fact that, constitutionally, the president or prime minister is responsible to a wider selectorate than is any other political actor – the president or prime minister depends ultimately upon the national electorate for his or her political survival, either directly or indirectly. The head of government, therefore, typically has incentives to take a more encompassing interest in the outcome of financial sector policy than other political actors.² The head of government is, for example, more likely to be concerned

² It is, of course, always possible to imagine exceptions to this generalization, however. For example, the prime minister may depend upon the support of a small party with extreme views on financial policy to maintain its governing coalition and therefore may have incentives to cater to a narrow interest.
with the consequences of financial sector policy for overall economic growth and economic stability than are other political actors, as the political survival of the head of government is likely to depend on the general state of the economy as opposed to the well-being of a specific constituency to a greater extent than is the case for other political actors. As a consequence, the head of government is also more likely to find it worthwhile to bear the costs of initiating policy change and of organizing a political coalition behind a particular regulatory reform agenda than typically will be the case for other political actors (Olson, 1965).

Political executives, however, face important resource constraints in advancing their policy priorities. A political executive’s decision to prioritize financial regulatory change implies that they must dedicate scarce resources to advancing change in this area, possibly at the expense of advancing other policy priorities which they also value. Among the most important resource constraints that political executives face is the limit on the time that they, their key policy advisors, or the legislature can dedicate to addressing any particular policy issue. Although harder to quantify or measure, political leaders also face constraints on the other political resources that they can devote to advancing a particular policy priority. Securing the cooperation of other political actors to advance a particular policy frequently requires the expenditure of limited and valuable resources of various types, such as concessions on other important policy issues, the costs of angering members of particular constituencies which disagree with
aspects of the policy, or the extension of personal political favors. The existence of such resource restraints is loosely captured by popular references to the “political capital” of political leaders.

As long as most politicians are at least partially motivated by the desire to be reelected, they will have strong incentives to devote the majority of their scarce time and political resources to focusing on policy issues with high electoral salience. Even purely policy-motivated or term-limited politicians face similar incentives if the policy outcomes they value depend upon the future electoral success of the political parties with which they are associated. Politicians who devote significant time and political capital to advancing non-salient policy objectives fail to maximize the electoral return on their resource expenditure and thus increase the risk that they will not be reelected or that their party will fair poorly in future elections.

Under what circumstances then will political executives devote their scarce time and political capital to promoting change in financial sector regulation? Political executives are, I argue, only episodically attentive to financial sector regulation. Given the typically low salience of financial regulatory issues for electoral politics, political executives normally have few incentives to devote significant time or other political

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3 An issue (or policy dimension) is salient if small changes in outcomes (e.g., fiscal budget allocations) produce large changes in the utility of voters relative to that produced by similar magnitude changes in outcomes for a different issue (or policy dimension) (Hinich & Munger, 1997, pp. 52-57).  
4 Moreover, the future personal power and influence of most politicians is also usually positively correlated with the electoral success of their political party.
resources to pushing for change in financial sector regulation. As a consequence, there is significant inertia behind the regulatory status quo and major changes to the pattern of financial regulation are relatively infrequent events in the history of nations.\footnote{Abaid and Mody (2005) note the rareness and clustering in time of financial liberalization within individual countries in their statistical analysis. They offer statistical evidence that financial reform is connected with “events” such as balance of payments crises and argue that policy “learning” may explain the observed tendency for initial reforms to be followed by subsequent reforms within individual countries. They, however, do not discuss the process by which learning occurs or the political process by which reform takes place.}

Political executives become attentive and allocate time and political resources to promoting change in financial sector regulation only when events cause them to perceive that it is sufficiently important to do so. By “events”, I refer to exogenous shocks of various possible types which change the expected outcome, in terms of other objectives valued by voters or politicians (e.g., the rate of economic growth or the likelihood of future financial crises), of continuing to adhere to the financial regulatory status quo. Events can arrive rapidly as in the case of a financial crisis or can represent the cumulative effect of longer-term processes such as technological or economic change.

It is difficult to generalize about the types of events that cause leaders to perceive problems with the existing status quo of financial sector regulation since the problems can be complex and context-specific as I have discussed in the previous chapter. It is possible, however, to offer examples of two very general types of events that are likely to raise political executives’ perceptions of the importance of financial sector policy.
issues and to cause them to perceive problems with the regulatory status quo. The first such types of events are financial crises – major disruptions of financial markets coupled with sharp declines in economic activity. Financial crises create direct and obvious electoral pressures for political executives to react and directly call into question the viability of the existing structure of financial sector regulation. When financial crises occur, financial market disruptions dominate headlines and many voters suffer significant losses of income and assets over relatively short periods of time. In such circumstances, the existence of connections between financial sector policy and individual economic well-being becomes apparent to most voters. Both voters and politicians are likely to have reasons to question whether the existing regulatory status quo is optimal in light of the new information provided by the occurrence of the crisis and to consider regulatory alternatives. The magnitude and urgency of the economic consequences associated with financial crises is likely to at least temporarily eclipse the electoral salience of other political issues. Electorally-motivated political leaders have strong incentives to present voters with plausible explanations and solutions to their economic difficulties and to develop responses to the alternative proposals of rival politicians, motivating them to become politically attentive to financial sector policy.

While a distinction is frequently drawn between balance of payments crises (i.e., a sudden capital outflow triggering a large rise in domestic interest rates and/or currency devaluation) and banking crises (i.e., liquidity crises such as runs on deposits or solvency crises caused by non-performing loans or other losses), these two frequently go together and are interconnected (Reinhart & Rogoff, 2009).
The second general type of event which is likely to cause political executives to become attentive to financial sector policy occurs when exogenous shocks such as shifts in technology, markets, or external military threats create pressures on leaders to enact broad reforms in the structure of economic governance and the relationship between the state and the market. Such events can create indirect pressures on political executives to focus on financial regulatory reform by confronting them with circumstances that cause them to perceive that the existing structure of financial regulation threatens the realization of other very important policy objectives. Given the central role of the financial system in allocating capital and in corporate governance, major programs of economic reform often require that political leaders closely examine the financial regulatory status quo. Political leaders may initiate programs of trade liberalization or privatization, for example, because they believe that improving economic growth depends upon increasing the competitive pressures on domestic industry. These efforts may fail to have the desired effects on the incentive structure of firms, however, if the existing regulatory structure encourages the domestic financial sector to allocate capital according to non-market criteria and if restrictions on international borrowing and investment exist, as under such conditions financial markets may fail to reallocate capital toward firms which improve their productivity. Similarly, political leaders who seek to promote active industrial policy are likely to find that their ability either to direct or promote the coordination of private investment requires complimentary controls over
financial markets or regulatory intervention to promote close ties between industrial and financial firms. The key point is that, while political executives may be primarily motivated by broader reform objectives, they are likely to learn quickly that the success of their broader reform goals depends upon complementary financial regulatory reform. Since their political fortunes are likely to be tied to the success or failure of these broader economic reforms, political executives will have strong incentives to devote time and political capital to promoting financial regulatory change even if financial regulatory policy itself is not electorally salient or otherwise directly important to political executives.

There is not, however, a necessary or automatic connection between events of the type I have described and financial regulatory reform. While the consequences of events may be clear – for instance, the existence of a financial crisis or stagnating economic growth – financial regulatory change only occurs if political leaders, and most importantly political executives, make a positive decision to seek regulatory change in response to such circumstances. This requires that leaders form a conception of how the adverse circumstances that they confront are causally linked to the regulatory status quo.

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7 The interrelationships between the incentive effects (i.e., incentives for managers to innovate, invest, control costs, allocate returns to different factors of production, and the like) produced by the ownership structure of industrial firms, the degree of competition in goods markets, the organization of labor markets, the structure of the financial market (e.g., degree of concentration, the importance of bank lending versus capital markets, exposure to cross-border capital movements), and the structure of cross-ownership between financial and non-financial firms are obviously extremely complex. I argue simply that political leaders are likely to perceive, perhaps highly context-specific, complementarities between these elements.
as well as beliefs regarding the feasible set of regulatory reform options and the likely consequences associated with those reform options. Given the complex nature of financial sector policy issues, however, neither the diagnosis of problems nor the prescription of solutions to those problems is simply self-evident. Rather, as events cause political executives to perceive problems with the status quo, they initiate searches for the diagnoses of and solutions to those “design” problems. As I discuss in the following section, it is at these junctures where the heads of the specialized financial sector policy bureaucracies can be particularly influential upon the formation of regulatory policy, in large part by supplying “cognitive frameworks” that shape how political executives perceive the causal structure of the decision problems they, the menu of potential policy responses to those problems, and the likely consequences of different policy choices.

The arguments which I offer regarding the importance of the timing of the “arrival” of exogenous events in determining the policymaking agenda, the time and other resource constraints which decision-makers have to devote to different problems and hence the “episodic” nature of decision-maker attention to policy problems, and the importance of prevailing cognitive frameworks to the selection of policy responses, share affinities with similar arguments made by other social scientists. Cohen, March and Olsen (1972) argue in their famous “garbage can” model that the policy choices which organizations make are a function of the timing of the arrival of problems and of
how, as a consequence of organizational structure, particular problems are matched with particular decision-makers and with pre-existing “solutions” that exist within the repertoire of the organization – subject to the overall “energy” constraint of the organization which, together with the allocation of energy within the organization, determines the degree of attention which decision-makers can devote to a particular problem. Jones (1994, 2005) focuses upon how governments set policy agendas and make policy choices, arguing that policy choice is inherently structured by the temporal character of all decision-making and by the cognitive limitations of decision-makers: boundedly-rational government decision-makers process flows of information and are inherently limited in their serial information-capability. Policy choice may, therefore, be conceived as a process with stages of problem recognition, problem characterization, alternative generation, and choice formation. Boundedly-rational decision-makers are more or less attentive to different signals depending upon the emotional resonance of the signal (i.e., the way the issue is “framed”, c.f., Tversky and Kahneman, 1981); how they interpret the signals they receive shapes how they characterize the problems they perceive; and how they characterize the problems they perceive in turn affects their causal understanding and hence the alternatives that they generate and thus ultimately the choices they make. A consequence of these aspects of the decision-making process, he argues, is that policy is often very stable with “punctuated” bursts of change that often exhibit “choice reversals” whereby the policies chosen by the political system can
change even when underlying preferences do not shift dramatically simply because policymakers interpret signals differently at different points in time. Allison and Zelikow (1999) contrast “rational actor”, “organizational behavior”, and “government politics” models of government decision-making, illustrating these by discussing the different interpretations which these offer for the behavior of Soviet and American leaders during the Cuban missile crisis. As with the argument I present here, the second and third models presented by these authors stress the importance of bureaucratic actors to the policy process, with the “organizational behavior” model suggesting that bureaucratic actors draw upon standard operating procedures or routines in responding to new problems in a way similar to that suggested by the garbage can model; while the “government politics” model suggests that policy outcomes are frequently the result of bargaining between bureaucratic actors with different preferences, which often rest upon the defense of organizational self-interest.

The argument which I offer in this dissertation is broadly sympathetic to the concerns and arguments of the frameworks that I have described in the previous paragraph and is in many ways complementary to those frameworks. My argument, however, differs in two important respects. First, I suggest that the attentiveness of political leaders to particular problems is frequently more “rational” than is presented in the accounts offered by Cohen, March and Olsen (1972) or Jones (1994, 2005). Political executives, I argue, choose to be attentive to financial sector policy when they have good
(i.e., “rational”) reasons to believe that the existing regulatory status quo is flawed and that financial regulatory change is instrumentally important to their ability to realize other key policy objectives that are objectively important (e.g., they rationally see financial regulatory reform as key to the success of economic reforms which in turn are key to their political survival). Exogenous events matter in my argument because they objectively change the facts with which leaders must contend and create problems which may not have previously existed. My argument does not preclude the possibility that political leaders can be irrationally selective in how they attend to signals and interpret information, but it does not depend upon this assumption. Second, I argue that the particular cognitive framework which decision-makers apply to a particular problem is not randomly assigned in the way suggested by the garbage can model or the organizational behavior models. My focus is not upon explaining the processing of streams of routine decisions within large organizations, but rather upon explaining how the top leaders of government respond to problems that they perceive to be of central importance to their broader policy agenda. In such circumstances, leaders and their key advisors devote significant time and attention to determining the correct course of action and often explicitly consider the merits of alternative causal arguments concerning the decision problem they face, carefully selecting the causal arguments (i.e. cognitive frameworks) that seem most persuasive to them given what they know.8 Nevertheless,

8 Consider the many examples where presidents or prime ministers have taken an intense interest in the
as I argue below, it is always the case that even where leaders devote significant and critical scrutiny to policy options and competing causal explanations, they are limited by the existing state of theoretical knowledge and thus by the prevailing menu of cognitive frameworks from among which they are able to choose in order to interpret the causal structure of the decision problem they face and to assess the likely consequences of their policy decisions.

2.3 Understanding the Influence of Specialized Financial Sector Bureaucracies and Policy Experts

The financial regulatory policymaking process is set apart from most other policymaking domains by the degree of influence that specialized bureaucratic actors wield over the regulatory policymaking process. As I argue below, the heads of the specialized financial sector bureaucracies wield power by shaping the intellectual debate over the feasibility and consequences of policy alternatives and by their ability, within limits, to take policy initiatives and to complicate the implementation of consequential policies. The role of specialized bureaucratic policy actors in shaping financial regulatory outcomes, even within the legislature, is an important aspect of the policy process that is completely overlooked by the regulatory capture literature, which looks only at the narrower question of principal-agent problems between regulators and legislators.
2.3.1 The role of specialized financial policy bureaucracies in modern states

Over the past century, and in some cases much longer, modern states have delegated substantial authority over the design and implementation of financial sector policy to specialized bureaucracies. The most important such specialized bureaucracies in modern states are the finance ministry and the central bank, although certain aspects of financial sector policy implementation are sometimes delegated to other less powerful bureaucratic actors such as bank and insurance regulatory agencies, securities market regulators, pension and investment fund regulators, deposit insurance agencies, and the like. Finance ministries and central banks command armies of highly-trained and specialized staff; control substantial information-gathering resources; exercise day to day authority over the disposition of vast financial resources; are empowered to issue regulations interpreting broader laws; and command powers to investigate and punish private actors within the bounds set by law.

While the scale of resources and sweep of authority at the disposal of finance ministries and central banks is often substantially greater than that of most other bureaucratic actors, these are not the main features that set these bureaucratic actors and the financial sector policymaking process apart. After all, certain other bureaucratic actors such as defense ministries, agricultural and industrial planning agencies, and state-owned companies in major industries may control substantial resources and enjoy consequential discretionary authority. Rather, I argue that the comparatively greater
policymaking influence of finance ministries and central banks stems from the combination of the relative complexity of the financial policy issue domain on the one hand, and from the relatively greater importance of the functions carried out by finance ministries and central banks to the political survival of elected officials on the other. These aspects of the financial policy domain enable specialized financial sector bureaucratic actors to influence policy outcomes through the cognitive frameworks which they supply to political executives and by enabling them, within limits, to take policy initiatives and sanction political executives.

2.3.2 Policy complexity and the role of expert cognitive frameworks

The complexity of the financial sector policy domain is, I argue, qualitatively different from that of most other issue domains. The qualitative difference stems from the fact that, to a much greater extent than is the case in most other policy domains, elected policymakers are not easily able to anticipate the likely consequences of alternative financial policy choices. Rather they must rely upon experts with specialized theoretical training to assist them in determining the likely consequences of policy decisions. This is a result of the complexity of financial products and markets as well the complexity of the relationships between financial policies and economic outcomes discussed in the previous chapter. The issue is not primarily that bureaucratic actors in the finance ministry and central bank have superior access to the data inputs required to make policy decisions, even though this is often the case, but rather that most elected
policymakers lack a sufficiently developed theoretical framework to reason through the likely effects of different financial regulatory policy choices. Absent expert advice, therefore, elected officials cannot easily decide between regulatory policy alternatives even if their preferences over ultimate outcomes are clear. This implies that senior officials in financial policy bureaucracies have greater potential to influence policy outcomes by the advice that they give to policymakers than do officials in most other policy domains.9

Senior officials of financial sector policy bureaucracies exercise substantial influence over the course of financial regulatory policymaking by supplying political executives with advice based on specialized conceptual frameworks that shapes how political executives understand the causes and nature of financial regulatory problems, that helps to define the menu of potential policy responses, and helps leaders to reason through the risks and consequences of different policy options. Such senior bureaucratic officials typically have lengthy specialized academic training and/or financial industry experience that provide them with detailed conceptual frameworks and knowledge of the complexities of financial products and markets and enable them to speak authoritatively in policy debates. When events such as financial crises or declining

9 This is not to argue that cognitive frameworks and specialized knowledge are not also important in other policy domains. I argue, however, that the cognitive frameworks needed to assess the likelihood of the outcomes associated with financial policy decisions are more complex than those in most other policy areas and, hence, elected officials will be less able to reason through such linkages in the absence of expert advice than they are in most other policy domains. Elected officials are more likely, for example, to understand the effects of different tariff policies than they are to understand the effects of different derivatives regulations.
economic performance force political executives to focus on financial regulatory policy, political executives turn to senior financial sector bureaucrats to provide them with coherent understandings of the policy problems that they face. This is particularly true when, as is often the case, the events and problems that policymakers face are novel or unprecedented so that policymakers cannot draw simple inferences from their prior experience. Similarly, when political executives decide to move forward with regulatory change, they typically charge these same advisors with presenting them with menus of policy options and with drafting the detailed legislation or regulations that they will put forward. Throughout the policymaking process, these senior advisors counsel political executives on the feasibility and consequences of choosing particular policy options. This intellectual intervention of senior financial sector bureaucratic advisors is the crucial and defining link between political leaders’ perception of the potential need for financial regulatory action and their proposal of specific regulatory reforms.

It is important to distinguish conceptual frameworks from political ideologies. Although political ideologies often embody distinctive causal arguments about social and economic processes, political ideologies are distinguishable from cognitive frameworks in that political ideologies are centrally concerned with defining and justifying the ultimate ends toward which policy and political action should be directed – that is, in defining what types of social, economic, and political arrangements are
desirable.\textsuperscript{10} By conceptual frameworks I refer to the theoretical frameworks by which policymakers understand the set of cause and effect relationships between different economic and policy variables, rather than normative justifications of the desirability of particular policy objectives. Such conceptual frameworks may consist of relatively simple sets of propositions or decision heuristics (e.g., “big government is bad for economic growth”), or may be highly developed and theoretically complex (e.g., a computational general equilibrium model, and the underlying set economic assumptions upon which it rests, developed by the staff of a central bank and used to estimate the overall economic effects of a particular monetary policy intervention or of exogenous economic shocks).\textsuperscript{11} While such conceptual frameworks may have affinities with broader ideological orientations, they are not simply congruent with ideology. Policymakers and policy experts with similar ideological orientations can have sharp disagreements regarding the likely effects of different policy interventions.

In order to understand the effect of cognitive frameworks upon policymaker decisions, it is useful to sketch briefly the model of individual decision-making that

\textsuperscript{10} Munger and Hinich 1994 (pg. 11) offer a useful definition of political ideology as “an internally consistent set of propositions that makes both proscriptive and prescriptive demands on human behavior. All ideologies have implications for (a) what is ethically good, and bad; (b) how society’s resources should be distributed; and (c) where power appropriately resides.”

\textsuperscript{11} I prefer to use the terms “conceptual framework” or “cognitive framework” rather than “theoretical framework” because the term “theoretical framework” tends to connote a sophisticated scientific theory of the causal relationships between economic and policy variables. Policymakers and policy experts indeed often do draw upon sophisticated scientific theories in making decisions, but, in many cases they draw upon sets of causal understandings that are more rudimentary and less explicitly elaborated than what is generally connoted by the term “theory”.

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underlies my arguments. I assume that policymaker actions in the domain of financial regulatory policy can be reasonably well explained in terms of intentional, rational, maximizing behavior; that is, by a rational-choice explanation of action. As Elster (1986, p. 4) explains, rational choice explanation explains actions by references to three sets of elements in the choice situation of actors: (i) the “feasible set”, defined as “the set of all courses of courses which (are rationally believed to) satisfy various logical, physical, and economic constraints”; (ii) “(a set of rational beliefs about) the causal structure of the situation, which determines what courses of action will lead to what outcomes”; and (iii) “a subjective ranking of the feasible alternatives, usually derived from a ranking of the outcomes to which they (are expected to) lead.” The last of these is commonly referred to as the desires or preference ordering of the decision-maker.

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12 For the typology of explanation upon which I draw see Elster (1983, chapter 3). As both Esler (1986) and Sen (2002) have argued, rational choice theory is primarily a normative theory – a theory that “tells us what we ought to do in order to achieve our aims as well as possible” (Elster 1986, p.1). Only secondarily is it an explanatory theory that enables us to explain why people take particular actions. Although there are good scientific grounds for questioning the accuracy of rational choice assumptions regarding human behavior and decision-making in many instances (for overviews of evidence and critiques from behavioral economics see, for example, Camerer and Lowensten 2004; and Airley 2009); there remain strong reasons for the presumption that many realms of decision-making closely approximate the model of rational-choice decision-making and for not generally presuming irrationality in decision-making (Elster 1986, p. 27).

13 With slightly varying terminology, these are the standard elements in the description of choice situations by decision-theory (see Resnik 1987); parametric (i.e. non-strategic) rational choice decision-making in economics (see Mas-Colell, Whinston, and Green 1995); and rational strategic decision-making in game theory (see Osborne 2004). Gintis (2009), who offers an ambitious attempt to unify game theory and the behavioral sciences (biology, psychology, economics, anthropology, sociology, and political science), describes the basic elements of the rational actor model as “beliefs, preferences, and constraints”.

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Choice situations are inherently subjective as actors can only make decisions based upon the information that they have available to them.14

As Elster (2007, p. 191) argues, in order for an action to be characterized as rational it must satisfy three optimality requirements: (i) “the action must be optimal, given the beliefs”; (ii) “the beliefs must be as well supported as possible, given the evidence”; and (iii) “the evidence must result from an optimal investment in information gathering.”15 In greater detail, the first of these optimality requirements is that “the action must be the best means of satisfying the agent’s desires, given his beliefs about the available options and their consequences” (ibid, p. 193). In order to make the meaning of “best” rigorous and in order to treat agents as maximizers of preferences it is necessary to impose certain constraints on the preference ordering which rational actors can hold: preference orderings must be (i) complete; (ii) transitive; and (iii) must exhibit independence or irrelevant alternatives (meaning that the relative attractiveness of any two options does not depend upon the other choices that are available to the actor) (Elster 2007, pp. 193-196; Gintis 2009, chapter 1; Mas-Colell, Whinston and Green 1995, chapter 1). If we impose the further constraint that actors’ preference orderings are

14 Elster (1986, p. 4). As Elster (2009, pp. 21-22) notes, “on the one hand, the agent can only choose among the options that he thinks are available to him. The objective existence of an option superior to those he is aware of cannot influence his action. On the other hand, the agent chooses among the options of which he is aware according to the possible consequences he attributes to them and his estimate of the probability that they will occur. Thus the utility of the options is deducted from the utility of the consequences, weighted by their probability and reduced to a present value by a discount rate.”
15 See Elster (1986) for an essentially similar but somewhat more detailed list of optimality requirements.
always continuous, it is then always possible to represent preferences in terms of a utility function that assigns a numerical value to each outcome and, therefore, to model rational choice mathematically in terms of utility maximization (Elster 2007, p. 195; see Mas-Colell, Whinston, and Green 1995 for a formal proof). When actors face imperfect information so that the outcome associated with each course of action is not known with certainty (e.g., due to the stochastic nature of certain factors affecting outcomes), it is necessary for actors to assign numerical probabilities to the different possible outcomes associated with each course of action in order to rationally choose between different courses of action. In the case of imperfect information, actors act rationally if they maximize their expected utility: that is, if they maximize “the weighted average of the utilities that it [the action] will yield under different states of the world”. For the purpose of explaining choices – that is, using rational-choice as a theory of explanation rather than as a normative theory – it is generally sufficient and practical to consider

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16 Elster (1986, p.5) notes the distinction between risk and uncertainty first introduced by Knight. As he explains, “risk is defined as a situation in which numerical probabilities can be attached to the various possible outcomes of each course of action, uncertainty as a situation in which this is not possible.” Elster argues that genuine uncertainty characterizes many real choice situations, although he acknowledges continuing philosophical controversy over the question of whether true uncertainty ever exists. In the case of genuine uncertainty, there is little that rational choice theory can say about the optimal action (Elster 1986, p. 6).

17 Elster (1986, p. 5). More formally, if we assume that individuals have consistent preferences over lotteries (where a lottery is defined as a linear combination of probability weighted outcomes), then it is possible to represent individual’s preferences by a utility function and to infer the probabilities that the individual implicitly places on different outcomes, so that optimal decisions can be modeled by the maximization of expected utility (Gintis 2009, pp. 11-16; Mas-Colell 1995, chapter 6).
only the first optimality requirement discussed above and so I do not discuss the other optimality requirements further. 18

The model of individual decision-making that I have just described points to three ways in which the cognitive framework that a rational decision-maker holds can affect the action that they choose. First, cognitive frameworks influence actors’ beliefs regarding the elements in the feasible set of actions available to them. Cognitive frameworks are theories of how the world operates and hence influence how actors reason through the “various logical, physical, and economic constraints” on the actions available to them. Second, cognitive frameworks shape actors’ causal beliefs about the outcomes associated with different actions. In terms of utility theory, cognitive frameworks determine the payoffs that actors rationally believe to be associated with different courses of action. Finally, in the presence of imperfect information, cognitive frameworks help actors to assign probabilities over the outcomes associated with different courses of action. This is because the causal propositions that make up actors’ cognitive frameworks are often expressed in probabilistic terms. In these three ways, cognitive frameworks can significantly shape the beliefs that actors hold regarding the

18 Elster (1986, p. 16). In order to truly characterize decisions as rational, however, the other optimality conditions must be met. Elster (1986) offers an extensive discussion of the subtleties that this requires. Sen (2002) makes similar arguments. In particular, he offers criticisms of minimalist conceptions of rational choice found in standard economics, including attempts to define rational choice as (i) the simple internal consistency of choice; (ii) self-interest maximization; or (iii) maximizing behavior in general. As he argues, “Reason has its use not only in the pursuit of a given set of objectives and values, but also in scrutinizing the objectives and values themselves. Maximizing behavior can sometimes be patently stupid and lacking in reasoned assessment, depending on what is being maximized. Rationality cannot just be an instrumental requirement for the pursuit of some given – and unscrunutinized – set of objectives and values” (p. 39).
choice situation that they face and hence can significantly influence the choices that they make.

But why are cognitive frameworks important to the beliefs that actors hold regarding the feasible set of actions available to them, the outcomes associated with alternative courses of action, and the probabilities associated with different outcomes? Why cannot actors simply form such rational beliefs on the basis of simple observation and experience? Why do they need causal theories to understand the implications of what they observe? In certain situations simple observation and experience – or at least only a very rudimentary theoretical apparatus – is probably sufficient for the formation of beliefs. A soccer player trying to get past a defender to score a goal does not need much in the way of a theoretical framework to form beliefs over the feasible set of actions or the payoffs or probabilities associated with different courses of action, especially if he or she has played against the same defender repeatedly in the past.

Conceptual frameworks, however, are usually much more important to policymakers’ ability to form rational beliefs in choice situations involving complex policy domains precisely because the cause and effect relationships between policy interventions and outcomes are not simply obvious and self-evident in such domains. First of all, theoretical or conceptual frameworks almost always include descriptive and ontological statements about the relevant objects in the world and their properties, with such purely descriptive content important to the formation of rational beliefs. It would
be difficult, for example, for a policymaker to have had strong beliefs about the desirable regulation of credit derivatives if they had never heard of credit derivatives or did not know with some specificity how credit derivatives functioned, how different financial firms used credit derivatives, or the mechanisms by which they were traded (which has implications for their system risk as I explain in Chapter 6).\(^\text{19}\) Second, the causal linkages between particular policy actions and outcomes are often complex and involve long chains of causation or interdependent causation which are not simply self-evident, but rather require theoretical frameworks to understand. Consider, for example, policymaker expectations regarding the effects on the level of unemployment of an action by the central bank to purchase a certain quantity of bonds in an open market operation. In order to form expectations of the effect of this operation on employment, policymakers must have theoretical beliefs about how this will affect bank reserves, about the operation and magnitude of the money multiplier (e.g., including expectations about the actual propensity of banks to lend excess reserves), about the sensitivity of investment spending to interest rates conditional on the existing economic environment, on the sensitivity of hiring to new investment spending, and a host of other relationships which are not merely self-evident from observation alone. Finally, as I argue throughout this dissertation, there are often important complementarities between

\(^{19}\) It would be similarly difficult for a layperson to form beliefs about the desirability of different electoral systems without detailed knowledge of the available alternatives and their properties. Such detailed knowledge is frequently obtained through theoretical study of electoral systems and their consequences rather than casual observation.
financial regulatory policy choices and other types of policy choices so that outcomes depend upon combination of policies chosen – for example, market-oriented economic reforms such as privatization may require complementary changes in financial regulation in order to produce the effects upon growth that policymakers desire.

Policymakers typically require theoretical frameworks in order to form beliefs regarding the effects of joint policy decisions as causal mechanisms by which policy complementarities operate are generally not simply self-evident.

Examples of such conceptual frameworks are better known as they relate to macroeconomic management and monetary policy where their importance is readily apparent. For example, the competing theoretical frameworks developed by Keynesian and New Keynesian economists and their successive critics (Monetarism, Rational Expectations Theory, and Real Business Cycle Theory) have been profoundly influential in shaping how policymakers understand the causes of and perceive their policy options to respond to business cycles. I will argue that other and frequently related conceptual frameworks have played similarly important roles in shaping how policymakers perceive their financial regulatory policymaking options. Among the examples of such conceptual frameworks that I discuss below include competing understandings of the causes of financial crises and the effects of different regulatory policies upon the likelihood of such crises; competing theoretical arguments regarding the impact of financial regulatory interventions on market efficiency and economic growth; and the
efficient markets hypothesis (with important implications for financial institution capital
requirements and derivate regulation).

The arguments which I offer regarding the importance of cognitive frameworks
to policy choice share affinities with other research in political science. The epistemic
communities literature in international relations makes similar arguments: states often
depend on transnational networks of policy experts for policy advice and the shared
normative commitments, causal beliefs, notions of validity, and common practices of
such experts shape the advice which they give and hence how states perceive the
availability and consequences of policy options (Haas 1992). Similarly, the advocacy
coalition approach of Jenkins-Smith and Sabatier (1994) argues that domestic policy
decisions are often shaped by the efforts of coalitions of private and government actors
(including actors drawn from different levels and parts of government) who share
common normative and causal beliefs to influence the various institutions of
government with control over policy outcomes. The contributors to Hall (1989) examine
comparatively the spread of Keynesian policy across nations and offer a variety of
perspectives with general implications on how ideas and why systems of ideas can be
influential to policy outcomes, including the causal persuasiveness of theory or system
of ideas (Salant 1989); the organization of the state – specifically the degree to which the
policy-making institutions of the state are open to advice from outside economists due
to prior experience or organizational structure (Weir 1989); and the ability of particular policy ideas to mobilize the support of broad coalitions within society (Gourevitch 1989).

The arguments which I offer are broadly complementary to such approaches, although my arguments differ in a number of respects. First, while acknowledging that the normative commitments of policy-makers are often very important to policy choice, I focus more narrowly on understanding how variation in causal beliefs can affect the decisions that policy-makers take. This narrower focus is more useful I would argue because it possible for the causal beliefs of policy-makers to vary independently from their normative commitments or objective economic interests. Combining these issues conflates issues of preference formation and belief formation that should be analyzed separately in causal analysis or combined in ways that explicitly explain why and what linkages should be expected to exist between preferences and beliefs. Second, I offer a somewhat different and more specific explanation of how ideas matter to the policy process. I argue that ideas matter when political executives perceive that a policy action in a particular policy area is instrumentally important to their ability to realize other policy objectives and hence call upon expert advice. The perceived urgency of policy action as dictated by events and the arrival of “problems” that demand policy attentiveness is critical to understanding policy-makers’ attentiveness to ideas. While this does not exclude the importance of ongoing efforts to influence policy outcomes by advocacy coalitions or epistemic communities of policy experts, it does suggest that such
success of such efforts of persuasion is likely to depend upon the existence of circumstances that make attention to the policy domain important to the broader goals of political leaders.

### 2.3.3 Adaptive learning and the evolution of cognitive frameworks

I argue that the cognitive frameworks that bureaucratic policy experts supply is not static but rather evolve and reflects the effects of “adaptive learning”. While a full theory of how and why systems of ideas evolve obviously goes well beyond the scope of this dissertation, I argue that an important factor in explaining the evolution of cognitive frameworks relating to financial regulatory policy is the attempt by policy experts to respond to major unexpected events and the perceived failures of previous and existing policies. Correctly or incorrectly, policy experts adapt their theoretical understandings of the links between policy choices and outcomes as they are presented with events that are not explained well by existing theoretical accounts. As Kuhn (1970) argues more generally, existing theory can be adapted incrementally within existing paradigms, or, when the accumulation of observed inconsistencies is large enough, more fundamental shifts can occur in which the consensus of opinion shifts toward much more radical shifts in paradigms.

My argument concerning the role of “adaptive learning” explicitly acknowledges that the theoretical beliefs (cognitive frameworks) which policymakers and policy experts hold can be and are frequently objectively wrong – existing theory can
incorrectly describe the actual causal relationships that exist in the world and those who adhere to theory can fail to recognize its incorrectness. It is also possible that a theoretical framework correctly describes causal relationships at one point in time, but that actual causal relationships can change over time (e.g., as complex systems adapt or due to the arrival of new technology) without theory catching up to this change. Learning would not be possible if was not possible for theoretical beliefs to be wrong and we in fact frequently do observe “progress” in science by which new theories supplant older theories because they better account for previous or new observations. Sen (2002, chapter 15) argues that “positionally dependent observations, beliefs, and actions are central to our knowledge and practical reason” and that there is a “parametric dependence of observation and inference upon the position of the observer” (p. 463). He argues that even scientific understanding, which strives toward “trans-positional assessment”, always depends upon to a degree on the position of those who form scientific knowledge:

[T]he scientist’s ability to reason trans-positionally depends on what else she knows and on the type of reasoning she is able to use, and these, in a broad sense, are also positional features. Even the “conceptual schemes” that mediate our understandings of the world can fruitfully be seen as general positional characteristics related to acts of observation and reflection. But the proposed (or implicitly used) conceptual schemes and lines of reasoning can, of course, be challenged, invoking rival concepts and competing lines of construction. The demands of trans-positional coherence and critical scrutiny can have extensive cutting power. The history of science gives ample evidence of agreed scientific beliefs overturning previously agreed conclusions, or overcoming a plurality of rival conclusions. (Sen 2002, pp. 468-469).
In addition, I explicitly argue that, while adaptive learning can be and often occurs by processes consistent with rationality, adaptive learning need not occur in a rational fashion.\textsuperscript{20} Rational learning would imply that actors update their assessments of the probability of different outcomes by a process of Bayesian updating, that they form beliefs that are consistent with the available information, that they acquire the optimal amount of information, and that the resulting systems of beliefs are internally consistent (Elster 1986; Elster 2007, chapter 7 and chapter 11).\textsuperscript{21} Beliefs can be rational (as described in the previous sentence) but still be objectively untrue in that they incorrectly characterize the world (Elster 2007, p. 211). Many different types of cognitive biases can affect learning and belief formation so that beliefs are not updated “rationally” (Elster 1986; Elster 2007 chapter 7, chapter 12). Moreover, there is nothing about the preference optimization that requires that the beliefs upon which it is based to be objectively true.

I argue, in particular, that there are good reasons to expect that policy experts and policymakers will weigh recent experience heavily (and possibly incorrectly so) in

\textsuperscript{20} Jones (2005, p. 17) argues that learning is usually not rational or Bayesian. As he argues, “…learning is not Bayesian – in the face of new information, people do not drop learned behavior that they value intrinsically, according to Bayes’ rule, which in a rational but uncertain world would govern how people react to new information….Bounded rationality leads to disproportionate information-processing. Signals are ignored, responses are delayed, and ineffective strategies are deployed.” I argue simply that policy learning sometimes approximates rational Bayesian learning and sometimes does not.

\textsuperscript{21} Moreover, Bayesian updating only describes how a rational decision-maker should use new information in order to update the probability distribution which they assign to different outcomes in an uncertain world. It does \textit{not} explain the deeper question of how actors should revise the set of causal understandings (i.e., theoretical understandings or cognitive frameworks) which they hold about the world. When exactly it becomes rational to reject one theory in favor of another is a complicated and controversial question of epistemology.
forming their beliefs and cognitive frameworks. At a straightforward level, policymakers frequently feel pressured to respond to recent events for the reasons that I have described above. They are likely to demand explanations and options from policy experts at these junctures and policy experts themselves are likely to face competition for credibility with those who offer alternative explanations and responses to recent policy-relevant events. The policy advice of policy experts is, therefore, likely to reflect the search for solutions or fixes to perceived problems with the status quo. In addition to these direct political pressures, it is also likely that the cognitive processes of policymakers and policy experts will to some extent represent cognitive biases in which prominent, recent, or “vivid” experiences weigh heavily in their assessments of the probabilities of different outcomes associated with different policy actions (Tversky & Kahneman, 1973, 1974). Correctly or incorrectly, both policymakers and policy experts are likely to “learn lessons from history”.

2.3.4 Cognitive Frameworks and Preferences

I have argued above that constraints, preferences, and beliefs are each constituent elements of any intentionalist or, or more narrowly, any rational choice explanation of decision-making (c.f., Elster 1986, 2007, 2009; Gintis 2009). I have argued, moreover, that in complex policy domains beliefs depend upon cognitive frameworks – sets of causal understandings about the relationships of between variables of relevance to the decision problem which can be correct or incorrect and which change over time in
a process of adaptive learning. This raises the question of what constraints, if any, my arguments place on the preferences of bureaucratic actors and other actors.

Before answering this question, it is important to distinguish between actors’ policy preferences and their preferences over ultimate outcomes. I assume that actors have preferences over certain ultimate outcomes such as the combinations of economic growth and volatility that they perceive to be feasible. I will generally mean preferences over these ultimate outcomes when I speak of “preferences”. Actors may also have preference orderings over policies (or “policy preferences”). I assume, however, that actors do not attach utility to policies per se, but rather see policies as a means to achieving the ultimate outcomes over which they hold preferences. Their preference ranking over policies therefore reflects their beliefs regarding the probability of different ultimate outcomes associated with different policy choices. Policies can also be means to achieving the success of other policies (and thus “instrumentally important” to the success of those other policies), which in turn are means to achieving

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22 The utility which actors attach to these ultimate outcomes can either reflect the fact that they intrinsically value such outcomes (e.g., “policy-oriented” politicians who genuinely care about societal and economic outcomes for their own sake); or because they see such outcomes as more or less likely to lead to some even more ultimate outcome that they value intrinsically (e.g., purely “office seeking” politicians who prefer to remain in office versus not remaining in office who make policy decisions entirely on the basis of maximizing their chances of retaining office, regardless of the consequences of their policy choices for society – in other words their utility over policy outcomes is reducible to the probabilities of retaining office that they associate with each feasible policy); or some combination.

23 Actors attach utilities to different ultimate outcomes. They attach probabilities to these ultimate outcomes for each policy they believe to be in their feasible set. In the presence of uncertainty, policies are “lotteries” over ultimate outcomes in the language of decision-theory. Actors can calculate the expected utility associated with each policy as the probability-weighted sum of the utilities that they attach to each ultimate outcome.
the ultimate outcomes over which actors hold preferences. As an illustration, financial
sector regulatory policy can be a means to achieving (i.e., “instrumentally important” to)
the success of broader economic reforms, which in turn are important as a means to the
achieving a desirable mix of economic growth and stability; which in turn is a means of
achieving the objective of political survival.

I take a generally agnostic view regarding actor’s preferences over ultimate
outcomes. I assume that politicians and bureaucratic actors can be purely office-seeking,
purely policy-oriented, or some combination. Politicians and regulators can strongly
favor ultimate outcomes which favor labor over capital or vice versa, exporters over
domestic firms, farmers over urban residents, or any of a host of other preference
orderings over ultimate outcomes.

My theoretical argument, however, does impose some fairly general and mild
assumptions regarding the preferences of different actors that rules out certain more
extreme cases that are inconsistent with the arguments that I offer. First, my overall
theoretical argument is probably not consistent with the assumption that political
executives are purely kleptocratic and have no regard for the welfare of their societies
and no need to be responsive to any wider “selectorate” for their political survival so
that they do not need to consider the effects of their financial policy choices on broader
economic outcomes. Second and similarly, my theoretical argument is probably
inconsistent with the assumption that the heads of specialized bureaucracies (i.e.,
“regulators”) are entirely motivated by personal pecuniary gain (i.e., rent extraction) and face entirely ineffective monitoring by the political executive so that they do not have to take into consideration how their policy choices will affect broader economic outcomes. This means that my theoretical arguments likely do not apply to extremely kleptocratic, dictatorial regimes with bureaucratic actors that either collude in looting their societies or are simply not accountable to central political authority. This obviously excludes some set of empirically occurring cases from the domain of my theory. It remains, however, applicable to a broad range of countries that do not exhibit such extremes.

While these are the logical constraints on my theoretical arguments, it is certainly possible to impose somewhat more demanding assumptions regarding the preferences of political executives and bureaucratic actors that are arguably more “realistic” under a wide range of circumstances. Specifically, I would argue that it is realistic (but not strictly necessary) to assume that political executives typically are neither exclusively office-seeking nor exclusively policy-seeking, but rather typically attach utility both to holding office in its own right and to achieving outcomes consistent with their genuinely-held ideological convictions. Similarly, I would argue that it is realistic to assume that the leaders of specialized financial sector bureaucracies often identify personally with the public mission of the institutions that they head. Often senior regulators are selected because they have a record of commitment to certain policy objectives (e.g., a prominent academic career or a leading and respected position in the
business world); serve fixed terms; and have long records of career success and promising future prospects. It is realistic (but not strictly necessary) to assume that they often achieve satisfaction from doing their job well (as they understand it); from the sense that they are able to influence outcomes in society in a way they perceive to be positive; and in leaving behind a personal legacy of which they can be proud. Assuming that they are always willing to sacrifice their integrity and to sell their services (and their personal legacy) to the highest bidder (as does the regulatory capture literature) is probably not a realistic assumption under many circumstances.

My arguments, however, do not depend upon such more realistic assumptions. Often political accountability and the possibility of monitoring are sufficient to ensure that such actors take into consideration how their policy actions affect broader economic and societal outcomes. As long as this is the case, the beliefs and hence the cognitive frameworks of political leaders and bureaucratic actors will be critical to their choice of policy: cognitive frameworks are central to their choice of means to achieve these outcomes.

2.3.5 Policy importance and the ability of bureaucratic actors to take initiatives and to sanction

In their ability to influence policy outcomes by supplying cognitive frameworks to political executives and other policymakers, I argue that specialized financial sector bureaucratic actors are able to influence policy outcomes through their ability, within limits, to take policy initiatives and by their ability to sanction political executives. This
ability, I argue, stems from the importance of the functions carried out by finance ministries and central banks for the political survival of elected officials and the success of their broader policy goals.

An examination of the functions which these actors perform reveals their importance. Among other functions, finance ministers typically have responsibility for the collection of public revenue; the management and financing of the public debt; foreign economic relations, including negotiations with international creditors; and day to day control over the disbursements of public funds under the government budget as the fiscal agent of the central government. Central banks, among other functions, typically have operational responsibility for the control of the domestic money supply (whether or not they are answerable to elected political officials); operational management of foreign reserve and gold holdings and related interventions in the foreign exchange market (although sometimes finance ministries directly intervene in currency markets); and operational responsibility for the preservation of the payments system. Both institutions typically also have ultimate *de facto* responsibility for maintaining the health of the domestic banking and financial system, as these institutions will ultimately be called upon to provide either the fiscal resources (finance

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24 By which I refer to the ability of banks and other financial intermediaries to clear checks, wire transfers, and similar transactions with one another on a daily basis so that private and public individuals and organizations are able to conduct business on other than a cash basis with one another. This function also carries many implicit guarantees that the central bank will stand ready to intervene to make certain that certain types of contracts between financial institution counterparties (e.g., swaps) settle in an orderly way, lest a breakdown in such settlements cause a systemic panic.
ministry) or liquidity (central bank) to backstop the solvency and liquidity of the domestic financial system to prevent or contain financial crises. Collectively, the way in which these two institutions execute these functions can literally determine the difference between the solvency and insolvent of the national government, between financial stability or panic, the overall growth trajectory of the national economy and the success or failure of the broader policy efforts of political executives.

But why should the fact that these institutions are responsible for vital economic functions of government thereby give them influence over policy outcomes in their domain? The answer is that the importance of the functions that these institutions carry out also gives them the power, within limits, to take policy initiatives and to sanction elected leaders who try to push policy agendas with which they disagree without fearing necessary and automatic retaliation by political leaders.

The power of such specialized bureaucratic actors to take policy initiatives and to sanction elected officials can take a variety of different forms. First, such actors typically have an important degree of discretion in applying or interpreting existing law. Indeed these actors can frequently choose to interpret existing laws in novel or questionable ways as legal cover for policy initiatives which they believe to be important. Second, the

25 Often one or the other of these institutions is also responsible for regulatory oversight of the domestic banking system, which gives them significant powers to approve or disapprove licensing and merger applications by banks, to punish financial institutions for failure to comply with regulatory standards, and so forth. In addition, in many countries the finance ministry or central bank has been responsible for monitoring and appointing the senior management of major state-owned financial institutions such as commercial banks, pension funds, or insurance companies.
finance ministry or central bank can publicly criticize the financial or other economic policies of the government or make inconvenient information publically available. Even if this criticism is veiled so as to avoid a direct challenge to the government, sophisticated financial market participants are likely to be able to understand the criticisms easily. As a result, central banks and finance ministries can easily damage confidence in the economic program of the government, thereby increasing borrowing costs for the government as investors demand higher risk premia to hold government bonds. Third, central banks and finance ministries can “drag their feet” on the implementation of the financial policies mandated by political leaders, with such obstructionism leading to costly delays and less effective policy implementation.

Similarly, senior central bank and finance ministry officials may slow or obstruct the flow of vital economic information to elected officials, significantly complicating the task of policymaking. Finally, central banks and finance ministries can punish particular policy initiatives by withholding cooperation or pursuing obstructionism on other areas under their control – for example, a central bank may punish government financial policy initiatives relating to privatization of state-owned banks by failing to cooperate with the government’s attempts to monetize its debts via central bank purchases of debt directly from the finance ministry.

But why should elected officials tolerate such initiative-taking, criticism, foot-dragging, or noncooperation on the part of finance ministries or central banks, especially
when elected officials often have constitutional or statutory authority over such bureaucratic entities? The answer is that, in the real world, it is typically costly to punish the transgressions of bureaucratic actors. While presidents and legislatures can and will punish sufficiently grave acts of non-cooperation by dismissal of senior officials, budgetary cuts, changes in statutory authority and similar measures, they typically find it costly to do so and so will only punish transgressions that are sufficiently grave to merit the costs. Punishment is typically costly for a variety of reasons. First, it is costly for political leaders to monitor the actions of bureaucratic actors closely enough to identify all transgressions – particularly given the complexity and specialized nature of financial sector policy. Second, dismissal of senior officials such as the central bank head or treasury secretary or their deputies often carries significant risks, as financial markets may take such dismissals as negative policy signals and react badly and also as suitable replacements may be hard to find. Finally, elected officials must typically rely upon the permanent staff of the treasury or central bank to implement future parts of their policy agenda and so must be concerned to maintain an adequate working relationship with the senior staff of such bureaucracies on an ongoing basis. Punishment of a bureaucratic actor may ensure that policy initiatives are

26 In addition, where legislative approval of senior appointments is required, the president or prime minister may be concerned that they will not be able to gain approval for their desired replacement candidate.
vigorously implemented in a particular instance, but may jeopardize cooperation on future policy initiatives or lead to costly resignations by critical staff.

**2.4 Money and Politics: Veto Points and the Influence of the Financial Industry Lobby**

This section examines in greater detail the influence of societal interest groups – most importantly the financial industry itself – upon the financial regulatory policymaking process. Popular discussion, journalistic commentary, and politicians frequently ascribe great importance to and decry the influence of financial industry lobbies upon the financial regulatory policymaking process. As discussed in the prior chapter, both the general theoretical literature on regulatory capture and much of the more specific literature on financial sector regulation and liberalization has argued that the industries that are the subject of regulation are themselves frequently decisive in shaping the content of the regulations under which they operate. I argue that a more careful examination of the financial regulatory policymaking process suggests a more nuanced understanding of the influence of the financial industry.

An important possible objection to the argument I have presented in this chapter begins with the observation that politicians and bureaucrats value money as well as votes. Even purely electorally-motivated or policy-motivated politicians may be swayed by the instrumental need to seek campaign contributions to support their reelection and longer-range policy goals. Financial firms are often among the largest and wealthiest firms in any nation and have many avenues through which to apply their considerable
material resources to sway the political process: campaign contributions or outright bribes, offers of lucrative future employment, or the funding of political advertising campaigns to sway public perceptions and opinion. Precisely because financial regulatory policy is typically not electorally salient, political leaders may reason that they have much to gain and are unlikely to be punished by voters for acceding to financial industry regulatory demands that few voters understand or care about. Because the gains from obtaining specific regulatory changes are likely to be well-understood by and concentrated among relatively few financial firms, the financial industry will have few difficulties overcoming collective action problems to organize its lobbying efforts compared to poorly informed voters who face more diffuse consequences of regulation.

Do these arguments imply that the financial industry will be able to exercise significant and sometimes decisive influence over the design of financial regulation under many circumstances? The answer is a highly qualified yes. The financial industry is likely to have substantial influence over financial regulatory outcomes, but only when the regulatory policies advocated by the financial industry do not have large negative welfare consequences for voters and only provided that the political executive does not perceive that the regulatory preferences of the financial industry pose a threat to the realization of its broader policy objectives. Moreover, the financial industry is likely to have greater ability to influence regulatory policy negatively – by blocking or
modifying regulatory initiatives with which it disagrees – than it is to positively set the agenda for major regulatory change.

Consider first the motivation of the political executive to support the regulatory policy preferences of the financial industry in cases where these have large negative welfare consequences for voters. The issues are framed well by Przeworski (2003, pp. 120-122) in his more general discussion of the limitations of the regulatory capture literature. Special interests (such as the financial industry) can influence policy either because i) politicians sell regulation in exchange for financial contributions, or ii) because money buys votes, enabling candidates who spend more money in electoral campaigns to win more votes even if their policies harm voters – or both. If politicians sell regulatory policies that have significant negative consequences for voters and voters but money does not buy votes, then politicians who sell regulation will not be reelected. Politicians will sell regulation in this case only if they value the private gains of doing so more than they value reelection. If, however, money sways voters to vote for politicians who support regulatory policies that harm their interests, perhaps because some subset of voters is susceptible to campaign advertising, then money may enable special interests to buy regulatory outcomes by tilting elections in favor of candidates who favor the policies preferred by special interests. As Przeworski (2003, pp. 121-122), this leaves open the question of why any significant subset of voters would be swayed by campaign expenditures to vote for candidates who support policies that are detrimental to their
interests. Even if voters are “rationally ignorant” and do not seek to acquire costly information about the effects of regulatory policies (Downs 1957, Stigler 1975), if the costs to voters from a particular regulatory measure are sufficiently large then some political entrepreneur or private party should have the incentive to inform voters about these adverse effects (Przeworski, 2003, p. 110).²⁷

As I have discussed above, the complexity of the relationships between financial sector policy choices and outcomes implies that the consequences of financial regulation for voters are frequently difficult to understand and sometimes genuinely ambiguous. This implies that the cost of communicating the consequences of different regulatory choices to voters is probably greater than is the case in other policy domains and that there is greater scope for politicians to cater to financial industry demands that run contrary to voter interests without risk of major electoral consequences. There should, nevertheless, exist some costliness threshold above which voters will find it rational to become informed about the costs of financial sector regulation or other political or private actors should become willing to bear the costs of informing voters. This is especially likely to be true when some event such as a financial crisis causes large shifts

²⁷ Przeworski (2003) offers an example of a hypothetical consumer group that could collect information and sell it to voters at a cost slightly less than the average harm to voters of the regulatory policy. Rival politicians may also find it rational to bear the costs of supplying such information in the hopes of attracting voters. Moreover, as I have described in the first chapter, the regulatory preferences of firms in the financial industry itself often vary substantially as a result of differences in the sources of competitive advantage and market position of different firms. This implies that rival special interests may compete to supply information to voters.
in the economic well-being of voters that can be plausibly attributed to the consequences of prior financial regulatory decisions. In such circumstances voters will have good reasons to be attentive to financial regulation and politicians will risk losing elections if they support regulatory measures that appear to conflict with the interests of voters.

More generally, only where the consequences for voters of regulatory choices are either genuinely ambiguous or sufficiently small will reelection-oriented politicians be willing to sell regulation for financial contributions.

Consider next the motivation of the political executive to support the regulatory policy preferences of the financial industry when these pose a threat to the realization of its broader policy objectives. As long as they are not simply motivated by private financial gain, political executives will be unlikely to simply accede to industry regulatory demands in return for financial contributions when such demands threaten the success of their broader reform efforts. This is because the political fate of political executives and the political parties with which they are associated is usually closely tied to the success of their broader policy goals. Because the stakes are often high, political executives are often willing to take on powerful vested interests in order to push reforms that they believe are necessary either because of their sincere policy preferences or because they perceive that their political survival depends upon such reforms. While, as I discuss in the following paragraph, the political executive may need to compromise and amend the financial regulatory changes that they seek in the face of financial
industry opposition, they are unlikely to simply abandon regulatory reform efforts that they deem important to the success of broader reforms simply because the financial industry offers financial contributions.

Consider finally the type of influence that the financial industry is able to exercise over financial policy outcomes. I content that the financial industry is likely to have greater ability to influence regulatory policy negatively – by blocking or modifying regulatory initiatives with which it disagrees – than it is to positively set the agenda for major regulatory change. In order to initiate major regulatory reform the financial industry must be able to induce the political actors who control the policymaking agenda – most importantly the political executive – to prioritize financial regulatory reform as a policy objective. I have already explained why financial regulatory reform is, however, only rarely a policy priority for political executives and why acceding to the regulatory demands of the financial industry may be costly in terms of votes or the ability of political leaders to advance other important policy objectives. By contrast, the financial industry will be able to block or force the political executive to amend its regulatory proposals by persuading any of a number of political actors which have effective veto power over legislative outcomes to back its policy preferences. While the number and identity of such effective veto players will vary across different institutional and political settings – for example, including chairs of legislative committees in some presidential systems or leaders of coalition parties or of internal party factions in
parliamentary systems – there will usually be several political actors with the effective ability to veto major legislative changes. As a very general matter, when such effective veto players exist, the set of legislative outcomes different from the status quo that the political executive can obtain will be limited (Tsebelis, 2002). While the financial industry faces a high hurdle to persuade the political executive to initiate major regulatory change, it should be comparatively easier for the financial industry to use its financial resources to persuade at least some legislative veto player to help it to block or amend regulatory initiatives which run counter to its policy preferences. In the following chapter I offer a formal model of the financial regulatory policymaking process in which I examine the influence of the financial industry over regulatory policy outcomes in strategic interaction with the political executive and the heads of the financial policy bureaucracies under the assumption that the financial industry is able to exercise an effective veto over the regulatory policy proposals of the executive by its ability to persuade some effective legislative veto player to support its policy preferences.

2.5 Observable Implications

The argument that I present in this chapter has a number of observable implications. I explore these in subsequent chapters.

First, we should expect that cognitive frameworks will frequently be important to how different actors interpret their own interests, including both societal actors and
government actors. The policy preferences of different actors rest upon their understanding of the causal effects of different policy choices, which in turn depend upon their cognitive frameworks. We should therefore expect to see evidence that cognitive frameworks are influential in shaping the preferences and perceptions of different actors, based upon their public statements and what we can infer about the consistency of their actions with contemporary theoretical and policy arguments.

Second, contrary to the implications of alternative theoretical frameworks, structural economic change and the resulting realignment of the size and influence of different interest groups should not be a good predictor of the timing of major financial regulatory change. Rather, we should be more likely to see major financial regulatory change in the wake of events (or “shocks”) of different types that cause political leaders to perceive a threat to the realization of their key policy objectives and which call into question the adequacy of the regulatory status quo.

Third, there is typically likely to be substantial inertia in the regulatory status quo and major financial regulatory change is most likely to advance when the political executive (the president or prime minister) becomes attentive to financial sector policy and makes financial regulatory change a priority within their policy agenda. Other political and societal actors can play important roles in pushing for reform, but political executives have the greatest ability to set the policymaking agenda and major change is unlikely to proceed when opposed by the political executive.
Fourth, close examination of the policy process in particular cases should reveal that the heads of the specialized financial sector policy bureaucracies are typically important participants in the policy process and are usually influential in shaping the direction of financial regulatory change once the political executive becomes attentive to the financial regulatory reform. In particular, we should expect financial regulatory policy choices to reflect the cognitive frameworks supplied by such bureaucratic policy experts – and especially the diagnoses and solutions proposed by such experts in response to perceived failures in the regulatory status quo.

Finally, the financial sector will typically be an important actor in the policy process and sometimes will be successful in pressing for regulatory change. The financial sector, however, will usually have greater ability to block or modify proposed regulatory changes by controlling veto points in the policymaking process than it will have to set the agenda for major regulatory change. Moreover, the preferences and beliefs of the political executive will be critical. Political executives will support regulatory reform proposals of financial sector actors when these are perceived to be congruent with its broader policy objectives and when they face few political costs of supporting such changes. Political executives, however, will be willing to advance (oppose) regulatory changes against even strong opposition (support) by the financial sector when the political executive perceives such changes to be instrumentally critical (threatening) to its ability to realize other key policy objectives.
2.6 Towards a Formal Model: Overview and Relation to the Theoretical Argument

The following chapter develops a formal of the policymaking process that enables me to examine the consistency of certain of my predictions with the assumptions and arguments that I make this chapter. This section offers a non-technical overview of this formal model and explains its place within my broader theoretical argument.

The theoretical framework that I offer above argues that the agenda for financial sector regulatory change is typically set by the political executive who is only episodically attentive to financial sector regulatory policy. Political executives place financial regulatory change on the policy agenda when the arrival of exogenous events of various types (e.g., financial crises, shifts in market structure and technology that make their economies uncompetitive) cause them to perceive that the existing financial regulatory status quo is flawed and harms their ability to realize their broader policy objectives such as the maintenance of economic stability and the achievement of sustainable economic growth sufficient to meet the expectations of their populations. Specialized financial sector bureaucratic policy actors are, I argue, typically very influential in shaping financial the financial policy choices of political executives once political executives become attentive to financial sector policy issues. The influence of such specialized financial sector bureaucratic actors stems, I argue, both from (i) their
ability to influence the beliefs of other actors and (ii) their ability, within limits, to sanction the political executive by various means. Specialized financial sector bureaucratic actors are able to influence the beliefs of other actors by supplying cognitive frameworks which influence other actors’ understanding of the feasible set of potential policy actions; their understanding of the causal structure of the decision-problem they face and hence their understanding of the outcomes associated with different policy choices; and finally the probabilities that they attach to different outcomes given different policy choices. Finally, interest groups – most importantly the domestic financial sector – are able to influence policy outcomes by their ability to “capture” various “veto points” in the policymaking process so that they are effectively able to block regulatory changes which they oppose and thus narrow the feasible set of policy choices available to the political executive.

The model that I develop in the following chapter captures formally the basic elements of this argument, offering a generic model of the essential elements of the policy process which abstracts away from the particulars of different settings. The model has four actors: the political executive (which I label as the “President”, but which could represent the prime minister in a parliamentary government); two specialized financial sector policy bureaucratic actors (one which I label the “Treasury Secretary” and the other which I label the “Central Bank”); and an interest group actor representing
the financial sector (which I label the “Financial Sector Veto Player”). Each of these actors has preferences over policy outcomes.

The model assumes that play begins with some regulatory status quo in place and that some random exogenous event occurs which alters the outcome associated with the existing regulatory status quo. This could represent, for example, an “event” such as the emergence of a new technology (e.g., the invention of credit derivatives or the widespread development of securitization) or a shift in how major international competitors regulate their financial markets (e.g., the decision by major international competitors to deregulate their financial markets). Such events could alter the outcome associated with the existing regulatory status quo, for example, by making it more likely that maintaining the existing regulatory status quo will result in a financial crisis or harm the attractiveness of the country as a destination for international investment or harm the competitive position of the country’s financial or industrial firms. The model assumes, however, that the actors do not know how exactly such events change the likelihood of the different outcomes associated with given policies, but only the general range of possible effects. One of the specialized financial sector bureaucratic actors is better informed than the other actors by virtue of its expert knowledge and superior access to information and knows the range of possible effects with greater precision than the other actors. This actor, whom I label the Treasury Secretary, offers a publicly-available assessment of the likely range of effects of the new event upon outcomes (this
might, for example, represent testimony by a senior official before congress or the release of a report assessing the impact of new developments). The other actors must decide whether or not to believe the report of this actor. The next move in the game occurs when the President decides what financial regulatory policy to propose (including the possibility of proposing no change from the regulatory status quo). The President’s move is followed by the decision of a second specialized financial sector bureaucratic actor whom I label the “Central Bank” as to whether or not to sanction the President, with the degree of sanction which this actor can impose constrained within narrow limits. Such sanctioning captures the ability of bureaucratic actors offer damaging criticism, to withhold cooperation across other dimensions, or to take possibly unwanted policy initiatives. In the final step in the game, the Financial Sector Veto Player decides whether or not to “veto” the policy chosen by the President. This can be interpreted as the ability of the financial sector to use its resources to lobby and “capture” a key “veto point” in the policy process – for example, by “capturing” the support of the head of a key congressional committee who can block the progress of legislation which the financial industry opposes. The model examines the possible equilibria outcomes which can emerge from such a policymaking process, considering the strategic nature of the interaction between the different actors in which each actor must consider the potential actions of other actors.
The identity of the actors in this model can be interpreted in a variety of ways that are consistent with the general theoretical argument that I offer and which enable the model to capture the essential strategic features of the financial regulatory policymaking process across a wide range of specific institutional settings. As noted above, the actor labeled as the President can be understood to represent either the prime minister or the president in a parliamentary or a presidential system of government respectively. Second, the actors labeled as the Treasury Secretary and as the Central Bank can represent any two financial sector bureaucratic actors which hold different preferences over policy outcomes and which share responsibility for a particular area of financial regulatory policy. Moreover, it is not central to my argument whether the Treasury Secretary or the Central Bank is seen as the player which signals or the player which sanctions; there are likely to be situations where these roles are reversed. In addition, it is possible to interpret these two actors as a single actor (e.g., the Central Bank) which is able to exercise influence both by supplying information which affects the beliefs of different actors (i.e., as a signaler) and by its ability to sanction the political executive. The general point is that the model captures the possibility that policy conflict between bureaucratic actors can be important to shaping policy outcomes as

28 Laffont and Tirole (1991) similarly suggest that the identities of the actors in their influential model of regulatory capture can be interpreted in different ways consistent with their broader argument and thus generalizing the range of empirical situations to which their model applies.

29 This can be represented as a special case of the model in which the preferences of these two actors are identical.
well as the possibility that specialized bureaucratic actors wield influence through their ability to supply information and by their ability to sanction. Finally, the ability of the financial sector lobby to act as a “veto player” is consistent with a variety of different institutional settings: for example, the financial sector lobby may be able to block unwanted policy change by “capturing” a key legislative committee; the median legislator in floor votes; a pivotal party within a coalition government; or a key leadership faction within an electorally dominant political party.

By capturing the strategic elements of the interaction between the different actors involved in the financial regulatory policymaking process, the model developed in the subsequent chapter enables me to rigorously examine several claims that are central to my theoretical argument. First, I argue that bureaucratic actors are able to wield significant influence over policy outcomes even if we assume that the financial sector is able to exercise the power to veto policy outcomes with which it disagrees – an assumption that may overstate the power of financial sector lobbies in many situations. Second, I argue that bureaucratic actors are able to influence policy outcomes by their ability to supply information that affects the beliefs of other participants regarding the likely effects of different regulatory policy choices. Third, I argue that bureaucratic actors are able to influence policy outcomes significantly by their ability to sanction, even where the degree of the sanction such actors can apply are constrained within relatively small limits. I argue in the following chapter that the model supports these
arguments – they are consequences of the assumptions that I make regarding the policymaking process and which I defend in this chapter.

The formal model which I develop in the following chapter does not, however, capture or address every aspect of the theoretical argument that I present in this chapter. In particular, it does not and is not meant to address my broader arguments regarding the importance of or mechanisms by which cognitive frameworks shape the beliefs that actors hold and, hence, the regulatory policy decisions they make. It examines only the simpler claim, consistent with this broader argument, that bureaucratic actors can influence policy outcomes through their ability to supply information that alters the beliefs of actors. I examine the broader arguments that I make regarding the importance of cognitive frameworks and of adaptive learning in the chapters that follow the subsequent chapter.
3. A Formal Model of the Financial Regulatory Policymaking Process

This chapter takes forward the theoretical framework that I developed in the previous chapter and presents a formal model of the financial sector policymaking process. This model enables me to test the consistency of certain of my predictions with the assumptions and arguments that I make.

3.1 Formal Description of the Game

My model assumes four actors: the chief executive (President or prime minister, hereafter simply the “President”, $P$), a player I assume to represent the financial sector and to have the power to veto policy outcomes (hereafter simply the “Financial Sector”, $F$), the Treasury secretary or finance minister (hereafter, simply the “Treasury secretary”, $T$), and the Central bank head ($C$). I assume that all actors have single-peaked preferences over financial sector policy outcomes in a one-dimensional policy space $X = \mathbb{R}^1$, with ideal points for each actor given by $x_i$, $i = P, F, T, C$. Without loss of generality, I set $x_p = 0$ and $x_F \geq 0$. Each player’s preferences over outcomes are described by a quadratic loss function $U_i(x) = -(x - x_i)^2$ for $i = P, F, T, C$. Outcomes $x$ are determined by the policy choice $p$ and by an exogenous state variable $\omega$, so that

---

1 I have borrowed elements from the modeling frameworks developed by Bernhard (2002) and Epstein and O’Halloran (1999). Bernard (2002) models the circumstances under which legislators will choose to delegate policy autonomy to an independent central bank. Epstein and O’Halloran (1999) model the choice by legislators as to whether or not to delegate policymaking discretion to executive branch agencies.
\( x = p + \omega \). The value of \( \omega \) is unknown to each player at the start of play, while all other parameters are common knowledge. The \textit{ex ante} belief of each player is that \( \omega \) is distributed uniformly over the interval \([-1,1]\) with the density \( f(\omega) \).

The sequence of play is illustrated by Figure 3.1 below. The game begins with Nature selecting the value of \( \omega \) randomly from the distribution \( f(\omega) \). The Treasury secretary then observes only the sign of \( \omega \). After observing the sign of \( \omega \), the Treasury secretary sends a report \( r(\omega) \) to the President, with \( r \in (\omega-, \omega+, \emptyset) \), with \( \omega- \) signifying a report that \( \omega < 0 \), \( \omega+ \) signifying a report that \( \omega \geq 0 \), and with \( \emptyset \) signifying that the report contains no information. Upon seeing the signal \( r(\omega) \), the President proposes a policy \( p(\omega) \in \mathbb{R}^1 \). After seeing the policy \( p \) proposed by the President, the Central Bank head chooses whether or not to impose a penalty \( k \) upon the President, where \( k \) is a real number such that \( k \in \left[-\frac{1}{4}, \frac{1}{4}\right] \) and where \( k = 0 \) implies that the Central bank head chooses not to punish the President\(^2\). The penalty \( k \) alters the payoff to the President, so that the payoff to the President of a particular outcome \( x = p + \omega \) becomes

\[
U_p(x) = -(p + \omega)^2 + k.
\]

The payoffs to other players remain unchanged regardless of the value of \( k \). Finally, after observing the actions of all other players, the Financial Sector veto player decides whether to accept (\( a \)) or veto (\( v \)) the President’s policy

\(^2\) I discuss the reason for this particular limitation on the value of \( k \) further below.
proposal $p$. If the Financial Sector veto player chooses accept ($a$), the outcome is $x = p + \omega$, while if the Financial Sector veto player chooses veto ($v$) the outcome is $x = \omega$ (i.e., a veto is equivalent to receiving the policy $p = 0$, so that the outcome is $x = 0 + \omega = \omega$). I will refer to the outcome $x = \omega$ as the “status quo” outcome, meaning that this is the outcome that the players can expect if the policy chosen is $p = 0$ so that the outcome is $x = \omega$ as determined by the state variable $\omega$ in the absence of any policy intervention.

Figure 1: Structure of the Game
3.2 Equilibrium Concept

I employ the concept of weak sequential equilibrium\(^3\). A weak sequential equilibrium must meet the following criteria:

1) **Sequential rationality**: each player’s strategy must be optimal in the part of the game that follows each of the player’s information sets, given the strategies of other players and the player’s belief about the information set that has occurred.

2) **Weak consistency of beliefs with strategies and beliefs**: in equilibrium, the probability assigned by each player’s belief to any history must be the probability with which that history occurs if the players adhere to their strategies. More precisely, player’s beliefs are determined by Bayes rule and by the players’ equilibrium strategy profiles.

3.3 Strategies and Equilibria

Before discussing the equilibrium strategies and beliefs of the different players, I begin by observing that, in choosing which report to send, the Treasury secretary must either tell the truth in all states (i.e., sent the report \( r = \omega^+ \) when \( \omega \geq 0 \) and the report \( r = \omega^- \) when \( \omega < 0 \)) or lie in all states, since if the Treasury was to report \( r = \omega^+ \) when \( \omega \geq 0 \) but \( r = \emptyset \) when \( \omega^- \), then the other players could infer that \( r = \emptyset \) meant that \( r = \omega^- \). If the Treasury secretary lies in all states, then the other players will treat the Treasury secretary’s report as completely uninformative, which we may treat formally by assuming that the Treasury secretary sends the report \( \emptyset \), in which case the other

\(^3\) The definitions above are drawn directly from Osborne (2004) pp. 325-328. See also Mas-Colell and Green (1995), pg. 285, Gibbons (1992) pg. 179, and Osborne (2004) pg. 330, on the equivalent equilibrium concept of weak perfect Bayesian equilibrium and the stronger equilibrium concepts of perfect Bayesian equilibrium and sequential rationality.
player’s retain their prior beliefs that $\omega \sim [-1,1]$. Therefore, it is possible for the other players to hold one of three sets of beliefs: $\omega \in [0,1]$, $\omega \in [-1,0)$, or $\omega \in [-1,1]$ depending on the signal that is sent by the Treasury secretary.

### 3.3.1 Equilibrium beliefs and strategy of the Financial Sector Veto Player

I begin by considering the equilibrium beliefs and strategies of the Financial Sector veto player (or simply the “Financial Sector” or “F”). The consistency requirement implies that, upon receiving the report $r = \omega+$ from the Treasury secretary, the Financial Sector must believe that in fact $\omega \in [0,1]$; upon receiving the report $r = \omega-$ it must believe that $\omega \in [-1,0)$, and upon receiving the report $r = \emptyset$ it must believe that $\omega \in [-1,1]$ (hereafter, I will denote these beliefs by $\omega+$, $\omega-$, and $\emptyset$, respectively). In other words, the consistency requirement implies that, in equilibrium, beliefs must be correct.

The sequential rationality requirement implies that the Financial Sector veto player must choose the action accept (a) or veto (v) that maximizes its expected utility $EU_F$ given its beliefs and the strategies of the other players. Since veto (v) implies the outcome $x = \omega$, the expected utility to F of choosing veto (v) is given by:

\[ EU_F = \text{expected utility} \]

---

4 Both this observation and this way of interpreting the case of a non-informative signal sent by the Treasury secretary are drawn from the similar game presented by Epstein and O’Halloran (1999).
\[ EU_{F}(\text{veto}) = -E(\omega - x_F)^2 = -E[\omega^2 - 2x_F\omega + x_F^2] = -E(\omega^2) + 2x_FE(\omega) - x_F^2, \]

and since accept \((a)\) implies the outcome is \(x = p + \omega\), the expected utility to \(F\) of choosing accept \((a)\) is given by:

\[ EU_{F}(\text{accept}) = -E(p + \omega - x_F)^2, \]

which simplifies to:

\[ -E(\omega^2) - 2pE(\omega) + 2x_FE(\omega) + 2x_Fp - p^2 - x_F^2. \]

Note that \( -E(\omega^2) = -\int_{0}^{1} \omega^2 d\omega = -\frac{1}{3} \) for the belief \(\omega^+\), \( -E(\omega^2) = -\int_{-1}^{0} \omega^2 d\omega = -\frac{1}{3} \) for the belief \(\omega^-\), and \( -E(\omega^2) = -\int_{-1}^{0} \omega^2 \frac{1}{2} d\omega = -\frac{1}{3} \) for the belief \(\emptyset\); while \(E(\omega) = \int_{0}^{1} \omega d\omega = \frac{1}{2} \) for the belief \(\omega^+\), \( E(\omega) = \int_{-1}^{0} \omega \frac{1}{2} d\omega = 0 \) for the belief \(\emptyset\).

Consider first the optimal policy choice from the point of view of the Financial Sector if it could choose any policy it desired rather than simply accepting or vetoing the policy proposed by the President. The optimal policy for the Financial Sector is that policy \(p\) which maximizes its expected utility. This is given by the solution to:

\[ \max_{p} EU_{F}(p + \omega) = -E(\omega^2) - 2pE(\omega) + 2x_FE(\omega) + 2x_Fp - p^2 - x_F^2. \]

To find the optimal policy, we solve:

\[ \frac{dEU_{F}}{dp} = 0. \]
\[-2E(\omega) + 2x_F - 2p = 0\]

Which implies \( p = x_F - E(\omega) \) is the policy choice that maximizes expected utility. As should be expected, the expected outcome if the policy selected is \( p = x_F - E(\omega) \) is the ideal point \( x_F \) of the Financial Sector, since

\[
E(p + \omega) = p + E(\omega) = x_F - E(\omega) + E(\omega) = x_F.
\]

In order to determine whether the Financial Sector will accept or veto the policy \( p \) proposed by the President, note that the Financial Sector will only accept the policy \( p \) if \( EU_F(accept) - EU_F(veto) \geq 0 \), implying \( EU_F(p + \omega) - EU_F(w) \geq 0 \). I assume that the Financial Sector will accept the policy proposal \( p \) whenever the Financial Sector is indifferent between accepting the policy proposal \( p \) and vetoing the policy proposal and receiving the status quo expected outcome \( E(\omega) \). To find point(s) of indifference, we find the policies \( p \) such that:

\[
EU_F(p + \omega) - EU_F(\omega) = 0
\]

\[
0 = -2pE(\omega) + 2x_Fp - p^2
\]

This has two solutions: \( p = 0 \) (trivially) and \( p = 2x_F - 2E(\omega) \), which lead to the expected outcomes \( E(\omega) \) and \( 2x_F - E(\omega) \), respectively. Note that \( p = 2x_F - 2E(\omega) > 0 \) for \( x_F > E(\omega) \) and \( p = 2x_F - 2E(\omega) > 0 \) for \( x_F < E(\omega) \), and recall that I assume \( x_F \geq 0 \). As a result, the Financial Sector will strictly prefer the President’s
policy offer $p$ over the status quo (i.e., $p = 0$) whenever $2x_F - 2E(\omega) < p < 0$ for $x_F < E(\omega)$ and whenever $0 < p < 2x_F - 2E(\omega)$ for $x_F > E(\omega)$.

The foregoing discussion implies that the best response (i.e. sequentially rational) strategy of the Financial Sector given its beliefs and given the policy $p$ offered by the can be summarized as follows:

$$B(\omega, p) = \begin{cases} 
\text{accept if } 2x_F - 2E(\omega) < p < 0 \quad \text{and if } x_F < E(\omega) \\
\text{accept if } 0 < p < 2x_F - 2E(\omega) \quad \text{and if } x_F > E(\omega) \\
\text{veto otherwise} 
\end{cases}$$

### 3.3.2 Equilibrium beliefs and strategy of the Central bank

As with the Financial Sector, the consistency requirement implies that the Central bank believe $\omega^+$ upon seeing the report $r = \omega^+$ from the Treasury secretary, believe $\omega^-$ upon seeing the report $r = \omega^-$, and believe $\emptyset$ (i.e., retain the prior belief that $\omega \in [−1, 1]$ upon receiving the report $r = \emptyset$. Also, by calculations similar to those above, the optimal policy choice for the Central bank will be $p = x_C - E(\omega)$ which leads to the expected outcome $x_C$. Moreover, the Central bank will be indifferent between the policy $p = 2x_C - 2E(\omega)$ which leads to the expected outcome $2x_C - E(\omega)$ and the policy $p = 0$ leading to the expected status quo outcome $E(\omega)$. Note that as discussed above, a veto by the Financial Sector of the President’s policy proposal is equivalent to the policy $p = 0$. 
As discussed above, after seeing the report sent by the Treasury secretary and the policy $p$ proposed by the President, the Central bank has the option to punish the President with a punishment $k \in \left[-\frac{1}{4}, \frac{1}{4}\right]$, reducing the President’s payoff by $k$ units, or not to punish at all, in which case $k = 0$. In choosing whether and how much to punish, the Central bank must consider not only the policy $p$ offered by the President, but also the reaction of the Financial Sector. Ignoring for a moment the decision of the Financial Sector and assuming that the magnitude of $k$ is unlimited, it is clear that in general, the Central bank would be able to induce the President to propose a policy equal to

$$p = x_c - E(\omega)$$

leading to the expected outcome $x_c$, the ideal point of the Central bank.

The Central bank need only consistently punish the President with a punishment infinitesimally greater in magnitude

$$k = EU_P\left(p = x_c - E(\omega)\right) - EU_p\left(p = \text{policy otherwise chosen}\right),$$

in which case the President will prefer to propose $p = x_c - E(\omega)$ and thus receive the payoff

$$EU_P\left(p = x_c - E(\omega)\right)$$

than to propose $p = (\text{policy otherwise chosen})$ and receive the payoff $EU_P\left(p = \text{policy otherwise chosen}\right) + k$ which it would receive if it proposed its original policy choice and was punished by the Central bank.\(^5\) Moreover, is clear that,

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\(^5\) Henceforth, for convenience I will assume simply that the punishment is exactly equal to $k$ and that the President will prefer to choose the policy desired by the Central bank when the expected value to the
before considering the possible punishment of the Central bank, if the Financial Sector has no power to veto the President’s policy proposal the President will always propose \( p = -E(\omega) \) to obtain the expected outcome \( 0 = x_p \), implying that the necessary punishment is:

\[
k = EU_p(p = x_c - E(\omega)) - EU_p(p = E(\omega)).
\]

However, in general, the choice of \( k \) will be more complex. First, the President will, in general, propose some policy other than \( p = -E(\omega) \) as the President must take into consideration the possible veto of the Financial Sector. Ignoring for a moment the possible punishment by the Central bank, the President will prefer to offer a policy that leads to an expected outcome closer to its ideal point \( x_p = 0 \) and that will be accepted by the Financial Sector than to offer \( p = -E(\omega) \) if this will be vetoed by the Financial Sector and the resulting expected status quo outcome \( E(\omega) \) is farther away from its ideal point. Call this policy the “President’s optimal original proposal”. Second, the Central Bank itself must take into consideration the possibility of a veto by the Financial Sector, and so may prefer to induce the President to propose some policy other than

\[
p = x_c - E(\omega) \text{ if the Financial Sector would veto } p = x_c - E(\omega) \text{ and if the expected outcome from the selection of another policy is closer to the ideal point } x_c \text{ of the Central bank than the expected status quo outcome } E(\omega) \text{ that would occur if the President}
\]

\[\text{President of that policy is equal to the expected value of the policy the President would otherwise have chosen plus } k.\]
proposed $p = x_c - E(\omega)$ and the Financial Sector vetoed the proposal $p = x_c - E(\omega)$.

Call this policy the “targeted policy”; it represents the most desirable policy proposal by the President from the point of view of the Central bank, taking into consideration the possibility of a veto by the Financial Sector. Finally, the choice of $k$ may be constrained by the limit placed on the magnitude of $k$, such that $k \in \left[ -\frac{1}{4}, \frac{1}{4} \right]$.

The discussion in the previous paragraph implies that, in general, the Central bank will choose the punishment $k$ according to the formula:

$$k = EU_p(p = \text{targetted policy}) - EU_p(p = \text{President's original optimal proposal}),$$

provided that $k \in \left[ -\frac{1}{4}, \frac{1}{4} \right]$ and $k = -\frac{1}{4}$ or $k = \frac{1}{4}$ otherwise. Note that $k = 0$ whenever the policy targeted by the Central bank is equal to the President’s original optimal proposal.

In the following section I derive the punishment strategies (i.e. choices of $k$) which represent sequentially rational equilibrium strategies for the Central bank given its beliefs and the strategies of the other players. In order to derive these punishment strategies and to understand why they are sequentially rational, it is first necessary to understand the President’s equilibrium strategy choices.

### 3.3.3 Equilibrium beliefs and strategy of the President

The President’s equilibrium beliefs must satisfy the same conditions as those imposed by the consistency condition on the Financial Sector and the Central bank.
Consider first the sequentially rational strategy choice for the President given these beliefs in the absence of any possible punishment by the Central bank. If the Central bank were not able to punish, then the sequentially rational strategy for the President would be to propose the policy $p$ that resulted in the expected outcome closest to the President’s ideal point $x_p = 0$ that the Financial Sector would accept. Given the equilibrium strategy profile of the Financial Sector described above and the assumption that $x_F \geq 0$, the sequentially rational strategy choices for the President in this case are, therefore, to propose:

$$p = \begin{cases} 
-E(\omega) & \text{if } x_F \leq \frac{E(\omega)}{2} \\
2x_F - 2E(\omega) & \text{if } \frac{E(\omega)}{2} < x_F < E(\omega) \\
0 & \text{otherwise}
\end{cases}$$

These will lead to the expected outcomes $0$, $2x_F - E(\omega)$, and $E(\omega)$, respectively, and are the best outcomes the President can achieve given the strategy profile of the Financial Sector. Note that I assume that in the event the Financial Sector is indifferent between accepting the policy proposed by the President and vetoing the President’s proposed policy that it will accept the policy proposed by the President.

Next consider the sequentially rational strategy choice for the President given its beliefs and when punishment by the Central bank is possible. Given the possible
punishment $k$ under the strategy profile of the Central bank discussed above, it is clear that the President will propose the policy targeted by the Central bank and that the Financial Sector will accept this policy since the Central bank takes into account the reaction of the Financial Sector in selecting its targeted policy. In the case that the constraint on the possible magnitude of $k$ is binding, such that as a consequence the Central bank cannot punish sufficiently to ensure that the President will propose the policy leading to the most desirable outcome to the Central bank that is also acceptable to the Financial Sector, the President will anticipate that the Central bank will punish instead with $k = -\frac{1}{4}$ or $k = \frac{1}{4}$ if the President proposes the policy that would be optimal to the President in the absence of punishment. Given this anticipation, the President will therefore instead shift its proposed policy sufficiently in the direction desired by the Central bank to ensure that its expected payoff is equal to what it would be if it were to propose its original policy and receive the punishment $k = -\frac{1}{4}$ or $k = \frac{1}{4}$. In other words, the Central bank will still be able to induce the President to shift policy in the direction of the policy targeted by the Central bank, but the amount by which it will be able to do so will be constrained by the restriction that the absolute value of $k$ not exceed $\frac{1}{4}$.

Having discussed the equilibrium beliefs and strategies of the Financial Sector, Central Bank, and President in general terms, we may now consider how specific values
of $x_F, x_c,$ and $E(\omega)$ affect the specific equilibrium strategies chosen by these actors.

This is most easily done by considering different possible preference orderings under three sets of cases: (i) the set of cases where the Treasury secretary sends the report $r(\omega) = \omega^+$ so that the consistency condition requires that the other actors believe that $\omega \in [0,1]$ so that, given the prior belief that $f(\omega)$ is the uniform density, these actors believe that $E(\omega) = \frac{1}{2}$; (ii) the set of cases where the report sent by the Treasury secretary is $r(\omega) = \omega^-, \omega^-$ so that the other actors believe $E(\omega) = -\frac{1}{2}$; and (iii) the set of cases where the Treasury secretary sends the report $r(\omega) = \emptyset$ so that the other actors believe $E(\omega) = 0$. In every case we assume that $x_F \geq 0$

I. Cases where beliefs imply $E(\omega) = \frac{1}{2}$:

Case I(1): Assume that $0 \leq x_F < \frac{1}{4} < E(\omega) = \frac{1}{2}$ so that

$$-\frac{1}{2} = -E(\omega) \leq 2x_F - E(\omega) < 0$$

and assume that $2x_F - E(\omega) < x_c < 0$. This implies that

$$-\frac{1}{2} = -E(\omega) \leq 2x_F - E(\omega) < x_c < 0$$

so that the Financial Sector prefers any outcome in
the interval \(-E(\omega) = -\frac{1}{2}, E(\omega) = \frac{1}{2}\) to the expected status quo outcome \(E(\omega)\).\(^6\)

Therefore, if the Central bank could not punish, the President would propose

\[ p = -E(\omega) \]

leading to the expected outcome \(0 = x_p\) which the Financial Sector would accept. Given that \(2x_F - E(\omega) < x_c < 0\), however, the Financial Sector will be willing to accept the policy \(p = x_c - E(\omega)\) leading to the expected outcome \(x_c\). Therefore, given that the Central bank does have the ability to punish, the Central bank will be able to select a punishment \(k\) sufficient to induce the President to propose \(p = x_c - E(\omega)\). Note that, in general, \(EU_p (p = p) = -E(\omega^2) - 2pE(\omega) - p^2\) as discussed above, so that

\[ EU_p (p = -E(\omega)) = -E(\omega^2) + \left(E(\omega)^2\right) \]

and

\[ EU_p (p = x_c - E(\omega)) = -E(\omega^2) + \left(E(\omega)^2\right) - x_c^2. \]

This implies that the necessary punishment is \(k = EU_p (p = c - E(\omega)) - EU_p (p = -E(\omega)) = -x_c^2\). Since we assume that

\[ 2x_F - E(\omega) < x_c < 0 \]

and that \(0 \leq x_F < \frac{1}{4} < E(\omega) = \frac{1}{2}\) this implies \(-\frac{1}{2} < x_c < 0\) and thus that the maximal required punishment is \(k = -x_c^2 = -\frac{1}{4}\) and the constraint on \(k\) is not binding. Therefore, in this case an equilibrium exists in which Central bank adopts the

\(^6\) Recall that the Financial Sector is indifferent between the policy \(p = 0\) leading to the expected status quo outcome \(E(\omega)\) and the policy \(p = 2x_F - 2E(\omega)\) leading to the expected outcome \(2x_F - E(\omega)\).
strategy of not punishing (i.e. \( k = 0 \)) when the President proposes \( p = x_c - E(\omega) \) and punishing with \( k = -c^2 \) if the president proposes \( p = -E(\omega) \); the President anticipates the potential punishment and proposes \( p = x_c - E(\omega) \) instead of \( p = -E(\omega) \); and the Financial Sector accepts rather than vetoes this proposal, so that policy chosen in equilibrium is \( p = x_c - E(\omega) \) leading to the expected equilibrium outcome of \( x_c \).

**Case I(2):** Assume that again \( 0 \leq x_F < \frac{1}{4} < E(\omega) = \frac{1}{2} \) so

\[
-\frac{1}{2} = -E(\omega) < 2x_F - E(\omega) < 0,
\]

but assume that \( x_c < 2x_F - E(\omega) \). This implies

\[
-\frac{1}{2} = -E(\omega) \leq x_c < 2x_F - E(\omega) < 0.
\]

Again, in the absence of the ability of the Central bank to punish, the Financial Sector would accept the policy proposal

\( p = -E(\omega) \) by the President leading to the expected outcome \( 0 = x_F \). However, unlike case I(1), the Financial Sector will not accept the policy \( p = x_c - E(\omega) \) leading to the expected outcome \( x_c \), since \( x_c < 2x_F - E(\omega) \). Therefore, from the point of view of the Central bank, the best possible policy proposal that the Financial Sector will accept is the policy proposal \( p = 2x_F - 2E(\omega) \) leading to the expected outcome \( 2x_F - E(\omega) \). In order to induce the President to offer \( p = 2x_F - 2E(\omega) \) rather than \( p = -E(\omega) \), the Central Bank will need to be able to threaten the punishment.
\[ k = EU_p \left( p = 2x_F - 2E(\omega) \right) - EU_p \left( p = -E(\omega) \right). \] Note that, in general,

\[ EU_p \left( p = p \right) = -E(\omega^2) - 2pE(\omega) - p^2, \] so that

\[ EU_p \left( p = 2x_F - 2E(\omega) \right) = -E(\omega^2) - 4x_F^2 + 4x_F E(\omega) \] and

\[ EU_p \left( p = -E(\omega) \right) = -E(\omega^2) + \left( E(\omega) \right)^2. \] Therefore, the necessary punishment is

\[ k = -4x_F^2 + 4x_F E(\omega) - \left( E(\omega) \right)^2. \] Given our assumption that \( 0 \leq x_F < \frac{1}{4} < E(\omega) = \frac{1}{2}, \) the maximal required punishment will be \( k = -\frac{1}{4} \) when \( x_F = 0 \) so that the best obtainable outcome for the Central bank is \( 2x_F - E(\omega) = -\frac{1}{2}. \) Thus the constraint on \( k \) will not be binding.\(^7\) There will therefore exist an equilibrium set of strategies in this case where the Central bank chooses the punishment \( k = -4x_F^2 + 4x_F E(\omega) - \left( E(\omega) \right)^2 \) if the President proposes \( p = -E(\omega) \) and chooses not to punish whenever the President proposes

\[ p = -E(\omega) \] and chooses not to punish whenever the President proposes \( p = -E(\omega) \) and chooses not to punish whenever the President proposes

\[ p = -E(\omega) \] and chooses not to punish whenever the President proposes

\[ p = -E(\omega) \]

\(^7\) Put differently, for \( x_C < -\frac{1}{2} = -E(\omega) < 2x_F - E(\omega) \) the constraint on \( k \) will be binding since the formula \( k = -x_C^2 \) developed in the previous section would imply that \( k < -\frac{1}{4}. \) However, the constraint that the Financial Sector will not accept any \( x_C < 2x_F - E(\omega) \) is also always binding in such a case given our assumption that \( x_F \geq 0. \) As a result we conclude that in such cases the Central bank will try to attain the outcome \( 2x_C - E(\omega) = -\frac{1}{2} \) which the Financial Sector will accept and which implies the necessary threatened punishment is \( k = -\frac{1}{4} \) which is attainable.
proposes \( p = 2x_F - 2E(\omega) \); the President anticipates the strategy of the Central bank and proposes \( p = 2x_F - 2E(\omega) \); and the Financial Sector approves the proposal \( p = 2x_F - 2E(\omega) \). The policy chosen in equilibrium is thus \( p = 2x_F - 2E(\omega) \) leading to the expected equilibrium outcome \( 2x_F - E(\omega) \).

**Case I(3):** Assume now that \( 0 < x_F \leq \frac{1}{4} < E(\omega) = \frac{1}{2} \) and that the preference ordering is either \( 0 < x_F < x_C \leq \frac{1}{4} \) or \( 0 < x_C < x_F \leq \frac{1}{4} \). This implies that \( 2x_F - E(\omega) \leq 0 \) so that the Financial Sector prefers any outcome in the interval \( \left[ 0, E(\omega) = \frac{1}{2} \right] \) to the expected status quo outcome \( E(\omega) \). Therefore, if the Central bank were not able to punish, the President would propose \( p = -E(\omega) \) leading to the expected outcome \( 0 = x_F \) which the Financial Sector would accept. Given that the Financial Sector will accept any outcome in the interval \( \left[ 0, \frac{1}{2} \right] \), the Financial Sector will in particular accept the policy \( p = x_C - E(\omega) \) leading to the expected outcome \( x_C \). Therefore, the Central bank will be able to select a punishment \( k \) sufficient to induce the President to propose \( p = x_C - E(\omega) \). As in case I(1) the necessary punishment will be

\[
k = EU_p \left( p = c - E(\omega) \right) - EU_p \left( p = -E(\omega) \right) = -x_C^2.
\]

Given our assumption that
$0 < x_c \leq \frac{1}{4}$ the maximal required punishment will be $k = -\frac{1}{16}$, so the constraint on the value of $k$ will not be binding. The expected equilibrium outcome will therefore be the same as that described in case I(1) and the equilibrium policy choice will therefore be $p = x_c - E(\omega)$ leading to the expected equilibrium outcome of $x_c$.

**Case I(4):** Assume that again $0 < x_f \leq \frac{1}{4} < E(\omega) = \frac{1}{2}$ but assume that

\[
\frac{1}{4} < x_c \leq E(\omega) = \frac{1}{2}.
\]

This again implies that $2x_f - E(\omega) \leq 0$ so that the Financial Sector again prefers any outcome in the interval $[0, E(\omega) = \frac{1}{2}]$ to the expected status quo outcome $E(\omega)$, which in turn implies that the Financial Sector will accept the policy proposal $p = x_c - E(\omega)$ leading to the expected outcome $x_c$. Again the required punishment will be $k = -x_c^2$, and given our assumption that $\frac{1}{4} < x_c \leq E(\omega) = \frac{1}{2}$, the maximal required punishment will be $k = -\frac{1}{4}$. The equilibrium in this case will thus be the same as that described in case I(3) by similar reasoning and the equilibrium policy will be therefore again be $p = x_c - E(\omega)$ leading to the expected equilibrium outcome of $x_c$. 

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Case I(5): Assume now that \( \frac{E(\omega)}{2} = \frac{1}{4} < x_F < \frac{3}{8} = \frac{3E(\omega)}{4} \) so that

\[
0 < 2x_F - E(\omega) < \frac{1}{4}
\]

and assume that \( x_C \leq \frac{1}{4} = \frac{E(\omega)}{2} \) and simultaneously

\[
x_C < 2x_F - E(\omega)
\]. In the absence of possible punishment by the Central bank, the

President will propose \( p = 2x_F - 2E(\omega) \) leading to the expected outcome \( 2x_F - E(\omega) \)

which the Financial Sector will accept. Since we assume that \( x_C < 2x_F - E(\omega) \), the

Financial Sector will not accept the policy \( p = x_C - E(\omega) \) leading to the expected

outcome \( x_C \). Therefore the best attainable policy proposal from the point of view of the

Central bank that is acceptable to the Financial Sector is also \( p = 2x_F - 2E(\omega) \).

Therefore, the Central bank will never choose to punish in this case and the equilibrium

policy choice will be \( p = 2x_F - 2E(\omega) \) leading to the expected outcome \( 2x_F - E(\omega) \).

Case I(6): Assume that \( \frac{E(\omega)}{2} = \frac{1}{4} < x_F < \frac{3}{8} = \frac{3E(\omega)}{4} \) so that \( 0 < 2x_F - E(\omega) < \frac{1}{4} \) and

now assume that \( 0 < x_C \leq \frac{1}{4} = \frac{E(\omega)}{2} \) and that \( 2x_F - E(\omega) < x_C \). Again, if the Central

---

\(^8\) Note that if \( x_C < 0 \) it will always be the case that \( x_C < 2x_F - E(\omega) \) given that we assume \( \frac{1}{4} < x_F \) in

this case, while if \( 0 < x_C \leq \frac{1}{4} \) it is possible that \( x_C \) is either greater or less than \( 2x_F - E(\omega) \) if

\[
\frac{E(\omega)}{2} = \frac{1}{4} < x_F < \frac{3}{8} = \frac{3E(\omega)}{4}.
\]
bank were unable to punish, the President would propose $p = 2x_F - 2E(\omega)$ leading to the expected outcome $2x_F - E(\omega)$ which the Financial Sector will accept. Since we assume that $2x_F - E(\omega) < x_C$, the Financial Sector will now accept the policy $p = x_C - E(\omega)$ leading to the expected outcome $x_C$. Therefore, in order to induce the President to offer $p = c - E(\omega)$ instead of $p = 2x_F - 2E(\omega)$, the Central bank must be able to credibly threaten the punishment $k = EU_p \left( p = c - E(\omega) \right) - EU_p \left( p = 2x_F - 2E(\omega) \right)$. Note that, in general, $EU_p \left( p = p \right) = -E(\omega^2) - 2pE(\omega) - p^2$ as discussed above, so that $EU_p \left( p = x_C - E(\omega) \right) = -E(\omega^2) + \left( E(\omega) \right)^2 - x_C^2$

and $EU_p \left( p = 2x_F - 2E(\omega) \right) = -E(\omega^2) - 4x_F^2 + 4x_F E(\omega)$. Therefore, $k = \left( E(\omega) \right)^2 - x_C^2 + 4x_F^2 - 4x_F E(\omega)$. Given our assumptions regarding $x_F$ and $x_C$, this implies that $k$ ranges from $k = -\frac{1}{16}$ to $k = 1/16$ so that the constraint on $k$ is not binding.

Therefore, by arguments similar to those for case I(1), there will therefore exist an equilibrium set of strategies in this case where the Central bank chooses the punishment $k = \left( E(\omega) \right)^2 - x_C^2 + 4x_F^2 - 4x_F E(\omega)$ if the President proposes $p = 2x_F - 2E(\omega)$ and chooses not to punish whenever the President proposes $p = x_C - E(\omega)$; the President anticipates the strategy of the Central bank and proposes $p = x_C - E(\omega)$; and the
Financial Sector approves the proposal \( p = x_c - E(\omega) \). Thus the expected equilibrium proposal will be \( p = x_c - E(\omega) \) leading to the expected outcome \( x_c \).

\textit{Case I(7):} Assume that \( \frac{E(\omega)}{2} = \frac{1}{4} < x_r < \frac{3}{8} = \frac{3E(\omega)}{4} \) and assume that

\[
\frac{1}{4} < x_c \leq E(\omega) = \frac{1}{2}.
\]

This implies that \( 0 < 2x_r - E(\omega) < \frac{1}{4} \) and that \( 2x_r - E(\omega) < x_c \), so that the Financial Sector prefers any outcome in the interval \( \left( \frac{1}{4}, \frac{1}{2} \right] \) to the expected status quo outcome \( E(\omega) = \frac{1}{2} \), which in turn implies that the Financial Sector will accept the policy \( p = x_c - E(\omega) \) leading to the expected outcome \( x_c \). Note that if the Central bank were not able to punish, the President would offer the policy

\( p = 2x_r - 2E(\omega) \) leading to the expected outcome \( 2x_r - E(\omega) \) which is closer to the President’s ideal point than the outcome \( x_c \). Therefore, the equilibrium will be the same as that described in case I(6) and the equilibrium policy choice will be \( p = x_c - E(\omega) \) leading to the expected outcome \( x_c \).

\textit{Case I(8):} Assume that \( \frac{3E(\omega)}{4} = \frac{3}{8} \leq x_r < \frac{1}{2} = E(\omega) \) and assume that \( x_c \leq \frac{1}{4} = \frac{E(\omega)}{2} \) so that \( \frac{1}{4} \leq 2x_r - E(\omega) < \frac{1}{2} = E(\omega) \) and \( x_c < 2x_r - E(\omega) \). If the Central bank where not
able to punish, the President would propose the policy $p = 2x_F - 2E(\omega)$ leading to the expected outcome $2x_F - E(\omega)$ which the Financial Sector would accept. Since we assume that $x_C < 2x_F - E(\omega)$, this is the best policy outcome that the Central bank can attain and the equilibrium will be as described in case I(5). Therefore, the Central bank will never choose to punish in this case and the equilibrium policy choice will be $p = 2x_F - 2E(\omega)$ leading to the expected outcome $2x_F - E(\omega)$.

Case I(9): Assume again that $\frac{3E(\omega)}{4} = \frac{3}{8} \leq x_F \leq \frac{1}{2} = E(\omega)$ but assume that

$$\frac{1}{4} < x_C \leq E(\omega) = \frac{1}{2}$$

so that $\frac{1}{4} \leq 2x_F - E(\omega) \leq \frac{1}{2} = E(\omega)$ and $2x_F - E(\omega) < x_C$. If the Central bank where not able to punish, the President would propose the policy

$p = 2x_F - 2E(\omega)$ leading to the expected outcome $2x_F - E(\omega)$ which the Financial Sector will accept. In the special case where $x_F = \frac{1}{2} = E(\omega)$ we have

$p = 2x_F - 2E(\omega) = 0$ leading to the expected outcome $2x_F - E(\omega) = \frac{1}{2} = E(\omega)$. Since we assume that $2x_F - E(\omega) \leq x_C \leq \frac{1}{2} = E(\omega)$, the Financial Sector would be willing to accept the policy $p = x_C - E(\omega)$ (where $p = x_C - E(\omega) = 0$ in the special case that $x_C = \frac{1}{2} = E(\omega)$), leading to the expected outcome $x_C$. The necessary threatened
punishment will be \( k = \left( E(\omega) \right)^2 - \frac{1}{2} x_c^2 + 4x_c^2 - 4x_c E(\omega) \); \( k = 4x_c^2 - 4x_c E(\omega) \) in the special case where \( x_c = \frac{1}{2} = E(\omega) \); \( k = \left( E(\omega) \right)^2 - x_c^2 \) in the special case where \( x_c = E(\omega) \); and \( k = 0 \) (i.e., no punishment) in the special case where \( x_c = x_c = \frac{1}{2} = E(\omega) \). Given our assumptions regarding \( x_c \) and \( x_c \), this implies that \( k \) ranges from \( k = -\frac{3}{16} \) to \( k = \frac{3}{16} \) so that the constraint on \( k \) is not binding. An equilibrium will thus exist in which the Central bank punishes with \( k \) as described above whenever the President proposes \( p = 2x_c - 2E(\omega) \) but does not punish whenever the President proposes \( p = x_c - E(\omega) \); the President anticipates the Central bank’s reaction and proposes \( p = x_c - E(\omega) \); and the Financial Sector accepts this proposal. Thus the expected equilibrium proposal will be \( p = x_c - E(\omega) \) leading to the expected outcome \( x_c \).

**Case 1(10):** Assume now that \( \frac{1}{2} = E(\omega) < x_c \) and \( x_c \leq \frac{1}{2} = E(\omega) \). Since

\[
\frac{1}{2} = E(\omega) < x_c, \text{ this implies } E(\omega) = \frac{1}{2} < 2x_c - E(\omega), \text{ which in turn implies that the Financial Sector would veto any policy leading to an expected outcome to the left of}
\]
\[ E(\omega) = \frac{1}{2}. \] Therefore, if the Central bank were unable to punish, the President will propose the policy \( p = 0 \) leading to the expected outcome \( E(\omega) = \frac{1}{2} \). Since

\[ x_c \leq \frac{1}{2} = E(\omega) \] the Financial Sector would reject the policy \( p = x_c - E(\omega) \) leading to the expected outcome \( x_c \) and so the best attainable policy for the Central bank is the policy \( p = 0 \) (in the special case where \( x_c = 0 \) we have \( p = x_c - E(\omega) = 0 \)). Therefore an equilibrium exists where the Central bank does not punish; the President proposes the policy \( p = 0 \); and the Financial Sector accepts this policy. Therefore, the equilibrium policy will be \( p = 0 \) leading to the expected outcome \( E(\omega) = \frac{1}{2} \).

**Case I(11):** Assume again that \( \frac{1}{2} = E(\omega) < x_F \) but now assume

\[ E(\omega) = \frac{1}{2} < x_c \leq 2x_F - E(\omega) \] and \( x_c \leq \frac{1}{\sqrt{2}} \approx 0.707 \). If the Central bank were not able to punish, the President would offer \( p = 0 \) leading to the expected outcome \( E(\omega) \) since the Financial Sector would veto any policy leading to an outcome to the left of \( E(\omega) \).

Since \( E(\omega) = \frac{1}{2} < x_c \leq 2x_F - E(\omega) \), however, the Financial Sector is willing to accept the policy \( p = x_c - E(\omega) \) leading to the expected outcome \( x_c \). Therefore, the Central bank requires a punishment sufficient to induce the President to propose \( p = x_c - E(\omega) \) rather
than \( p = 0 \). This requires that \( k = EU_p\left( p = x_c - E(\omega)\right) - EU_p\left( p = 0 \right) \). Note that, in
general, \( EU_p\left( p = p \right) = -E(\omega^2) - 2pE(\omega) - p^2 \) as discussed above, so that

\[
EU_p\left( p = x_c - E(\omega)\right) = -E(\omega^2) + (E(\omega))^2 - x_c^2
d\text{ and } EU_p\left( p = 0 \right) = -E(\omega^2).
\]

Therefore

\[
k = \left( E(\omega) \right)^2 - x_c^2 = \frac{1}{4} - x_c^2.
\]

Given the constraint that \( k \in \left[ -\frac{1}{4}, \frac{1}{4} \right] \), this implies that the
constraint is not binding for \( x_c \leq \frac{1}{\sqrt{2}} \) but is binding for \( x_c > \frac{1}{\sqrt{2}} \). I address the case
where \( x_c > \frac{1}{\sqrt{2}} \) in case I(12) below. The foregoing discussion implies that an

equilibrium will exist when \( x_c \leq \frac{1}{\sqrt{2}} \) where the Central bank punishes with

\[
k = \left( E(\omega) \right)^2 - x_c^2 \text{ if the President proposes } p = 0 \text{ and but does not punish if the}
\]

President proposes \( p = x_c - E(\omega) \); the President anticipates the Central bank’s strategy
and proposes \( p = x_c - E(\omega) \) and the Financial Sector approves this policy. Therefore,

the expected equilibrium policy will be \( p = x_c - E(\omega) \) leading to the equilibrium

expected outcome \( x_c \).

**Case I(12):** Finally, again assume that \( \frac{1}{2} = E(\omega) < x_F \) but now assume

\[
E(\omega) = \frac{1}{2} < 2x_F - E(\omega) < x_c.
\]

Again, if the Central bank were not able to punish, the

President would offer \( p = 0 \) leading to the expected outcome \( E(\omega) \) since the Financial
Sector would veto any policy leading to an outcome to the left of $E(\omega)$. However, since $E(\omega) = \frac{1}{2} < 2x_F - E(\omega) < x_C$, the Financial Sector will not be willing to accept the policy $p = x_C - E(\omega)$ leading to the expected outcome $x_C$ and the best attainable policy outcome for the Central bank is the policy $p = 2x_F - 2E(\omega)$ leading to the expected outcome $2x_F - E(\omega)$. Therefore, the Central bank requires a punishment sufficient to induce the President to propose $p = 2x_F - 2E(\omega)$ rather than $p = 0$. This requires that $k = EU_p (p = 2x_C - 2E(\omega)) - EU_p (p = 0)$. Note that, in general, 

$$EU_p (p = p) = -E(\omega^2) - 2pE(\omega) - p^2$$

as discussed above, so that

$$EU_p (p = 2x_F - 2E(\omega)) = -E(\omega^2) - 4x_F^2 + 4x_F E(\omega)$$

and

$$EU_p (p = 0) = -E(\omega^2).$$

Therefore $k = -4x_F^2 + 4x_F E(\omega)$. Since $\frac{1}{2} = E(\omega) < x_F$, we need to consider the case where the constraint on $k$ binds so that $k = -\frac{1}{4}$. There are two values of $x_F$ that are solutions to $-\frac{1}{4} = k = -4x_F^2 + 4x_F E(\omega)$, including $x_F = \frac{1}{2} + \frac{\sqrt{1}}{2} \approx 0.604$ and

$$x_F = \frac{\frac{1}{2} - \sqrt{\frac{1}{2}}}{2} \approx -0.104,$$

with the former the correct solution given our assumption that $\frac{1}{2} = E(\omega) < x_F$. Note that when $x_F = \frac{1}{2} + \frac{\sqrt{1}}{2}$ we have $x_C = 2x_F - E(\omega) = \frac{1}{\sqrt{2}} \approx 0.707$. 

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Therefore an equilibrium will exist in this case where the Central bank punishes with
\[ k = -4x_p^2 + 4x_p E(\omega) \] when \( x_c < \frac{1}{\sqrt{2}} \) and with \( k = -\frac{1}{4} \) if the President proposes \( p = 0 \)

but does not punish if the President proposes \( p = x_c - E(\omega) \) if \( x_c < \frac{1}{\sqrt{2}} \) or \( p = \frac{1}{\sqrt{2}} - E(\omega) \) if \( x_c \geq \frac{1}{\sqrt{2}} \);

\[ p = \frac{1}{\sqrt{2}} - E(\omega) \] if \( x_c \geq \frac{1}{\sqrt{2}} \); the President anticipates the Central bank’s strategy and proposes \( p = 2x_p - 2E(\omega) \) if \( x_c < \frac{1}{\sqrt{2}} \) or \( p = \frac{1}{\sqrt{2}} - E(\omega) \) if \( x_c \geq \frac{1}{\sqrt{2}} \);

and the Financial Sector approves this policy. Therefore, the expected equilibrium policy will be

\[ p = 2x_p - 2E(\omega) \] if \( x_c < \frac{1}{\sqrt{2}} \) or \( p = \frac{1}{\sqrt{2}} - E(\omega) \) if \( x_c \geq \frac{1}{\sqrt{2}} \) leading to the equilibrium expected outcome \( 2x_p - E(\omega) \) if \( x_c < \frac{1}{\sqrt{2}} \) and \( \frac{1}{\sqrt{2}} \) if \( x_c \geq \frac{1}{\sqrt{2}} \).

IL. Cases where beliefs imply \( E(\omega) = 0 \):

**Case II(1):** Assume that \( 0 \leq x_p \) as in all cases and assume \( x_c \leq 0 \) so that

\[ x_c \leq E(\omega) = 0 \leq x_p . \] In all cases where \( E(\omega) = 0 \) we

have \( E(\omega) = 0 < x_p < 2x_p - E(\omega) = 2x_p . \) Since a veto leads to the expected outcome \( E(\omega) = 0 \) this implies that the Financial Sector will never accept a policy that leads to an expected outcome less than \( E(\omega) = 0 \). If the Central bank is not able to punish, the President will propose \( p = 0 \) which the Financial Sector will accept, leading
to the expected outcome \( E(\omega) = 0 = x_p \). Given that \( x_c \leq E(\omega) = 0 \leq x_F \), the best attainable policy outcome for the president is \( p = 0 \). Therefore an equilibrium exists in which the Central bank never punishes; the President proposes the policy \( p = 0 \); and the Financial Sector accepts this policy. The equilibrium policy will therefore be \( p = 0 \) leading to the expected equilibrium outcome \( E(\omega) = 0 \).

**Case II(2):** Assume now that \( 0 \leq x_c < 2x_F \). Again, since \( E(\omega) = 0 \), we have

\[
E(\omega) = 0 < x_F < 2x_F - E(\omega) = 2x_F.
\]

This implies that if the Central bank is not able to punish, the President will propose \( p = 0 \) which the Financial Sector will accept, leading to the expected outcome \( E(\omega) = 0 = x_p \). Given

that \( E(\omega) = 0 < x_c < x_F < 2x_F - E(\omega) = 2x_F \), the Financial Sector will strictly prefer the outcome \( x_c \) to the expected status quo outcome \( E(\omega) = 0 \) and, therefore, will accept the policy \( p = x_c \) which leads to the expected outcome \( x_c \) if this policy is proposed. The Central bank therefore requires a punishment sufficient to induce the President to propose \( p = x_c \) rather than \( p = 0 \). The required punishment

is

\[
k = EU_p(p = x_c) - EU_p(p = 0).
\]

Since in general,

\[
EU_p(p = p) = -E(\omega^2) - 2pE(\omega) - p^2 \quad \text{and} \quad E(\omega) = 0,
\]

we have

\[
EU_p(p = x_c) = -E(\omega^2) - x_c^2
\]

and

\[
EU_p(p = 0) = -E(\omega^2).
\]

Thus the required
punishment is $k = -x_c^2$. Note that the constraint on $k$ is binding if $x_c > \frac{1}{2}$ so that $k < -\frac{1}{4}$. Therefore, in this case, a equilibrium therefore exists in which the Central Bank’s strategy is to punish with $k = -x_c^2$ when $x_c < \frac{1}{2}$ if the President proposes $p = 0$, with $k = -\frac{1}{4}$ when $x_c \geq \frac{1}{2}$ if the President proposes $p = 0$, and chooses not to punish if the President proposes $p = x_c$ when $x_c < \frac{1}{2}$ and $p = \frac{1}{2}$ when $x_c \geq \frac{1}{2}$; the President anticipates the Central bank’s strategy and proposes $p = x_c$ when $x_c < \frac{1}{2}$ and $p = \frac{1}{2}$ when $x_c \geq \frac{1}{2}$; leading to the expected outcome $x_c$ for $x_c < \frac{1}{2}$ and $\frac{1}{2}$ for $x_c \geq \frac{1}{2}$.

**Case II(3):** Assume now that $E(\omega) = 0 \leq x_F < 2x_F - E(\omega) = 2x_F < x_c$. Once again this implies that if the Central bank is not able to punish, the President will propose $p = 0$ which the Financial Sector will again accept, leading to the expected outcome $E(\omega) = 0 = x_p$. However, since $E(\omega) = 0 \leq x_F < 2x_F - E(\omega) = 2x_F < x_c$, the Financial Sector will not accept the policy $p = x_c$ leading to the expected outcome $x_c$. 

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Instead, from the point of view of the Central bank, the best attainable policy is the policy \( p = 2x_F - 2E(\omega) = 2x_F \) leading to the expected outcome \( 2x_F \). In order to induce the President to propose \( p = 2x_F - 2E(\omega) = 2x_F \) rather than \( p = 0 \), the Central bank needs to be able to threaten the punishment \( k = EU_p (p = 2x_F) - EU_p (p = 0) \). Since in general, \( EU_p (p = p) = -E(\omega^2) - 2pE(\omega) - p^2 \) and \( E(\omega) = 0 \), we have \( EU_p (p = 2x_F) = -E(\omega^2) - 4x_F E(\omega) - 4x_F^2 = -E(\omega^2) - 4x_F^2 \) and

\[
EU_p (p = 0) = -E(\omega^2).
\]

Thus the required punishment is \( k = -4x_F^2 \). Note that the constraint that \( k \in \left[-\frac{1}{4}, \frac{1}{4}\right] \) is binding if \( x_F > \frac{1}{4} \) and that

\[
x_c = 2x_F - E(\omega) = \frac{1}{2} \text{ when } x_F = \frac{1}{4}.
\]

An equilibrium therefore exists in which the Central bank chooses to punish with \( k = -4x_F^2 \) when \( x_F < \frac{1}{4} \) if the President proposes \( p = 0 \), chooses to punish with \( k = -\frac{1}{4} \) when \( x_F \geq \frac{1}{4} \) if the President proposes \( p = 0 \), and chooses not to punish if the President proposes \( p = 2x_F \); the President anticipates the Central bank’s strategy and proposes \( p = 2x_F \) if \( x_F < \frac{1}{4} \) and proposes \( p = \frac{1}{2} \) if \( x_F \geq \frac{1}{4} \); and the Financial Sector accepts this proposal. The equilibrium policy choice will
therefore be \( p = 2x_F \) if \( x_F < \frac{1}{4} \) or \( p = \frac{1}{2} \) if \( x_F \geq \frac{1}{4} \) leading to the equilibrium expected outcome of \( 2x_F \) when \( x_F < \frac{1}{4} \) and \( \frac{1}{2} \) when \( x_F \geq \frac{1}{4} \).

III. Cases where beliefs imply \( E(\omega) = -\frac{1}{2} \):

Case III(1): Assume that \( 0 \leq x_F \) as in all cases and assume \( x_c < E(\omega) = -\frac{1}{2} \). In all cases where \( E(\omega) = -\frac{1}{2} \) we have \( 0 < x_F < 2x_F - E(\omega) = 2x_F + \frac{1}{2} \). If the Central bank were not able to punish, the President would propose the policy \( p = -E(\omega) \) leading to the expected outcome \( 0 = x_p \) which the Financial Sector would accept as this expected outcome is closer to the ideal point of the Financial Sector than the expected outcome status quo outcome \( E(\omega) = -\frac{1}{2} \) that would result from a veto. However since \( x_c < E(\omega) = -\frac{1}{2} < x_F < 2x_F - E(\omega) = 2x_F + \frac{1}{2} \) the Financial Sector will never accept a policy leading to an outcome to the left of \( E(\omega) < -\frac{1}{2} \) since it will always prefer the expected outcome of a veto. Therefore, the Financial Sector will not accept the policy \( p = x_c - E(\omega) \) leading to the expected outcome \( x_c \) in this case. However, the Financial Sector will be indifferent between the policy \( p = 0 \) leading to the expected outcome
\[ E(\omega) = -\frac{1}{2} \] and the expected outcome of a veto, which implies that the Financial Sector will accept the policy \( p = 0 \) if proposed by the President. In order to induce the President to offer the policy \( p = 0 \) rather than \( p = -E(\omega) \) the Central bank will need to be able to threaten the punishment \( k = EU_p(p = 0) - EU_p(p = -E(\omega)) \). Since in general, \( EU_p(p = p) = -E(\omega^2) - 2pE(\omega) - p^2 \) and \( E(\omega) = -\frac{1}{2} \), we have \( EU_p(p = -E(\omega)) = -E(\omega^2) + (E(\omega))^2 \) and \( EU_p(p = 0) = -E(\omega^2) \). Thus the required punishment is \( k = -\left(E(\omega)\right)^2 = -\frac{1}{4} \). An equilibrium will therefore exist in which the Central bank threatens the punishment \( k = -\frac{1}{4} \) if the President proposes \( p = -E(\omega) \) and no punishment if the President proposes \( p = 0 \); the President anticipates the Financial Sector’s strategy and proposes \( p = 0 \); and the Financial Sector approves this policy. The equilibrium policy choice will therefore be \( p = 0 \) leading to the equilibrium expected outcome \( E(\omega) = -\frac{1}{2} \).
**Case III(2):** Assume that $0 \leq x_F$ as in all cases but now assume

$$E(\omega) = -\frac{1}{2} \leq x_c \leq -E(\omega) = \frac{1}{2} \leq 2x_F - E(\omega) = 2x_F + \frac{1}{2}.\text{ }^9$$

Again, if the Central bank were not able to punish, the President would propose the policy $p = -E(\omega)$ leading to the expected outcome $0 = x_p$ which the Financial Sector would accept. However, in this case the Financial Sector will always prefer the policy $p = x_c - E(\omega)$ leading to the expected outcome $x_c$ to the expected outcome of a veto $E(\omega) = -\frac{1}{2}$ and will therefore accept this policy. In order to induce the President to offer the policy $p = x_c - E(\omega)$ rather than $p = -E(\omega)$ the Central bank will need to be able to threaten the punishment $k = EU_p(p = x_c - E(\omega)) - EU_p(p = -E(\omega))$. Since in general,

$$EU_p(p = p) = -E(\omega^2) - 2pE(\omega) - p^2$$

and

$$E(\omega) = -\frac{1}{2},$$

we have $EU_p(p = -E(\omega)) = -E(\omega^2) + (E(\omega))^2$ and

$$EU_p(p = c - E(\omega)) = -E(\omega^2) + (E(\omega))^2 - c^2$$

Thus the required punishment is $k = -x_c^2$.

Note that if $x_c > \frac{1}{2}$, we have $k < -\frac{1}{4}$, so the constraint that $k \in \left[-\frac{1}{4}, -\frac{1}{4}\right]$ binds. I

---

$^9$ The constraint in the assumption that $x_c \leq -E(\omega) = \frac{1}{2}$ is a consequence of the analysis that follows. I discuss further below the case where $x_c > -E(\omega) = \frac{1}{2}$.
discuss the case where \( x_c > \frac{1}{2} \) below under case III(3). An equilibrium therefore exists in which the Central bank adopts the strategy of punishing with \( k = -x_c^2 \) if the President proposes \( p = -E(\omega) \) and not punishing if the President proposes \( p = x_c - E(\omega) \); the President anticipates the Central bank’s strategy and proposes \( p = x_c - E(\omega) \); and the Financial Sector approves this policy. The equilibrium expected policy outcome is therefore \( p = x_c - E(\omega) \) leading to the expected equilibrium outcome \( x_c \).

**Case III(3):** Finally, assume that \( 0 \leq x_p \) as in all cases but now assume \( x_c > \frac{1}{2} \). Again, if the Central bank were not able to punish, the President would propose the policy \( p = -E(\omega) \) leading to the expected outcome \( 0 = x_p \) which the Financial Sector would accept. However, in this case, the Central bank cannot implement the punishment \( k = -x_c^2 \) required to induce the President to propose \( p = x_c - E(\omega) \) given the constraint that \( k \in \left[-\frac{1}{4}, \frac{1}{4}\right] \) which implies that for \( -E(\omega) = \frac{1}{2} < x_c, \ k < -\frac{1}{4} \). As a consequence, the best attainable policy for the Central bank is the policy \( p = \frac{1}{2} - E(\omega) = 1 \) leading to the expected outcome \( \frac{1}{2} \). Note that \( E(\omega) = -\frac{1}{2} < \frac{1}{2} < 2x_p - E(\omega) = 2x_p + 1 \) for all \( x_p \geq 0 \) and so will be accepted by the Financial Sector. An equilibrium therefore exists.
in which the Central bank adopts the strategy of punishing with $k = -\frac{1}{4}$ if the President proposes $p = -E(\omega)$ and not punishing if the President proposes $p = \frac{1}{2} - E(\omega)$; the President anticipates the Central bank’s strategy and proposes $p = \frac{1}{2} - E(\omega)$; and the Financial Sector approves this policy. The equilibrium expected policy outcome is therefore $p = \frac{1}{2} - E(\omega)$ leading to the expected equilibrium outcome $\frac{1}{2}$.

### 3.3.4 Equilibrium Beliefs and Strategy of the Treasury

The final step in solving for the equilibria of the model is to assume that a separating equilibrium exists in which the Treasury secretary sends the signal $r = \omega+$ when it observes that $\omega \in [0,1]$ and that Treasury secretary sends the signal $r = \omega-$ when it observes that $\omega \in [-1,0)$ and then to consider whether the Treasury secretary will have an incentive to deviate from this equilibrium either by lying or by sending an uninformative signal $r = \emptyset$ so that a pooling equilibrium exists\(^{10}\) or whether, for certain values of the Treasury secretary’s ideal point, a separating equilibrium can be sustained.

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\(^{10}\) Note that it is a general result that a pooling equilibrium will exist in all states in a “cheap talk” game in which there is no cost for sending a particular signal. It is also a general result that where a separating equilibrium exists in a cheap talk game, both the sender and the receiver will be better off under such an equilibrium than under a pooling equilibrium, so that separating equilibria are Pareto-improving (see Gibbons 1992, pg. 210-214). It is therefore most interesting to consider whether or not a separating equilibrium exists.
I have pursued the following specific sequence of steps to check for the existence of separating equilibria and the corresponding range of values of the Treasury’s ideal point that will allow such equilibria to be sustained. First, I have assumed that a separating equilibrium exists in which the Treasury sends the signal $r = \omega^+$ when it observes that $\omega \in [0,1]$ for each of the twelve possible preference configurations of the Central bank and the Financial Sector described in Case I above. I have calculated the equilibrium policy outcome for each of these cases assuming that a separating equilibrium holds so that that the President, Central bank, and Financial Sector believe that $\omega \in [0,1]$ when they observe the signal $r = \omega^+$ and therefore play the equilibrium policy choice identified in Case I of the previous section. Next I have checked to see if a deviation from this equilibrium is profitable for the Treasury. I begin by assuming that the Treasury instead lies and sends the signal $r = \omega^-$ when it in reality observes that $\omega \in [0,1]$; identify the corresponding case from the possible preference configurations identified in Case III above\(^\text{11}\) and the equilibrium policy choice arising in the subgame following the Treasury’s move if the other actors incorrectly believe that $\omega \in [-1,0)$ when they observe the signal $r = \omega^-$ from the Treasury; and finish by calculating the outcome that the Treasury expects to receive if the other players play the strategy that I have thus identified when the Treasury knows that in fact $\omega \in [0,1]$. I proceed in a

\(^\text{11}\) Note that since there are fewer categories in Case III than Case I, such a mapping is fairly straightforward.
similar way to identify the outcomes the Treasury expects to receive if the sends the uninformative signal \( r = \emptyset \) (so that a pooling equilibrium exists) when the Treasury knows that in fact \( \omega \in [0,1] \). I next calculate the midpoint between the outcome that the Treasury secretary expects to receive it sends the true signal \( r = \omega^+ \) when it observes that \( \omega \in [0,1] \) and the outcome the Treasury expects to receive when it sends the false signal \( r = \omega^- \) when it observes that in reality \( \omega \in [0,1] \). This midpoint corresponds to the location of the ideal point of the Treasury secretary at which it would be indifferent between telling the truth and lying when it knows that in reality that \( \omega \in [0,1] \). A similar indifference point can be calculated for each of these preference configurations to identify the location of the ideal point of the Treasury secretary at which it would be indifferent between telling the truth and lying when it knows that in reality that \( \omega \in [-1,0) \). It is easy to calculate then whether the Treasury secretary prefers lying or truth telling respectively to the left or right of each of these ideal points. In the event that the ranges where the Treasury prefers to tell the truth overlap, these two indifference points thus describe the range of ideal points at which the Treasury will prefer to tell the truth rather than lie. A similar set of calculations determines the range of ideal points at which the Treasury will prefer to tell the truth rather than sending the uninformative signal \( r = \emptyset \) corresponding to a pooling equilibrium. The final step is to identify the range of values where these two results overlap. The range so identified for each
possible preference configuration is the range of values of the Treasury’s ideal point at which it will prefer to tell the truth in all states rather than lie or send an uninformative signal. In other words, it is the range of values of the Treasury’s ideal point at which a separating equilibrium can be sustained.

Following these steps, I demonstrate that separating equilibria do exist for a range of possible ideal points of the Treasury secretary under all possible preference configurations. This implies that the Treasury secretary will indeed be able to influence policy outcomes so that the policy outcomes are closer to its ideal point and, moreover, will have incentives to offer truthful advice, provided that its ideal point is sufficiently close to that of other players. In cases where a separating equilibrium exists, the policy advice offered by the Treasury secretary will also improve the welfare of other players by enabling them to achieve outcomes closer to their respective ideal points.

The range of ideal points of the Treasury for which separating equilibria exist for each of the preference configurations is as follows (I list the case corresponding to the preference configuration and then the range of ideal points for the Treasury for which a separating equilibrium exists):

Case I(1): \[ \frac{x_c}{2} - \frac{1}{4} < x_T < \frac{x_c}{2} + \frac{1}{4} \]

Case I(2): \[ \frac{x_c}{2} - \frac{1}{4} < x_T < x_F \]

Case I(3): \[ \frac{x_c}{2} < x_T < x_c + \frac{1}{4} \text{ if } x_c \leq 2x_F \text{ or } x_F < x_T < x_F + \frac{1}{4} \text{ if } x_c > 2x_F \]
Case I(4): \( x_F < x_r < \frac{x_C}{2} + x_F + \frac{1}{4} \)

Case I(5): \( \frac{x_C}{2} - \frac{1}{4} < x_r < \frac{x_C}{2} + \frac{1}{4} \)

Case I(6): \( x_C - \frac{1}{4} < x_r < x_C + \frac{1}{4} \)

Case I(7): \( x_C - \frac{1}{4} < x_r < x_C + \frac{1}{4} \)

Case I(8): \( x_F - 1 < x_r < x_F \) if \( x_C < -\frac{1}{2} \)

\[ x_F + \frac{x_C}{2} < x_r < x_F + \frac{x_C}{2} + \frac{1}{4} \) if \( -\frac{1}{2} \leq x_C \leq 0 \)

\[ x_C - \frac{1}{4} < x_r < x_F + \frac{x_C}{2} \) if \( 0 < x_C \leq \frac{1}{4} \)

Case I(9): \( x_C - \frac{1}{4} < x_r < x_C + \frac{1}{4} \) if \( x_C < \frac{1}{2} \)

\[ 0 < x_r < \frac{3}{4} \) if \( x_C = \frac{1}{2} \)

Case I(10): \( -\infty < x_r < \infty \) if \( x_C < -\frac{1}{2} \)

\[ \frac{x_C}{2} - \frac{1}{4} < x_r \) if \( -\frac{1}{2} \leq x_C \leq 0 \)

\[ x_C - \frac{1}{4} < x_r < \frac{x_C}{2} + \frac{1}{2} \) if \( 0 < x_C < \frac{1}{2} \)

\[ 0 < x_r < \frac{3}{4} \) if \( x_C = \frac{1}{2} \)
Case I(11): \( \frac{1}{4} < x_r < \frac{x_c}{2} + \frac{1}{2} \)

Case I(12): \( \frac{1}{4} < x_r < x_r + \frac{1}{4} \) if \( x_c < \frac{1}{\sqrt{2}} \)

\[
\frac{1}{4} < x_r < \frac{1}{2} \left( \frac{1 + \sqrt{2}}{2} \right) \text{ if } x_c \geq \frac{1}{\sqrt{2}}
\]

### 3.4 Summary and Conclusions

The model which I develop in this chapter is consistent with the broader theoretical argument that I offer in the previous chapter. The model captures the strategic nature of the interaction between the actors involved in the policy process and demonstrates that the key claims that I make regarding the ability of specific actors to influence policy outcomes are consistent with the assumptions and description of the policy process that I defend in the previous chapter.

First, a central part of my argument in the previous chapter is that the heads of the specialized financial sector policy bureaucracies can exert significant influence over the regulatory policy choices of the political executive because they possess specialized expert knowledge regarding a complex policy domain and supply the cognitive frameworks through which political executives understand their regulatory decision problems: shaping their understanding of the feasible options available to them; their understanding of often complex causal relationships between different policy choices and outcomes; and the probabilities that they attach to uncertain outcomes associated
with different policy choices. In other words, specialized financial sector bureaucratic actors can influence regulatory policy choices by shaping the beliefs of the political executive and other actors.

But is it plausible to believe that bureaucratic actors can influence regulatory policy outcomes by influencing the beliefs of other actors in a strategic setting where other actors have different preferences over outcomes and have significant formal powers over the policy process (e.g., agenda control, veto power) that bureaucratic actors do not have? Even if specialized financial sector bureaucratic actors possess superior information about the likely consequences of different policy choices, will other actors actually believe the statements that financial sector bureaucratic actors make regarding the consequences of different choices and will they have incentives to alter their own actions in light of these statements? The results of the model suggest that the answers to these questions are positive. More formally, the model demonstrates that separating equilibria exist over a wide range of different preference configurations whereby a specialized bureaucratic actor (here labeled the “Treasury Secretary”) with access to superior information about the consequences of policy choices will be able to influence the policy outcomes that emerge as equilibria from the strategic interaction between these different actors.

Second, I have argued that specialized financial sector bureaucratic actors can influence policy outcomes by their ability to take actions that sanction the political
executive – for example, by obstructing policy implementation in other areas, by publically criticizing the policy actions of the political executive, or by taking policy initiatives that go against the preferences of the political executive. But similar questions can be posed. It is plausible that bureaucratic actors will be able to influence regulatory policy outcomes in a strategic setting where other actors have greater formal powers, especially given the fact that their power to sanction is often limited? The results of the model suggest that the answer is positive: even when the power of bureaucratic actors to sanction is constrained within relatively small ranges, they are able to significantly influence equilibrium regulatory policy outcomes in a policy-making process in which other actors control the agenda (i.e., the ability to make policy proposals) and are able to veto policy choices.

My model supports a third claim that forms an important part of my overall theoretical argument. Specifically, I argue that although interest group actors (most importantly the financial sector) are often important and influential actors within the policymaking process, they are not able to simply dictate regulatory policy outcomes as is sometimes suggested by other accounts. The model demonstrates that, even if we assume that financial sector interest groups have the power to “veto” policies with which they disagree (e.g., by capturing key congressional committees), the influence of the financial sector over regulatory policy outcomes is constrained. More formally, I demonstrate that the ability of the financial sector to influence equilibrium policy
outcomes is limited in cases where its preferences deviate significantly from those of the political executive and the status quo so that credibility of a veto threat is diminished. Moreover, the assumption that the financial sector holds the power to “veto” policy proposals with which it disagrees likely overstates the actual influence of the financial sector in many cases. The financial sector will not always have the power to simply “capture” key “veto points” such as congressional committees or pivotal parties within a coalition, suggesting that the influence of the financial sector over financial regulatory policy outcomes is likely often even more constrained than suggested by the model. The results of the model and these considerations, therefore, suggest that the interest group and regulatory capture accounts may overstate the influence of financial sector interests in the policymaking process: the political executive and specialized bureaucratic policy actors also have significant influence on policy outcomes and preferences that may diverge from those of the financial sector for a variety of reasons.

The major conclusions of the model and the broader theoretical arguments that I present are supported, moreover, by the empirical cases that I consider in the following chapters. Chapter 4, examines the sporadic episodes of financial regulatory change in the period from the founding of the Republic through the creation of the Federal Reserve, with this review pointing the importance of exogenous events (e.g., the run on bank gold holdings that occurred during the Civil War; the Panic of 1907) in causing political leaders to become attentive to financial sector reform by causing a shift in the
outcomes associated with the regulatory status quo; to the influential role within the policymaking process of actors with specialized responsibility over financial sector issues (e.g., Treasury Secretary Hamilton, Treasury Secretary Chase, Senate Banking Committee Chair Carter Glass); and to the crucial role of cognitive frameworks in shaping actors’ perceptions of the consequences of different policy actions and hence their regulatory policy preferences (especially, in this period, understandings of the effects of currency and banking system arrangements). Chapter 5 reviews the financial regulatory policy changes that occurred in response to the events of the Great Depression and which gave rise to the financial regulatory regime which was to govern the U.S. financial system for much of the twentieth century. This chapter highlights the important role of those actors with specialized responsibility over financial sector issues in providing the cognitive frameworks through which political leaders understood the feasibility and consequences of different policy options and also highlights the importance of policy disagreements between these actors (e.g., policy differences between Senator Carter Glass; Federal Reserve Governor Eccles; Treasury Secretary Morgenthau; and Comptroller of the Currency O’Connor) and the various actions which these actors took to influence policy outcomes that are consistent with the general arguments I make regarding the ability of specialized bureaucratic actors to influence policy outcomes through “sanctioning”. In addition, the review of this period suggests that financial sector policy actors were sometimes able influence policy outcomes by
attempting to block legislative changes in Congress consistent with the veto player arguments that I advance, but that such actors did not simply set the regulatory policy agenda. Chapter 6 reviews the long process of financial deregulation spanning the years from roughly 1980 through 2000 as well as the radical shift in financial regulation that has occurred in the wake of the 2008-2009 financial crisis. This review clearly highlights the role of specialized financial sector bureaucratic actors in shaping the terms of debate and beliefs of actors by supplying cognitive frameworks through which other actors understood the consequences of regulatory policy decisions (e.g., Greenspan’s various interventions in public policy debates). Similarly, this review points to the importance of policy conflicts between different bureaucratic actors and the ability of bureaucratic actors to take policy initiatives that prodded the political executive and legislators to react and to alter regulatory policy in ways that are consistent with the general sanctioning arguments that I advance (e.g., the independent initiatives of the Federal Reserve and the OCC to liberalize bank powers in the face of what those officials regarded as a slow Congressional response to changes in financial markets and technologies). Moreover, this review again points to financial sector lobbies influencing regulatory outcomes by acting as “veto players” at various points in time (e.g., the opposition of the securities industry for many years to the changes that became part of the Gramm-Leach-Bliley Act), but does not suggest that such actors were able to unilaterally control the regulatory policy agenda. Finally, Chapter 7 concludes by
considering the case of financial sector liberalization in India, with this case highlighting
the importance of changing cognitive frameworks and events to explaining the timing of
reform and to the importance of policy conflicts between the Indian Finance Minstry and
Reserve Bank of India in slowing the pace of regulatory reform in the absence of
compelling events that forced regulatory policy change to advance more rapidly. The
following chapters develop these arguments in greater details and reviews the
consistency of the historical record with these arguments.
4. Regulatory Forays: Federal Financial Regulation Before the Depression

This chapter examines the observable implications of the theory that I have outlined in the previous chapters through a discussion of the often contentious history of the federal government’s forays into financial regulation prior to the transformative era of the Great Depression, which is discussed in the following chapter. This chapter has four sections. The first section examines the history of federal government regulation of banking in the early republic, including the conflicts surrounding the creation of the First and Second Bank of the United States. The second section examines political process leading to the enactment of the National Bank Act of 1864 which marked the first sustained but limited entry of the federal government into the regulation of banking. The third section examines the conflicts which occurred over monetary policy issues during the later nineteenth and early twentieth century and discusses their connection to issues of banking regulation. The fourth section examines the political process and conflicts surrounding the creation of the Federal Reserve in 1913, marking the creation of a modern central bank.

My review of this historical record points to four general conclusions which support the theoretical argument that I offer above. First, cognitive frameworks were clearly important to how political leaders understood their regulatory policy options and to the expectations which they had regarding the consequences of different
regulatory choices. The policy preferences which leaders formed under these cognitive frameworks were not simply obvious interpretations of their “objective” interests; rather they reflected the effects of “adaptive learning” based upon prior historical experience and were, viewed against the light of modern theoretical understandings, often questionable in their reasoning over economic causes and effects. Second, consistent with the argument that I offer, “policy experts” within the executive (most frequently the Treasury Secretary) played a frequently crucial role as the designers and advocates of financial regulatory change and in providing the cognitive frameworks through which other policymakers understood the consequences of regulatory policy choices. Third, cognitive frameworks were important to how the leaders of different “interest groups” defined and understood their own policy preferences. While certainly “material interests” mattered to their regulatory policy preferences, their understandings of the effects of different policy choices were clearly influenced by prevailing and often questionable theoretical understandings. Fourth, major changes in financial regulation were clearly associated with events which caused political leaders to perceive that the existing regulatory status quo threatened the realization of other key policy objectives, rather than interest group realignments. As such, financial regulatory change over this period represented a series of fixes to “design” problems which the arrival of events caused leaders to perceive.
4.1 Financial Regulatory Policy Conflicts in the Early Republic

Prior to the transformative era of the Great Depression, the federal government made only very limited forays into the regulation of banking and financial markets. Although the identity of the protagonists and the specific issues under contention changed over time, the various political conflicts that emerged over financial sector policy during the first century of the republic’s existence centered for the most part around the proper mechanisms for the supply and regulation of money, and only secondarily, and as dictated by monetary policy considerations, upon the regulation of the activities of banks or the functioning of financial markets such as these existed. The way these conflicts were resolved in law and policy, however, had profound indirect effects on the structure of the banking and financial system that emerged in the United States prior to the 1930s and shaped the regulatory and institutional climate in which new policy choices were made. Moreover, even this brief review of the regulatory antecedents of the Great Depression era reforms demonstrates the central role that both the need to respond to “events”, which threatened the realization of other policy objectives, and the conceptual frameworks of key policymakers played in the financial regulatory change.

The First Bank of the United States was chartered in 1791 under the presidency of George Washington. The driving force behind establishment of the bank was Treasury Secretary Alexander Hamilton, who drafted the legislation creating the bank and offered
intellectual justification in his “Report on a National Bank” which he delivered to congress in December 1790. Hamilton saw a national bank capable of supplying a sufficient supply of stable currency as essential to the growth of a commercial and manufacturing economy in the United States upon which he believed the future prosperity and security of the republic depended. Banking was almost non-existent prior to Washington’s inauguration in 1789 and circulation of gold and silver coin (specie) was very limited, implying the shortage of a reliable circulating medium of exchange to support commerce and the payment of government expenses. Although paper currency, backed by the promise of future redemption in specie, had been issued by the various colonial legislatures and by the Continental Congress, such government-issued paper money had proven of unstable value as a result of overissue.

Hamilton’s plan for a national bank was vigorously opposed by Secretary of State Thomas Jefferson, who challenged the constitutionality of a nationally-charted corporation and its broader legal implications rather than the efficacy of a national bank in promoting national development. Jefferson’s opposition rested ultimately upon his

1 This and the following two paragraphs draw upon Hoffman (2001), chapter 1, and McCoy (1980), chapter 6.
2 Modern economists recognize both currency (specie and paper currency) and bank deposits as components of the stock of money in a country. The fact that deposits are also money was not clearly understood until much later (Meltzer, 2003, p. 57).
3 The first bank chartered in the United States was the Bank of North America, founded by Robert Morris in 1781. This was followed by the Bank of New York, founded by Alexander Hamilton in 1784 (Geisst, 2004, p. 14). Among the reasons why banking failed to develop in the colonies was the absence of great concentrations of private wealth such as those that underpinned private banks in Europe and the fact that in 1741, Parliament forbid the colonies from establishing corporations of any kind, including banks (Hoffmann, 2001, pp. 26-27).
belief that republican government would only survive in a primarily agrarian society composed of landholding yeoman farmers with the material and psychological independence to sustain a republican form of government. For Jefferson, banks and other corporations were a direct threat to the viability of republican government, as they would lead inevitably to the creation of great concentrations of private wealth and power and would place ordinary citizens in relations of economic dependency that would threaten the independence of thought he believed was necessary for republican government. Washington, however, ultimately sided with Hamilton and signed the legislation creating the bank with a twenty year charter.

The national bank created by Hamilton’s blueprint was a privately-owned corporation that operated for the private profit of its investors (Hoffmann, 2001, pp. 37-40). Although the national government subscribed to one-fifth of the capital of the new bank, the governance of the bank remained entirely in the hands of its private investors with no government representation. By granting a national charter with its special privileges and implied promise of a monopoly on government deposits, Hamilton hoped to attract private capital to the service of national development. The bank was authorized to lend in support of short-term private commercial transactions (bills of exchange), with lending to the government strictly limited. In connection with its

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4 Representative James Madison led the unsuccessful opposition to the creation of the bank in Congress. As McCoy (1980) discusses, Madison shared broadly similar convictions about the desirability of maintaining a predominantly agricultural society as the foundation for a republican government.

lending activities the bank was authorized to issue notes in an amount equal to its equity
capital, which would circulate as paper currency. Hamilton believed that the private
shareholders of the bank would have stronger incentives to prevent excessive note issue
than would the national government if it directly issued paper currency. The bank
functioned well in its intended purposes of providing credit and a stable circulating
currency during its lifetime. In addition, the bank took on the unanticipated role of
regulating the supply of notes by the new state-chartered banks which multiplied during
the term of the bank’s charter. Congress, however, failed to renew the bank’s charter in
1811 in a narrow vote, despite the support of President James Madison who had become
convinced of the banks’ necessity. Opposition came from traditional Jeffersonian
Republicans who opposed the bank on philosophical grounds, as well as from the “free-
enterprise” Republican faction headed by Henry Clay, who supported investors in the

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6 Unlike modern banks, which credit the deposit accounts of borrowers, the Bank issued its own notes to
borrowers who in turn used the notes as a medium of payment for other transactions. The notes were
accepted by third parties because of their confidence that they could redeem the notes for specie. Private
banks in England had historically enjoyed the right to issue notes as did the newly emerging state-chartered
banks in the United States at this time. Parliament, however, granted the Bank of England a partial
monopoly in note issuance in acts of 1708, 1709 and 1826, and a monopoly on new note issue in 1844.
8 Like the first Bank of the United States, state chartered banks issued their own notes backed by the
promise of redemption in specie. The Bank of the United States was able to regulate the note issue of state
banks by accumulating their notes and presenting them for redemption in specie – providing incentives for
state banks to avoid excessive note issue.
new state banks who resented the interstate branching privileges and government
deposit monopoly granted to the national bank.⁹

The bank’s absence was keenly felt in the years following 1811. The number of
state banks increased rapidly as did their note issue, with the relative values of the notes
issued by different banks unstable and uneven across the country, inhibiting commercial
transactions¹⁰. Most state banks suspended convertibility of their notes to specie in 1814
as result of the disruptions caused by the War of 1812 (1812-1815).¹¹ Lacking a standard
currency, the national government was forced to accept tax payments and pay war
expenses with state bank notes of uncertain value which were often not universally
accepted.¹² These difficulties caused many opponents of the first Bank, including Henry
Clay, to change their positions and support the chartering of a new bank. Legislation
creating the Second Bank of the United States with a twenty year charter passed
congress by a comfortable margin and was signed into law by President Madison in
1816. The new bank was institutionally very similar to the first bank. The new bank
was larger, with equity capital of thirty five million as opposed to the ten million of the
first bank, making it the largest business entity of any kind in the early nineteenth

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⁹ See Hoffman 2001, pg. 43. Opponents also argued that the bank favored Federalists over Republicans in its
¹¹ Ibid
¹² Ibid.
century United States (Howe, 2007). While the government again subscribed to one-fifth of the bank’s capital, a key institutional difference from the first bank was the fact that the government was able to appoint one-fifth of the directors of the new bank in-line with its shareholding. As with the First Bank, the Second Bank issued its own notes (which were declared legal tender), engaged in private commercial lending and deposit taking, and served as the fiscal agent of the government, holding government deposits, accepting payments and making disbursements on behalf of the federal government.

The Second Bank of the United States had a rocky beginning, characterized by mismanagement, with the bank perceived by many to have contributed to the panic of 1819, and financial scandals including insider-dealing by directors and officers of the bank which provoked widespread public anger. The bank withstood an important challenge in 1819 when the Supreme Court, in the landmark case *McCulloch vs. Maryland*, upheld the constitutionality of the bank’s charter and invalidated an attempt by the State of Maryland to tax the bank. After these initial difficulties, the management and reputation of the Second Bank improved dramatically with the appointment of the brilliant young Nicholas Biddle in 1823 as the new president of the

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13 As Howe notes, it was also the only business entity with a presence in most states.
14 See Howe 2007, pg. 144.
15 See Howe 2007, pp.144-145. The case established lasting precedents with implications well beyond the case at hand. The Marshall court affirmed the argument originally made by Hamilton in connection with the establishment of the First Bank of the U.S. that the federal government had “implied powers” to establish corporations and take other actions to facilitate its lawful actions even if the powers were not specifically enumerated in the constitution. The court also ruled that state governments were prohibited under the constitution from using taxation or any other device to frustrate any lawful action of the federal government.
bank. Under Biddle, the bank contributed to economic growth by extending a considerable volume of commercial credit and by providing a reliable uniform currency. As had its predecessor, the bank also regulated the supply of state bank notes by periodically presenting state bank notes for redemption in specie.

The election of Andrew Jackson in 1828 was, however, to prove fatal to the bank. Although, as Howe (2007) points out, the Bank was not an issue in the 1828 election and the general public on the whole was indifferent, Jackson choose from the outset of his presidency to oppose the Bank strongly, with Jackson sharply criticizing the bank in his First and Second Annual Messages in 1829 and 1830.16 Jackson’s opposition to the bank appears to have been rooted in an intellectually crude but genuine philosophical opposition to banks in general with broad similarities to the subtler and more sophisticated critique offered by Jefferson.17 Jackson opposed the concentration of power in the institution of the Bank of the United States; saw the public chartering of banks as an illegitimate grant of special privileges to private individuals (e.g., the financial benefits associated with the right to issue notes or accept deposits); resented the “speculative” activity of banks which he saw as ruinous to ordinary individuals; and opposed the use of paper money.18 With the support of congressional allies Henry Clay and Daniel Webster, Nicholas Biddle made the tactical decision to ask congress in 1832

18 Ibid. The Colonial experience with paper money suggested that paper currencies would lead to great inflation.
to renew the Second Bank’s charter before it expired in 1836 – calculating that it would be hard for Jackson to risk splits within his party by vetoing a recharter before the conclusion of the 1832 presidential election.\textsuperscript{19} The rechartering bill passed by a comfortable margin, despite Democratic control of the House, infuriating Jackson who viewed Biddle’s rechartering move (and his cooperation with Jackson’s presidential rival Henry Clay) as a personal attack.\textsuperscript{20} Jackson quickly moved to veto the rechartering bill in July 1832, couching his famous veto message in sweeping populist language that denounced the bank as a corrupt and aristocratic institution that benefitted from exclusive privileges that conferred artificial advantages to its wealthy shareholders – many of whom were foreigners. Although Jackson did succeed in galvanizing support among segments of voters attracted by his bold stand against “privilege”, and although his veto was supported by certain influential interest groups including large New York banks who thought the veto would move the center of financial activity from Philadelphia to New York and small Western “Wildcat” bankers who resented the ability of the Second Bank to restrain their issuance of notes, there is little reason to believe that Jackson was motivated in his veto action by the simple calculation of political support, as substantial numbers of Jackson’s Democrats in Congress had

\textsuperscript{19} Howe 2007, pg. 378. See also Shull 2005, pp. 19-21.

\textsuperscript{20} Howe 2007 pg. 379.
supported charter renewal and as the appears to have been strong support for the bank among many in the general public, among state banks, and state legislatures.21

Following his veto, Jackson continued his war on the Second Bank and paper money. Jackson ensured that the Second Bank would be greatly weakened in the final years of its chartered life by removing all federal government deposits from the bank in 1833. Jackson followed these measures by his “Specie Circular” in 1836, which required all purchases of land from the federal government to be made in gold or silver rather than bank notes – an economically significant act given the scale of the forced removal of Native American populations and sale of their confiscated lands by Jackson.22 President Martin Van Buren, who had served as vice president under Jackson, completed Jackson’s separation of the federal government from the banking system by establishing the Independent Treasury in 1841 as a line agency within Treasury Department to collect, hold, and disburse all government funds independently of the banking system, with the act also requiring all payments to the government and disbursements by the government to be made in specie.23

Jackson’s veto had long-lasting consequences for the evolution of the U.S. financial system. Arguably, had the Second Bank survived it could have evolved into

23 With brief interruption from 1841 to 1846, the Independent Treasury system functioned until the Federal Reserve System became the fiscal agent of the government in 1920. See Hoffman 2001, pp. 67-68.
something of a true central bank as did the Bank of England. A strong central institution might have checked the explosive growth of small state banks and promoted the growth of a more centralized banking system with truly national banks operating across state line by, among other things, promoting the development of a national currency that supplanted the note-issuing activities of local banks; by centralizing the flow of deposits and financial activity; and by creating a strong institutional voice to support the development of national banks. In the event, state banks multiplied rapidly, with the number of state banks increasing sixfold by between 1820 and 1860, with the notes of such state-chartered banks constituting the principal form of currency before the Civil War. State legislatures acted to protect local banks from competition, with state legislatures excluding branches from banks chartered in other states and, in many cases, prohibiting their banks from operating more than a single branch – adopting so-called “unit-banking”. The result was the growth of a fragmented banking system with many small state banks and no large-scale banks with a national reach.

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24 Roe (1994), pp. 57-58, argues that a national bank would have provided and elastic currency and the liquidity necessary to promote the growth of larger scale banks in the United States. Additionally, he argues that the interstate branch network authorized by the charter of the Second Bank could have served as a model for future interstate banking charters for private banks.

25 (McPherson, 1988, p. 26). As Hoffman 2001, chapter 4, notes, state charters varied widely, with some charters creating quasi-public institutions that functioned like state central banks, some creating banks to serve particular development objectives (e.g., canals or roadways), and some creating private commercially-oriented institutions. As she notes, state legislatures initially chartered banks by individual acts of the legislature, with charters representing the public grant of privileges to charterholders. By the mid-1850s, however, and in parallel with general incorporation statutes, most states adopted the “free-banking” model, with banks incorporated under a general banking statute and with anyone who met the basic requirements of the general statute allowed to incorporate a bank.
4.2 The National Bank Act of 1864

The federal government did not attempt to regulate banking again until forced to do so by the exigencies of the Civil War. The union government sought to finance the vast increase in government expenditures associated with the war primarily through the sale of government bonds to banks and the general public. Lincoln’s “hard-money” Treasury Secretary Samuel Chase insisted that purchasers pay for the bonds in specie in strict adherence to the restrictions imposed by the Independent Treasury System.26 Banks quickly depleted their reserves of specie, and when Union forces suffered major military defeats in late 1861, panic ensued with banks in New York forced to suspend specie payments on December 30, followed by banks elsewhere in the country. Lacking specie to pay soldiers and suppliers, the government faced an urgent situation. An event had arrived that caused policymakers to perceive that the regulatory status quo threatened the realization of their broader policy objectives.

At Secretary Chase’s request, Congress responded in 1862 by authorizing the issuance of legal tender United States government banknotes called “greenbacks”.27 Chase additionally asked Congress to approve the creation of nationally-chartered banks, with the primary goal of creating a uniform national currency and secondarily of aiding the sale of government bonds. Congress passed the National Bank Act of 1863,

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26 See McPherson 1988, pp. 444-448.
27 Only in 1879 did the government provide for redemption of greenbacks in specie. The gold value of greenbacks declined significantly during the war. See Shull 2005, pg. 23 and pg. 23 note 30.
which was repealed and replaced entirely by the National Bank Act of 1864. The National Bank Act of 1864 authorized the granting of federal charters to private banks whose organizers met certain basic requirements specified by the statute, including minimum levels of equity capital and requirements concerning directors and shareholder voting rights. The law secured the notes of the new banks and restricted note issuance by requiring banks to purchase U.S. bonds in an amount equal to one-third of their capital and permitting them to issue banknotes equal to ninety percent of the value of such bonds, with the bonds deposited with the Treasury as security and the government offering its “full faith and credit” to meet redemptions of national bank notes.28 In addition, banks were required to hold reserves against notes and deposits.29 The Act created a line office within the Treasury, the Comptroller of the Currency, with the authority to grant national bank charters and charged with periodically examining and supervising the soundness of national banks.30

The National Bank Act might have supplanted state chartering of banks and led to the creation of a more centralized system of large interstate national banks, but failed ultimately to do so. In 1865 Congress approved a prohibitive 10 percent tax on the notes

29 Reserves could be in the form of lawful money or deposits at other banks, with up to half held in a deposits held at other banks in pyramidal scheme under which smaller banks held deposits at banks in one of seventeen main cities (in the case of smaller banks), or in the case of banks in the cities in deposits held at banks in one of three “central reserve cities”. See Hoffman 2001 pp. 94-95.
30 The Office of the Comptroller of the Currency (OCC) today shares responsibility for the supervision of national banks with the Federal Reserve and has exclusive authority for the granting of charters to national banks.
issued by state banks, which was followed by Supreme Court decisions prohibiting state banks from issuing notes. Although, many state banks converted to national bank charters as a result and the number of state banks initially declined precipitously, bankers soon learned that they could circumvent the effects of the restrictions on note issue by crediting the deposit accounts of loan customers rather than issuing notes when they made loans, thus enabling them to continue to enjoy the less stringent regulation and supervision associated with state bank charters.\textsuperscript{31} In addition, although the statute itself was vague, the act was subsequently interpreted by Supreme Court decisions as confining national banks to a single location and as preventing banks from owning equity in other companies, thus prohibiting the development of interstate banking or of close relationships between banking and industrial companies as arose elsewhere.\textsuperscript{32}

As a consequence of the failure of a strong national central bank and of the weaknesses of the National Bank Act, no system of large national interstate banks emerged in the U.S. and the number of state-charted banks grew explosively in the years following the Civil War leading to a highly-fragmented and geographically dispersed banking system. As Roe 1994 argues, with strong ties to local communities that gave them influence with U.S. Congressional Representatives, state banks grew in time to become a powerful lobby which resisted efforts to ease restrictions on interstate banking

\textsuperscript{31} This was the route that by which “deposit banking” was introduced in the United States. Deposit banking had arisen roughly a century earlier in Europe. See Shull (2005), pg. 25 note 33; Hoffman 2001, pg. 97.
\textsuperscript{32} See Roe (Roe, 1994) 1994 pp. 54-59, and pg. 95.
(Roe, 1994, pp. 54-59, 95). Restrictions on interstate banking were later solidified by the McFadden Act of 1927, which ratified state restrictions on internal and interstate bank branching by declaring that national banks could branch within cities or towns where this was permitted by the laws of the state in which the bank was based, but not otherwise.33

4.3 Monetary Debates and Banking Regulatory Policy 1864-1913

Following the enactment of the National Bank Act of 1864, the federal government did not again change any important aspect of banking regulation until the creation of the Federal Reserve in 1913, half a century later. This long hiatus, I argue, represented (i) the absence of any major event during this period that caused the political executive to perceive that the existing regulatory status quo was detrimental to the realization of its broader policy objectives; and (ii) the absence of a conceptual understanding by contemporaries of the potential role of a central bank in moderating fluctuations in the business cycle or in stabilizing the banking system. Such conceptual understandings emerged only gradually and incompletely at the turn of the century as U.S. policymakers learned from the experiences of European countries in establishing modern central banks and as more explicit, but still incomplete, theoretical arguments began to be articulated by “policy experts”.

33 The law was aimed at providing a level playing field for national banks as certain states had allowed their banks to branch internally, placing national banks that operated in those states at a disadvantage. See Roe 1994 pg. 94. The provisions of the McFadden Act were slightly amended but left essentially intact by the National Bank Act of 1933 which I discuss in the following chapter.
Further below, in section 4.4 of this chapter, I argue that the creation of the Federal Reserve in 1913 was a response to Panic of 1907 which caused policymakers to perceive that the existing financial regulatory status quo was inadequate to the realization of their broader policy objective of maintaining economic stability. The fact that policymakers believed that new regulatory arrangements would better achieve their overall policy objectives, moreover, represented the effect of “adaptive learning” as policy experts and political leaders learned from this European experience and from these theoretical arguments and updated their cognitive frameworks accordingly.

This section concentrates on the interest group conflicts which emerged in the late nineteenth century over monetary policy issues and which became central to political party competition at that time. These conflicts centered around conflicting views as to desirable monetary policy arrangements, and only secondarily and much less directly about the regulation of banks. These interest group conflicts were, however, important factors in the negotiations surrounding the creation of the Federal Reserve as certain interest groups behaved as veto players and forced compromises in the drafting of the Federal Reserve Act. As I discuss in the following chapter, the decentralized and weak structure of the Federal Reserve System that emerged was to have important consequences for the banking system in the 1920s and 1930s. These consequences, however, were not foreseen by participants in policy debates at this time.
I describe these interest group conflicts in this section and argue that interest group policy preferences did not simply represent unambiguous material interests but also importantly reflected the influence of cognitive frameworks that led participants to perceive particular connections between different monetary policy arrangements and economic outcomes.

4.3.1 The Monetary System Following the Bank Act of 1864 and Overview of Interest Group Preferences

A patchwork monetary arrangement emerged in the U.S. following the National Bank Act of 1864. This patchwork arrangement reflected the absence of a central bank and the specific features of the Bank Act of 1863. The money supply consisted principally of gold and silver coin issued by the Treasury; paper currency United States Notes (popularly known as greenbacks) “greenbacks” issued by the Treasury and made “legal tender” for payment of public and private debts by law; and the notes issued by (privately-owned) national banks chartered under the National Bank Act of 1864. Under the terms of the National Bank Act of 1864, national banks could obtain and issue bank notes (i.e. paper currency issued by private banks) which were printed by the Comptroller of the Currency (a line agency of the U.S. Treasury) by purchasing an equivalent face value of U.S. government bonds and depositing these as collateral with the Comptroller. This meant that the supply of national bank notes was tied ultimately
to the volume of outstanding government securities. The notes of national banks were by law redeemable on demand by note holders into legal tender greenbacks (and after 1879 into greenbacks and gold), with the Treasury extending a guarantee of immediate convertibility in the event of incapacity of the issuing bank and thus securing national bank notes with the “full faith and credit” of the United States government. A de facto gold standard took hold in the United States in 1879 when the Specie Resumption Act of 1875 took effect, requiring the Treasury to redeem greenbacks for gold upon demand. “Resumption” returned the United States to the gold standard, reversing the suspension of convertibility that had occurred during the Civil War, when banks were forced bank to suspend redemption of their bank notes into specie after runs by note holders and the government was forced to suspend the use of gold coin in official transactions and began issuing greenbacks. With no restrictions on the export or import of gold,

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34 Friedman and Schwartz (1963), pg. 23.
35 Although national bank notes were technically liabilities of the banks that issued them, the treasury guarantee made them “obligations of the federal government at one remove”. See Friedman and Schwartz (1963), pp. 20-23; Shull 2005, pg. 23.
36 Shull 2005, pg. 185, note 30; Hoffman 2001, pg. 107. The Bland-Allison Act of 1878 and the Sherman Silver Purchase Act of 1890, supported by silver mining interests in western states, created a legal bi-metallic standard in the U.S. by requiring the Treasury to purchase fixed quantities of silver and to issue corresponding amounts of Treasury notes redeemable into silver. However, since the market price of silver exceeded that of gold at the official 16 to 1 Mint ratio between silver and gold, silver coin ceased to circulate and silver convertibility was never binding in practice. See Eichengreen 1996, pp. 21-22, Eichengreen and Flandreau eds. (1997), pg. 5.
37 Before the Civil War, bank notes issued by privately-owned state-chartered banks were redeemable upon demand into gold under state laws and constituted the main circulating currency alongside gold coin issued by the U.S. Treasury. See Hoffmann (2001), pp. 86-87, pg. 103. The national government had ceased accepting bank notes for payments and conducted all transactions in specie under measures enacted by President Jackson and his successors Van Buren and Polk in the late 1830s and early 1840s as part of their general hostility toward banks and “dishonest” paper money. The scarcity of gold during the Civil War
resumption meant the entry of the United States into the international gold standard regime that was emerging around London.\textsuperscript{38} The \textit{de facto} gold standard was later made official by the Gold Standard Act of 1900, which established the value of the gold dollar at $20.64 per ounce.\textsuperscript{39}

Debates about appropriate monetary arrangements, and to a much lesser extent regarding the connected issue of appropriate banking arrangements, became increasingly divisive and important to party conflict in the late nineteenth and early twentieth century. Three groupings of opinion can be identified in these debates. First, a “hard money” grouping favored maintenance of existing monetary and banking arrangements, fearing that alternative monetary arrangements would lead to high inflation. This grouping of opinion was dominant in the political ascendant Republican Party, but also had important adherents within the Democratic Party, and was supported by many business leaders but also by much of the broader educated public. A second grouping of opinion drew upon an agrarian base in the mid-West and South and strongly criticized existing monetary arrangements as deflationary and advocated a monetary system that included silver and paper currency. This grouping of opinion was a major force within the Democratic Party and formed the core of the new Populist Party

\textsuperscript{38} The classic international gold standard lasted from approximately 1880 to the outbreak of World War I in 1914. See Frieden (1992), reprinted in Eichengreen and Flandreau eds. (1997), pg. 212.

\textsuperscript{39} The act made the gold dollar (i.e. the dollar gold coin) the single official unit of value and defined the gold dollar as containing 25.8 grains of gold, nine-tenths fine. Shull 2005, pg. 188, note 76.
which actively contested elections at this time. A third major grouping of opinion emerged toward the end of this period advocating the creation of a uniform and “elastic” currency based upon a paper currency convertible into gold. This position had important adherents among certain business and banking groups and had supporters in both the Republican and Democratic parties, but did not form the basis of a major electoral constituency in either party. I discuss each of these groupings of opinion in turn. In each case I argue that the preferences of interest group participants represented a combination of “objective” interests and the influence of cognitive frameworks through which actors interpreted the effects of different monetary policy arrangements. My discussion of interest grouping takes a parallel form and begins with the consideration of objective interests and is followed by discussion of the underlying cognitive framework.

4.3.2 Hard Money and the Orthodox Gold Standard

The first such grouping of opinion backed “hard money” under the orthodox gold standard was supported by most of the leadership of the politically dominant Republican party, by bankers and business leaders (particularly in the Northeast and particularly those engaged in international trade or in export industries), and by

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40 My characterizations of these groupings draw upon Hoffman 2001, Chapter 5.
prevailing academic and educated opinion generally. In practical terms, this meant support for the bank regulatory arrangements established under the National Bank Act of 1864 and for paper currency redeemable into gold. The economic “interests” of different actors, understood in terms of their economic endowments and income streams, clearly helped to shape support for the gold standard and prevailing bank regulatory arrangements. With the supply of gold limited for much of the nineteenth century until major gold discoveries in Alaska and South Africa at the turn of the century, the gold standard tended to be deflationary. As Shull and Friedman point out, as creditors, bankers generally had reason to prefer low and predictable inflation (or even moderate deflation) as this ensured that the loans they made were repaid in currency that held its value. Business leaders similarly had good reasons to prefer the predictability of stable prices. Moreover, as Frieden (1992) points out, both bankers and export-oriented businesses had reasons to support “hard money” as adherence to the gold standard meant a fixed nominal exchange rate which provided greater predictability for international trade and financial transactions and facilitated international transactions in a system where London adhered to the gold standard and remained the dominant financial center and a major destination for exports.


Frieden (1992, pg. 211) argues that adherence to a fixed exchange rate benefits those actors engaged in international trade and investment, as it provides stability and predictability. Where the capital account is open (i.e. a convertible currency), a fixed exchange rate implies, however, that an independent monetary
Material economic “interests”, however, did not provide an unambiguous basis for the support by different groups of the gold standard and prevailing bank regulatory arrangements. Rather, support for such monetary and regulatory arrangements rested upon common conceptual and historical understandings that provided intellectual “shortcuts” and causal maps that explained to participants why such arrangements were desirable without their having to make detailed calculations as to how alternative arrangements would affect their individual well-being under different scenarios.

In the first place, while bankers and business leaders might have reasons to support low inflation, the belief that the gold standard would lead to lower inflation and greater economic stability than alternative monetary arrangements was influenced by specific historical experience and “lessons”. Historical experience with highly-inflation under fiat paper money during the Civil War (when greenbacks were first issued and the convertibility into gold of national bank notes was suspended) taught many to prefer “sound” money backed by gold. Before this, a central reason for the popularity of Jackson’s war in the 1830s against the Second Bank of the United States and his attacks on paper money had been the unreliable worth of the notes issued by private banks that circulated as the main form of currency until the National Bank Act of 1864, with many policy is not possible. For domestically-oriented actors in non-tradable sectors adherence to the gold standard was disadvantageous as it meant that the government lost the ability to exercise independent monetary policy in response to changing domestic economic conditions. Freiden argues that London’s adherence to the gold standard exerted a powerful pull on other nations to join as London merchants and bankers often insisted that contracts be denominated in Sterling, thus generating foreign exchange risk for foreign counterparties in non-gold standard countries (pg. 215).
sympathetic to Jackson’s charge that banks benefited at the expense of working people forced to accept paper currency of uncertain value in payment for wages or in other transactions.\textsuperscript{43} To understand how the suspicion of paper money represented learning from specific historic experience it important to recognize that is entirely possible to imagine, for example, that the supply of gold might have fluctuated wildly thus creating the very monetary instability that “hard money” advocates feared; or that a disciplined and sophisticated monetary authority could have maintained a stable non-inflationary fiat currency such as the contemporary dollar or euro.\textsuperscript{44}

\textsuperscript{43} See Howe 2007, pp. 375-376; Hoffman 2001, pp. 55-65. Frequent counterfeiting of bank notes as well as uncertainty regarding the financial soundness of many issuing banks, and hence their ability to redeem their notes on demand, meant that the notes of individual banks were often not accepted by counterparties at their face value and were exchanged in different locations at widely ranging and inconsistent values. Jackson reflected popular sentiment when he claimed that this represented a tax on working people forced to accept such bank notes for wages and other payments and that this operated to the benefit of bankers who were granted note issuing privileges under their charters. In response, Jackson’s famous “Specie Circular” of 1836 and other moves by Jackson and his successor Martin Van Buren effectively prohibited federal government disbursements or payments to the federal government in anything but gold or silver coin. State banks, however, continued to issue notes. The notes issued by state banks become somewhat more reliable and were typically collateralized by bonds deposited with state banking authorities under the “free banking” model that originated in New York in the 1840s and spread to many other states. “Free banking” changed the practice whereby bank charters were granted on a case by case basis by specific acts of a state legislature, and which had raised anger that legislatures were conferring “monopoly” privileges upon charter holders. Under the “free banking” model, organizers could freely establish new banks under general banking statutes provided they met certain minimum standards set by the statute (e.g., minimum capital standards) and that they deposited bonds with state bank authorities as collateral for the notes that they issues (which were printed by state bank authorities rather than private printers chosen by the bank). This paralleled a broader change in corporate law towards free incorporation and away from the historical origin of corporations as private entities that received exclusive grants of authority from the state for purposes that were typically seen as serving both public and private ends (e.g., construction of canals).

\textsuperscript{44} By “fiat” currency I refer to a currency that is made legally tender for public and private debts but that is not itself convertible into any other thing (e.g. gold) nor fixed by some objective standard. See Keynes (1965).
Similarly, any expectation that fixed nominal exchange rates under the gold standard would reduce the uncertainties in international trade and financial transactions and that the benefits of such certainty outweighed any disadvantages, depended upon a host of complex beliefs that were shaped by theoretical understandings and by historical experience. This depended, for example, upon the belief that the London-centered gold standard monetary regime was likely to continue for the foreseeable future and that other countries could be counted on to adhere to the informal rules of that regime; that the system would be self-equilibrating so that large trade imbalances would not persist (e.g., due to persistent divergences in real exchange rates or due to differences in rates of national inflation or productivity growth); and that the gains from exchange rate stability were greater than the costs of domestic adjustment necessary to maintain the fixed exchange rate.45 In many cases, the net costs and benefits to a particular firm of exchange rate stability obtained at the price of greater domestic macroeconomic volatility would have been very difficult to estimate and would have depended upon specific beliefs regarding the expected volatility of the exchange rate in the absence of adherence to the gold standard as compared to the magnitude of the domestic 

45 A classic result in economics is that it is possible to have only two but not all three of the following at the same time: i) a fixed exchange rate; ii) an open capital account (i.e. free movement of capital across borders); ii) and an independent monetary policy. A country that adhered to the classical gold standard with a fixed exchange rate and an open capital account would thereby surrender any possibility of independent monetary policy. In the event that such a country faced persistent capital outflows leading to pressure for exchange rate depreciation, its government would have no choice but allow domestic interest rates to rise and domestic prices and output to decline until real interest rates rose sufficiently relative to that of other countries to reverse the capital outflow.
adjustments (and thus potential loss in revenues, shifts in domestic prices, etc.)
necessary to maintain adherence to the gold standard. Firms would have had to
consider not only the direct effects on their own revenues and costs from fluctuations in
the exchange rate and in domestic prices and sales; but also the effects of such
fluctuations on clients, competitors, and suppliers; as well as the effects upon their costs
of financing. The point is not to deny that firms had objective bases for their monetary
and exchange rate preferences; but rather to emphasize that even preferences based on
objective economic endowments rested to a substantial degree upon systems of beliefs
that provided actors with simplified understanding of the consequences of different
arrangements.

Specific theoretical arguments and the contemporary experience of European
nations in operating a gold standard and central banking helped to inform the
conceptual frameworks of U.S. policymakers, banking and business leaders, and the
educated public generally in the late nineteenth and early twentieth century. David
Hume, Adam Smith, Walter Bagehot and others offered widely read theoretical accounts
of how a monetary and banking system based upon a gold standard with an open
economy should work. Together with the “lessons” learned through shared historical
experience, these theoretical frameworks provided hard money supporters with a basis
for believing that adherence to the gold standard would result in a stable and naturally
self-regulating economic order compared to the feasible alternatives.
Hume (1752) offered an elegant argument for the superiority of a monetary system based on gold coin that was allowed to flow freely across borders. Hume’s argument was directed against contemporary mercantilist arguments that national wealth was maximized by the pursuit of a favorable balance of trade and the accumulation of gold and silver through restrictions on trade (including import restrictions and systems of colonial preferences) and restrictions on the export of precious metals. In rebuttal, Hume presented his famous price-specie flow model, which argued that trade imbalances would be naturally self-correcting and national wealth maximized if nations allowed unrestricted trade, encouraged the use of gold rather than paper money, and allowed unrestricted movement of gold across borders. Under the model, a country experiencing a negative trade imbalance would experience a gold outflow while a country with a trade surplus would experience a gold inflow; the money supply would contract in the country with the trade deficit causing the general level of prices to decline in that country (and vice versa in the case of the surplus country); the change in the relative prices of deficit and surplus countries would, in turn, make the products of the trade deficit country more competitive relative to the trade

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47 While Hume acknowledges the importance of banks advancing credit and discounting bills of exchange, he argued (without elaboration) that small-denomination paper money would drive gold out of circulation, which he saw as destructive to national wealth (again without elaboration).
surplus country, with the trade balance (and gold flows) thereby automatically reversing.  

Adam Smith (1776), like Hume, criticized mercantilist prescriptions and argued in favor of free trade and the free movement of gold across borders. Smith, however, argued for the superiority of paper currency redeemable upon demand in gold. Paper money backed by gold, Smith argued, would “replace a very expensive instrument of commerce [i.e., gold] by one less costly” and would promote the growth of commerce and industry by enabling the conversion of the “dead stock” of idle capital into “active and productive capital”. Paper money tied to gold would not be inflationary since the amount of paper money in circulation would be tied to the stock of gold, itself dependent upon the “richness of mines” at a particular time and the labor cost of extraction. Smith specifically discussed the experiments of the American colonies in issuing paper money, arguing that the paper money of the American colonies was inflationary precisely because it was not redeemable upon demand into gold but rather

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48 As Eichengreen (1996), pp. 25-26, Hume’s model was one of the first general equilibrium models in economics and, with significant amendments, forms the basis for contemporary understanding of the operation of a gold-standard currency regime.
49 Smith (1776), Book II, Chapter 2, “On Money”.
51 Ibid, pg. 353, pg. 358. Laidler (1981, pp. 186-187) argues that Smith is theoretically consistent (in his own terms) in arguing that the exchange value of gold was itself tied to the cost of production just as he argued was the case for any other commodity. This implied that the relative price of gold and other goods was naturally determined by their relative costs of production. Laidler also argues that Smith’s assertion that paper money convertible into gold would not be inflationary rested upon the assumption of an open economy with a convertible currency (Ibid, pg. 188).
carried only uncertain promises of redemption far in the future.\textsuperscript{52} Most importantly, from the point of view of our present discussion, Smith argued that the supply of money would naturally be in harmony with the needs of commerce and industry as long as paper money was redeemable into gold and as long as banks restricted themselves to issuing credit (and hence to issuing bank notes) only by discounting short-term commercial paper – what later became known as the “real bills doctrine”.\textsuperscript{53} Smith, however, did not present a detailed monetary model describing linkages between variables such as the supply of money, prices, economic activity, and the balance of trade; nor did he clearly explain precisely how his dual requirements that paper money be redeemable into gold and that bank lending (and hence note issue) be restricted to discounting of “real bills” would interact to determine the supply of money in circulation. Smith did suggest, however, that the quantity of money in circulation has no real effect upon productive economic activity, although without providing a well-developed explanation.\textsuperscript{54} As Meltzer (2003) notes, the idea that changes in the supply of money have no effect on real economic activity dominated the thinking of later economists in the nineteenth century, and discouraged the consideration of a more

\textsuperscript{52} Ibid, pp. 355-357.
\textsuperscript{53} See Ibid, pp. 331 for Smith’s elaboration of the real bills doctrine. Bank notes typically entered circulation when a bank discounted a bill of exchange and lent money (bank notes) to a customer.
\textsuperscript{54} Ibid, pg. 317, pp. 321-322. See also Laidler (1981).
active role for monetary policy beyond that of ensuring the stable operation of the gold standard.\textsuperscript{55} As Meltzer (2003, pg. 22) explains:

No reader of the discussions or interpretive accounts of nineteenth century (or twentieth-century) monetary theory and policy can fail to be impressed by the frequency with which the idea reappears that any effect of monetary policy on the real economy is adventitious, the result of a particular and special conjunction of forces that is unlikely to be repeated in the future to spread the effect far beyond the money market. Or if monetary actions had short-term consequences for the real economy, the effects were limited to specific sectors. Arguments about the “ineffectiveness” or noneffectiveness of monetary policy on the real economy became the official view of the working of policy.

A central feature of prevailing theoretical understandings, and one echoed by U.S. policymakers in the nineteenth and early twentieth century, was the notion that gold formed the “natural” foundation for the monetary order.\textsuperscript{56} An economy whose monetary system was founded on gold would be naturally self-equilibrating; departure from the gold standard would result in economic disruption and disequilibrium as both Hume and Smith argued. While Bagehot (1873) called for a more active role for the

\textsuperscript{55} Modern economists generally accept the “neutrality of money” in the long-run, implying that in the long-term changes in the supply of money simply result in the adjustment of all prices throughout the economy to reflect the new quantity of money in circulation without effect upon real economic activity. Many modern economists typically argue, however, that monetary policy can influence economic activity significantly in the short-run, since at least some prices are “sticky” in the short-term and do not adjust instantaneously to changes in the money supply. In particular, this means that monetary policy can affect real interest rates and hence the cost of investment in the short-run (since nominal interest rates will change instantaneously with changes in the supply of money but prices will not adjust instantaneously), implying that monetary policy can be an effective tool in smoothing the business cycle or in responding to short-term shocks. The existence of “sticky” prices and the effectiveness of government fiscal or monetary interventions in countering business cycles has been argued by New Keynesian economists. This position has been contested, however, by the Rational Expectations school which emerged under Lucas and then by Real Business Cycle theory. Princeton economist Woodford (1999) argues that there is growing convergence among contemporary macroeconomists toward a position closer to the New Keynesian argument.

\textsuperscript{56} This is stressed by Hoffman (2001), pp. 101-106. She cites statements by U.S. Treasury Secretary
central bank in quelling panics that might lead to a run on bank gold reserves and an active role for the central bank in changing the discount rate to stem excessive outflows of gold, he did not fundamentally challenge the gold standard orthodoxy. Rather, he offered a coherent statement of evolving the evolving practical understanding of policymakers regarding how a central bank could smooth the functioning of the gold standard, but without suggesting that the central bank actively manage the money supply in order to respond to changes in the business cycle or business conditions.

Hofstadter (1948, p. 248) notes that most educated opinion simply saw the advocacy of alternatives to the gold standard as heretical (ranking “with free love” in his words) and even dishonest, with university professors, newspaper editors, and ministers all regularly defending gold and inveighing against the alternatives.57

4.3.3 Populism and Progressivism and Opposition to Hard Money

The second major grouping of opinion that shaped debates regarding appropriate monetary and banking arrangements in the late nineteenth and early twentieth century was associated with the Populist movement, whose preferences over monetary and banking arrangements overlapped in certain important respects with the different but roughly contemporaneous Progressive movement. The Populist movement drew its support mainly from Midwestern and Southern small farmers and

57 The association of paper money with dishonesty had its roots in historical experiences with the unreliability of paper money, and was a central theme of Jackson’s attack on the Second Bank of the United States and banks more generally.
built upon earlier agrarian reform movements and organizations. The movement found political expression in the Populist Party (also known as the People’s Party) founded in the early 1990s, and in the presidential candidacies of William Jennings Bryan in 1896 (as the presidential candidate for both the Populist Party and the Democratic Party) and 1900 and 1908 (as the candidate of the Democratic Party, within which Bryan commanded a powerful base of support).

Although the Populist movement championed a variety of causes, including women’s suffrage, popular election of U.S. senators, anti-Imperialism (a central theme of Jennings’ 1990 campaign), civil service reform, prohibition, and a progressive income tax, the primary message and appeal of the party centered on the economic plight of farmers. As debtors, farmers suffered a severe double squeeze from the steady decline in agricultural prices over the course of the last quarter of the nineteenth century, with farmers having to repay debts in a deflating currency through sales of agricultural products whose price declined steadily. According to data presented by Shull (2005, pg. 25), the price of farm products declined by approximately 53 percent from 1872 to 1900, while those of all commodities declined by approximately 58 percent over the same period. The Populists proposed several remedies to the economic plight of farmers, including government control of railroads (or sometimes merely regulation of railroad
tariffs); global free trade\(^{58}\); and the widespread minting of silver coin ("free silver") as an alternative to gold and as a means to increase the supply of currency.

Of the economic appeals of the Populists, by far the most politically salient was the call for "free silver"\(^{59}\). The immediate trigger for the "free silver" rallying cry was provided by President Cleveland’s repeal in 1893 of the 1890 Sherman Silver Purchase Act, which had committed the U.S. Treasury to moderate annual purchases and coinage of silver\(^{60}\). The popularity of the "free silver" cause enabled "free silver" democrats to seize control of the Democratic Party from conservative pro-gold democrats, enabling Bryan to win the party’s nomination in 1896. Populists saw the fundamental root cause of farmers’ economic woes as lying in a "scarcity" of money, which they attributed to adherence to the gold standard and limited supplies of gold.\(^{61}\) "Free silver" would alleviate the shortage of money they argued, enabling farmers to realize higher prices for their products and releasing them from debt bondage to banks. This economic policy message received its most forceful and memorable expression in Bryan’s fiery and historic "cross of gold" speech which he delivered at the 1896 Democratic National

\(^{58}\) As Rogowski (1989) argues, as holders of a relatively abundant factor of production (land) U.S. farmers had reasons to favor free trade, unlike farmers in relatively land-poor countries.

\(^{59}\) Hoftader (1948) makes this point strongly. As he notes, "free silver" was by far the most prominent theme in Bryan’s rhetoric and that of other populist leaders, and appears to have been the appeal that generated the greatest donations and interest in the party and movement.

\(^{60}\) The Sherman Act of 1890 doubled silver purchases mandated by the earlier Bland Allison Act of 1878. President Grover Cleveland was known as a "Goldbug" Democrat with ties to the eastern financial community which blamed the 1893 crisis on market uncertainty regarding the government’s commitment to gold. See Freiden (1992), pg. 221.

\(^{61}\) See Wilson (2000), pg. 95.
Convention in Chicago in which he declared that the Republican Party should not be
allowed to “press down upon labor this brow of thorns [the gold standard]” and should
not “crucify mankind upon a cross of gold”.62 Although the “free silver” issue faded in
importance after new discoveries of gold and new refining techniques greatly expanded
the supply of gold around the turn of the century, Bryanite democrats continued to
maintain that control over the supply of money was properly a matter of public policy
that should not be dictated by the supply of gold or be left either to the discretion of
banks.63

The Populists made common cause on a number of policy issues with the much
different Progressive movement. The Progressive movement drew support mainly from
the educated urban middle class made uneasy by the problems of the rapidly emerging
industrial-urban society – including the corruption of the urban political machines;
urban social problems; and what many viewed as increasingly dangerous concentrations
of industrial and economic power.64 The Progressive movement counted important
political leaders both major political major political parties, including “trust buster”
Theodore Roosevelt, Woodrow Wilson, Senator Robert M. La Follette of Wisconsin, and
California Governor Hiram Johnson, and saw the formation of the short-lived
Progressive Party (“Bull Moose Party”) founded by Theodore Roosevelt to contest the

62 The protagonists and events, well-recognizable to contemporaries, were depicted allegorically by Frank L.
63 See Hoffman (2001), pg. 111.
64 See Jones (1995), chapter 19 for a good overview of the Progressive movement.
1912 election. The Progressive movement also attracted many of the most important intellectual and social figures of the late nineteenth and early twentieth century, including Charles Beard, Louis Brandeis, John Dewey, W.E.B Dubois, Thomas Edison, William James, Walter Lippman, and others. Progressives generally shared a belief that the social and economic problems they perceived could be ameliorated by active political and social reform efforts; faith in education, science and human reason as means for improving the human condition; and the belief that reform within existing political and economic institutions was preferable to more radical change. Among the causes which Progressives championed (to various degrees) were civil service reform, municipal reform, and anti-corruption efforts; restrictions on immigration and efforts to “Americanize” new immigrants; efforts to increase direct democratic participation including support of initiative and referendum processes, direct election of senators, and women’s suffrage; prohibition; and efforts to regulate industry, counter growing concentrations of economic power, and ensure consumer and worker safety.

Populists shared with Progressives a fundamental distrust for Wall Street and specific criticisms of contemporary banking regulatory arrangements, although Progressives did not share Populist enthusiasm for free silver. Both Populists and Progressives were made uneasy by the rise of concentrated economic power in the giant “trusts” that consolidated ownership in industries such as oil, steel, public utilities, and railroads in the late nineteenth century, which they saw as wielding threatening and
unjustifiable economic and political power. Progressives and Populists saw the parallel process of consolidation that was occurring within the financial sector in especially threatening terms. Unjustifiable economic and political power. Progressives and Populists saw the parallel process of consolidation that was occurring within the financial sector in especially threatening terms.65 Certain of the largest national and state banks and trusts\textsuperscript{66} combined through mergers and various holding company arrangements to create powerful financial institutions with substantial market power in the major financial centers of New York and Chicago.67 A number of the larger commercial banks (e.g., National City) also took advantage of the lax regulatory climate to establish securities affiliates that joined the powerful established private banks such as J.P. Morgan & Co. and Lehman Brothers in the highly lucrative business of underwriting the sale of securities and arranging mergers.68 In their role in arranging mergers, bankers frequently acquired large blocks of stock at favorable prices and representation on the boards of the newly created companies, giving rise to “interlocking directorates” in

\begin{footnotesize}
66 Trusts were state-chartered financial institutions with looser regulation but similar powers to banks. The term “trust” however was commonly used to refer to a holding-company structure in which one company effectively controlled several other companies.
67 Restrictions on interstate banking described above prevented the emergence of banks with interstate operations.
68 The private banks were sole proprietorships or partnerships of very wealthy men and thus were not chartered or regulated under the state or national banking statutes (Friedman & Schwartz, 1971, p. 19). Such institutions typically focused upon securities underwriting and the arranging of mergers and other complex financial transactions rather than upon accepting deposits and making loans. A securities underwriter acts as an intermediary between a firm issuing securities and the buying public; purchasing the new issue of securities at a discount to the expected sale price and then selling the securities at a profit. As arrangers of mergers, private banks earned large fees as advisors and also acquired blocks of stock at favorable prices. The National Bank Act of 1864 restricted commercial banks to “banking activities” and prohibited direct ownership of stock in non-banking companies. The creation of securities affiliates that were effectively controlled by if not legally owned by the parent bank enabled commercial banks to evade the letter of the law. See Seligman (2003) chapter 1.
\end{footnotesize}
which a small number of major bankers and industrialists sat on the boards of many
different of companies.. The widespread perception grew that a “money trust” centered
on Wall Street was emerging, with a handful of very wealthy and secretive individuals
and powerful financial firms able to control the allocation of credit throughout the
economy; to exercise effective control over the operation of firms in critical industries;
and able to deny financing to rivals. The Pujo Committee hearings (see further below)
conducted by a subcommittee of the House banking and Currency Committee between
May 1912 to January 1913 attracted widespread public attention and provided
substantial documentation and testimony to support arguments that a “money trust”
was in fact emerging. The “money trust” received its most memorable depiction in
Louis Brandeis’ widely read book Other People’s Money and How the Bankers Use It, which
was published in 1914 and which collected articles that Brandeis had earlier published in
the popular Harpers’ Weekly69.

These concerns led to specific criticisms of the banking framework established by
the National Bank Act of 1864. Although the Democrats did not articulate a well-
defined alternative to the National Bank Act, in the Pujo Committee report and

69 Brandeis had graduated at the age of twenty from Harvard Law School with the highest grade point
average in the school’s history. He developed a successful private law practice, but gained fame by taking
high profile public advocacy legal cases, including cases to improve conditions in public poor houses, to
prevent insurance company abuses of policyholders, and challenging J.P. Morgan’s emerging Northeastern
railroad monopoly. Brandeis published very influential law review articles arguing for a constitutional
right to privacy and supporting freedom of speech. President Wilson called upon Brandeis for counsel
during negotiations over the drafting of the Federal Reserve Act. He was nominated in 1916 by Woodrow
Wilson and became the first Jewish member of the Supreme Court.
elsewhere Democratic politicians (together with certain Progressive Republicans) criticized the system of bank reserve centralization under the National Bank Act. In addition to the requirement that banks purchase and deposit U.S. bonds with the Comptroller of the Currency as collateral for the notes that they issued, the Act required national banks to hold substantial reserves against the combined value of their notes and deposits in an effort to improve the soundness of the banking system. The act created a pyramidal reserve scheme, with banks in smaller cities required to hold 15 percent reserves against the value of their notes and deposits, up to three-fifths of which could be held as deposits in “reserve city banks” (the rest in lawful money); reserve city banks located in seventeen major cities in turn were required to hold 25 percent reserves, half of which could be held in “central reserve city banks”; finally central city reserve banks in New York, St. Louis and Chicago had similar 25 percent reserve requirements which they held in their own vaults. Populists and Progressives saw this pyramidal reserve system as channeling deposits away from productive lending toward to the benefit of the “money trust” centered in New York. In addition to providing the money trust with the financial resources to facilitate its growing hold over industry, these critics charged that this centralization of bank reserves in New York promoted the growth of “speculative” lending, with many of the major New York banks lending their excess

70 This paragraph draws on Hoffman 2001, pp. 92-95, pp. 111-113.
funds to securities brokerage firms in the form of “call loans” to enable the purchases of securities on margin by brokerage firm clients.71

The monetary and banking policy preferences of Populists and Progressives did not simply reflect their material economic endowments and “interests” in an unambiguous or deterministic fashion. Rather these preferences depended also upon their understandings of cause and effect relationships and of the scope of possible policy options as they understood these through the lens of their cognitive frameworks. While, for example, the economic difficulties faced by small farmers were very real – a sustained secular decline in agricultural prices and high debt burdens – farmers’ understanding of the sources of these problems and their belief that the policy response of “free silver” would solve their economic difficulties, depended upon their specific intellectual beliefs regarding the likely effects of widespread coinage of silver coin. These beliefs are at least questionable in light of contemporary understandings of monetary policy. Consider for example the likely effects of minting more silver coin to address the “scarcity” of money which Populists perceived to be at the root of farmers’ economic difficulties. An increase in the volume of silver coin would have led to an

71 “Call” loans were so named because brokers could call such loans at any time, demanding immediate repayment that would typically require the customer to sell the securities that they had purchased on margin. Brokerage customers who bought securities “on margin” borrowed most of the cost of their purchase from their broker (which in turn borrowed the money from a bank as a call loan) and deposited the securities they purchased with their broker as collateral for the loan.
increase in the money supply and a corresponding increase in the general price level.\textsuperscript{72} Farmers would have seen the real cost of servicing their \textit{existing} debts reduced as they would receive higher prices for their products and thus higher nominal income while the cost of their existing debts remained fixed for the remaining maturity of those debts. This would indeed represent a transfer of wealth from bankers to farmers – albeit only a one-off transfer. To the extent that financial market participants came to anticipate future inflation (e.g., because they anticipated a continuous rapid expansion of the money supply), farmers (and all other borrowers) would simply face higher interest rates on \textit{new} borrowings as interest rates adjusted to reflect anticipated inflation.\textsuperscript{73} Moreover, farmers would face higher prices for all other goods and services they purchased (e.g., railroad transport, tools and material inputs, labor, consumption goods, etc.) as all other prices adjusted upwards so that farmers real income remained unchanged.\textsuperscript{74} The “free silver” policy prescription did not address what was arguably

\textsuperscript{72} Timberlake (1993), pp. 180-181, questions even this assumption, arguing that a higher mint price for silver relative to that of gold would have driven gold out of circulation. This, in turn, would have led to a net contraction in the money supply as paper currency was linked to gold. I ignore such technical questions and simply accept the Populist premise that increased silver coinage would have been inflationary and examine instead the issue of whether such inflation would have provided farmers with the economic benefits that Populists anticipated.

\textsuperscript{73} A one-off permanent increase in the money supply and in prices need not lead to such inflationary expectations, but would lead to a corresponding increase in the prices of all goods and services so that farmers would have to borrow more money to purchase the same amount of goods and services that they were able to purchase using the funds from a smaller loan previously.

\textsuperscript{74} This is the standard assumption of the long-run “neutrality of money” – in the long-run an increase in the money supply simply shifts the units used to calculate transactions without any real effect. This ignores relative price effects of inflation on tradable and non-tradable goods. Imported goods, for example, would become more expensive in domestic currency terms as inflation reduced the real value of the domestic currency under a fixed exchange rate.
the real cause of falling farm prices – the rapid increase in farm productivity and output that flooded markets with cheap grain and farm outputs – and would not have provided farmers with an improvement in the relative prices between farm products and other goods. A potentially more effective policy response (from the point of view of farmers) might have been some sort of large-scale government farm price support system or other fiscal transfer to farmers. Such policy options, however, did not feature among Populist goals – in large part because they conceived farmers’ long-run economic problems as having primarily monetary causes.

Similarly, Populist and Progressive fears regarding the economic consequences of concentrated financial and industrial ownership rested as much upon their cognitive frameworks as upon the objective economic position of their supporters. Even putting aside their normative critiques of the dangers of concentrated financial and industrial ownership on the quality of American democracy, assessing the purely economic effects on different groups of alternative feasible patterns of financial and industrial organization is a highly complex undertaking that inherently involves theoretical understandings of the effects of such arrangements on the long-term growth and distribution of economic output. It is not simply straightforwardly obvious, for example, that a repeal of the reserve requirements of the National Bank Act would have led to a reallocation of credit toward agriculture or would have arrested trends towards increasing concentration of financial and industrial ownership.
4.3.3 Elastic Currency and a Central Bank

A third important grouping of opinion emerged among influential segments of the banking community centered in New York as well as certain business leaders and academics around the turn of the century who increasingly saw the need for an “elastic currency” and the creation of a central bank. The vision which they offered was of a paper currency that was anchored to gold, with the supply of paper money fluctuating “elastically” in a way that smoothed the volatility of interest rates and with the creation of a Central Bank that could act as a stabilizing influence as I describe in detail below. Although not representative of a large block of public opinion, such arguments gained traction with important political leaders in both parties, especially after the Panic of 1907 exposed weaknesses of the status quo monetary and banking regulatory arrangements.

Proponents of the need for an “elastic currency” criticized the provisions of the National Bank Act which required national banks to purchase and deposit U.S. Treasury bonds with the Comptroller of the Currency as collateral for the notes that they issued. This provision, they argued, tied the currency supply to the stock of government bonds, creating artificial pressures to expand or contract the supply of currency as the level of government debt changed, without any relation to the real needs of the economy. Further, they criticized the system of bank reserves mandated by the National Bank Act described above, arguing that the substantial bank reserves that the act created were

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75 See Meltzer (2003), chapter 3; Schull (2005), chapter 2; Hoffman (2001), pp. 114-118.
immobile and unavailable for use by banks facing pressures from depositors or for lending in response to credit stringencies elsewhere in the banking system. Lastly, these critics argued that the U.S. financial system faced unnecessarily sharp fluctuations in interest rates driven by seasonal credit demands linked to the agricultural cycle and faced frequent panics.

The solutions which these banking and business leaders proposed were directly linked to their criticisms of existing monetary and banking regulatory arrangements. They advocated the creation of a strong central bank that would centralize control over the reserves of the banking system in a single institution that could use these reserves to dampen interest rate fluctuations by responding to seasonal changes in currency demand (e.g. due to the agricultural cycle) and could act as a lender of last resort during periods of market turmoil. The central bank would be modeled after European examples, particularly that of the Bank of England, and would be a privately-owned institution controlled by bankers rather than the government. Such a central bank would, lastly, replace the “inelastic” bond-backed currency of the national banks under the National Bank Act with an “elastic”, “asset-backed” currency, the supply of which would they expected would expand and contract in natural harmony with the needs of business. Specifically, this meant that the central bank would issue paper currency redeemable into gold and would regulate the supply of the currency through its lending (rediscounting) operations, with the provision that such central bank be governed by the
restriction that the central bank would only rediscount short-term commercial paper, consistent with the real bills doctrine.

Supporters obviously had material interests at stake. But they also drew upon important theoretical foundations and intellectual antecedents that shaped their understandings of what was necessary. These cognitive frameworks also placed important limitations on their conceptions of what was possible.

To an important extent these reflected adaptive learning based upon European experience. Interest in the creation of a central bank had been growing over time, especially among bankers and segments of the business community, who perceived that European countries with central banks had been more successful in avoiding the frequent financial crises that plagued the United States. Banks in a number of European countries gradually assumed what are understood today as central banking functions over the course of late nineteenth century.76 These institutions came to hold the majority of reserves within their respective countries; to have more or less clear monopoly on the issue of bank notes; to manage monetary stability under the gold standard by maintaining convertibility between gold and their bank notes and by influencing the market rate of interest (and thus gold inflows and outflows) through the rate at which

76 Although a number of these banks were much older, including the Bank of England chartered in 1694 and the Bank of Amsterdam chartered in 1609, they only gradually assumed the full range of activities and responsibilities that are associated with central banking today. The Bank of England, like the later First and Second Bank of the United States, was a privately-owned institution (until its nationalization in 1946) with however enjoyed certain monopoly privileges. See Shull 2005 pp. 36-40, pp. 60-62.
they lent funds to other banks (discounting); and by acting as a lender of last resort to banks which experienced runs on deposits during financial crises (Ibid). Importantly for the models which helped to inspire creation of the Federal Reserve, most European central banks were privately owned entities at this time.

In addition to this practical adaptive learning, the cognitive frameworks of many policymakers absorbed gradually emerging theoretical understandings of the functions of central banks. Importantly, however, the modern conception of central banks as entities responsible for controlling business cycles did not emerge until after the creation of the Federal Reserve. These limitations on cognitive frameworks were reflected in the design of the Federal Reserve itself as I discuss further below.

The theoretical understanding of the role of a central bank in managing monetary policy and of the connections between monetary policy and real economic activity made only moderate progress over the course of the nineteenth century and remained underdeveloped at the time of the creation of the Federal Reserve.77 Sophisticated pioneering theoretical work by Thornton (1802) was not well-appreciated by contemporaries and subsequent discussions failed to absorb many of his insights78. The most widely read and most sophisticated statement of the practical central banking knowledge of the day was offered by the journalist Walter Bagehot in his 1873 book

77 This paragraph draws on Meltzer 2003, chapter 2; Shull 2005, pp. 60-62.
78 Meltzer 2003, chapter 2 presents this judgment.
Lombard Street: A Description of the Money Market. As summarized by Meltzer (2003), the three central tenants that guided bankers’ and policymakers’ understanding of the functions and conduct of monetary policy during the nineteenth and early twentieth century were as follows. First, monetary policy should be used to defend the gold standard: concretely, the central bank should raise or lower the discount rate to defend the gold stock and exchange rate while maintaining convertibility of the domestic currency, regardless of the effects on domestic economic activity.\[^7^9\] Second, the central bank should act as a lender of last resort during periods of market turmoil. Third, the central bank should accommodate the credit needs of trade and agriculture by only discounting commercial paper.\[^8^0\] Although the influence of central bank operations on short-term interest rates and economic activity was generally understood, explicit and well-developed understanding of the connection between central bank interventions and longer-term real economic activity was to await the contributions of the great twentieth century economists. As a result, at the time of the drafting of the Federal Reserve act, 

\[^7^9\] Meltzer (2003), pg. 22. Eichengreen 1996, chapter 2, provides an excellent discussion of the concrete details of the operations of the gold standard in practice, highlighting differences across countries and stressing the subordination of domestic employment and output to the goal of maintaining convertibility at fixed parities. Obstfeld and Taylor 2004 note close correlation between the extension of the franchise in Europe and gold standard adherence, arguing that adherence to the gold standard was no longer feasible for governments when the extension of the franchise required that governments prioritize domestic output and inflation over the goal of exchange rate stability.

\[^8^0\] This became known as the “real bills doctrine”. More specifically, the doctrine, first formulated by Adam Smith, held that banks should only extend short-term credit limited to “productive” purposes by discounting only bills of exchange based on short-term commercial transactions. The central bank, in turn, should only rediscount such bills of exchange. Such discipline would, the doctrine held, assure that credit (and the accompanying issue of bank notes under prevailing banking practices) would expand and contract with the “natural” needs of commerce. Thornton’s (1802) cogent criticism that the prescriptions of the doctrine were procyclical and exacerbated business cycles were not appreciated by contemporaries.
the role of central banks was understood in largely passive terms as that of maintaining monetary stability under the gold standard and of supplying money to meet the “natural” needs of commerce, rather than as that of intervening actively to counteract the effects of the business cycle or maintain price stability. Interestingly, moreover, the term “central bank” appears not to have entered widespread usage until approximately the end of the nineteenth century.

4.4 The Creation of the Federal Reserve System

The political process surrounding the creation of the Federal Reserve points to three conclusions of relevance to my overall argument. First, the move to change the financial regulatory system in this way was driven by an event, the Panic of 1907, which crystallized the perceptions of policymakers that status quo monetary and banking regulation were flawed and that failure to address such flaws would undermine broader the policy goal of economic stability. Second, the design of the Act clearly reflected the cognitive frameworks and adaptive learning of its key architects. Finally, the design of the Federal Reserve clearly also reflected bargaining and the potential veto power of leaders of Populist-oriented views.

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81 Shull 2005, pg. 58. Contemporaries did not distinguish clearly between the supply of credit by the banking system and the money supply. Moreover, the supply of “money” was generally understood as the volume of coin and currency in circulation, without the understanding of modern economics that the stock of money includes deposits as well as coin and currency.

82 Ibid, pp. 61-62
The Federal Reserve Act was approved by Congress in December 1913, with the twelve Federal Reserve Banks authorized under the act beginning operations in November 1914 after a period of initial confusion as organizational vagaries in the act were worked out. The impetus for the creation of the Federal Reserve came from the Panic of 1907, which resulted in the failure of a number of large banks and trust companies, a general suspension of deposit withdrawals by banks across the country, and a sharp but short economic contraction.

The Panic of 1907 followed a long series of smaller and less generalized banking panics in the United States over the late nineteenth century. While most of these failures were of purely local consequence, the U.S. also experienced frequent financial crises – including crises in 1873, 1884, 1890, and 1907 – characterized by both runs on banks and by downturns in real economic activity. Although these crises had diverse triggers, they shared the fact that the absence of any system of deposit insurance or a central bank capable of adjusting the supply of money or acting as a lender of last resort made such crises sharper and more severe than they otherwise might have been.

In the wake of the Panic of 1907, Congress passed the Aldrich-Vreeland Act of 1908 which authorized the creation of a National Monetary Commission to study and report to Congress on “what changes are necessary or desirable in the monetary system

83 See Meltzer 2003, chapter 3; Shull 2005, chapter 2; and Hoffman 2001, chapter 5 for good discussions of the founding of the Federal Reserve system.
84 See Shull 2005, pg. 25.
of the United States or in laws relating to banking and currency.”\textsuperscript{85} The Commission, headed by Republican senator Nelson W. Aldrich of Rhode Island, conducted extensive hearings into U.S. and European monetary and banking arrangements, obtaining the testimony of leading academics, government officials, and bankers, and ultimately published twenty volumes of hearings and a final report to Congress in 1912. The report called for the creation of an “elastic” currency and creation of a central bank.

Separately from the report itself, the Commission published what became known as the Aldrich plan which called for the creation of a central bank (Shull 2005, p. 42). The Aldrich Plan was in fact authored primarily by banker Paul Warburg. This was to be a centralized institution dominated by private bankers and would be responsible for the administration of an “elastic” paper currency backed by gold.

The Democratic Party explicitly rejected the creation of a “central bank” in its platform, reflecting the influence of populists in the party (specifically William Jennings Bryan) who believed that a central bank would be dominated by the Wall Street “money trust” and would operate as a deflationary force. However, newly elected President Wilson immediately began work on a proposal to create a central bank. The drafting of the proposal was left to Democratic Senator Carter Glass of Virginia, assisted by professor Parker Willis of Columbia University. Glass was suspicious of “Wall Street” but was an advocate of a “scientific” and “elastic currency”. Specifically, he believed

\textsuperscript{85} Quoted in Shull 2005, pg. 41.
that the currency should be tied to gold, but that the supply of paper money should
fluctuate to smooth interest rates with the central bank lending to banks that could offer
commercial paper as collateral, consistent with the real bills doctrine.

The plan for a central bank which emerged was a compromise (Shull 2005; Hoff
man 2001; Link 1956). Secretary of State William Jennings Bryan strongly
advocated a powerful central board that would be subject to direct political control and
would manage the supply of paper in accordance with popular control. Glass strongly
opposed this, believing that bankers would manage the currency scientifically and that
Bryan’s proposal would be disasterously inflationary. Contrary to the Aldrich proposal,
Glass proposed a decentralized system of twelve completely independent reserve banks
in order to prevent control by New York banks and “Wall Street” which he greatly
distrusted. The compromise that emerged was a structure with both a Board but also
twelve regional Federal Reserve Banks. Each regional Federal Reserve Bank elected its
own president and operated largely independently of the Board, with the authority to
set the discount rate in its district and to purchase and sell eligible securities as it saw fit.
Consistent with the real bills doctrine, however, the act limited the collateral eligible for
discounting to commercial paper in the belief that this would create a money supply that
would expand and contract with the real needs of commerce not speculative or
inflationary purposes. As we shall see in the next chapter, important elements of this
compromise design were questioned and revised by policymakers during the 1930s as
new events caused leaders to question the adequacy of this regulatory design and as
new understandings of the role of the central bank began to emerge in a process of
adaptive learning by which political leaders and policy experts gradually changed the
cognitive frameworks through which they understood the consequences of financial
regulatory choices.
5. Building a Modern Financial Regulatory Regime: The Regulatory Response to the Great Depression in the United States

This chapter examines the observable implications of the theoretical framework that I outline in previous chapters against the experience of the United States in the era of the Great Depression, during which time the U.S. government constructed a modern financial regulatory regime which helped to shape the development of the U.S. financial system for much of the twentieth century. Among the key observable implications of my theoretical framework that I will examine in this chapter are the following. First, contrary to the implications of alternative theoretical frameworks, structural economic change and the resulting realignment of the size and influence of different interest groups should not be a good predictor of the timing of major financial regulatory change. Rather, we should be more likely to see major financial regulatory change in the wake of shocks of different types that cause political leaders to perceive a threat to the realization of their key policy objectives and which call into question the adequacy of the regulatory status quo. Second, major financial regulatory change is most likely to advance when the political executive (the president or prime minister) becomes attentive to financial sector policy and makes financial regulatory change a priority within their policy agenda. Other political and societal actors can play important roles in pushing for reform, but political executives have the greatest ability to set the policymaking agenda and major change is unlikely to proceed when opposed by the political
executive. Third, close examination of the policy process in particular cases should reveal that the heads of the specialized financial sector policy bureaucracies are typically important participants in the policy process and are usually influential in shaping the direction of financial regulatory change once the political executive becomes attentive to the financial regulatory reform. In particular, we should expect financial regulatory policy choices to reflect the cognitive frameworks supplied by such bureaucratic policy experts – and especially the diagnoses and solutions proposed by such experts in response to perceived failures in the regulatory status quo. Finally, the financial sector will typically be an important actor in the policy process and sometimes will be successful in pressing for regulatory change. The financial sector, however, will usually have greater ability to block or modify proposed regulatory changes by controlling veto points in the policymaking process than it will have to set the agenda for major regulatory change. Moreover, the preferences and beliefs of the political executive will be critical. Political executives will support regulatory reform proposals of financial sector actors when these are perceived to be congruent with its broader policy objectives and when they face few political costs of supporting such changes. Political executives, however, will be willing to advance (oppose) regulatory changes against even strong opposition (support) by the financial sector when the political executive perceives such changes to be instrumentally critical (threatening) to its ability to realize other key policy objectives.
The chapter is organized as follows. The first section below examines the shock of the Great Depression and briefly compares the initial responses of the Hoover administration and the Roosevelt administration. The second section examines in greater detail the political process leading to the 1933 Banking Act and the 1935 Banking Act, which together set the regulatory framework which, with few changes, set the parameters within which U.S. banks operated through the 1990s. The final section summarizes the conclusions of the previous sections and compares the overall fit with the historical record of this period of the theoretical framework that I have outlined against alternative frameworks.

5.1 Crisis Perception and Response: Comparing Initial Responses of Hoover and Roosevelt to the Crisis

In this section I examine the initial years of the Great Depression in the United States, comparing President Hoover’s attempts to grapple with the financial crisis over the course of his presidency with the initial emergency crisis responses of President Roosevelt in his first month and a half in office, including his declaration of a bank holiday and the passage of the Emergency Banking Act in March 1933 and the withdrawal of the United States from the gold standard in April 1933. My review of this period highlights three important points of relevance to the theoretical framework that I have presented above. First, it is important to remember that contemporary policymakers did not have the benefit of hindsight. The eventual depth and severity of the crisis was not immediately apparent at the outset; nor, at the height of the crisis,
could contemporaries know if the downward spiral would continue or if recovery was just around the corner. Although the process of “adaptive learning” continued for many years after the depression as the economics profession grappled with understanding the causes and policy lessons of the unanticipated economic crisis, contemporary policymakers also updated their perceptions as events unfolded and exhibited adaptive learning in the face of the unexpected challenge. Second, the impetus for regulatory and policy reform that began in this period and which continued into Roosevelt’s presidency clearly came from the crisis itself rather than from pressures by interest groups such as financial sector organizations, business associations, or labor unions. In simple terms, political and policy leaders came to perceive that the existing regulatory and policy status quo was flawed and that they faced a major problem. Failure to respond to the crisis and to fix the regulatory flaws which had enabled the crisis to occur in the first place risked continuation of the downward economic spiral, threatening all other policy objectives and thus the survival of politicians. Finally, as comparison of the financial policy responses of the Hoover and Roosevelt administrations shows, the cognitive frameworks of political executives and of the policy experts who advised them were critical in shaping the regulatory policy responses which occurred.

5.1.1 Evolution of the Crisis

The story of the boom years of the 1920s in the United States (the “Roaring Twenties”) is well known. After a brief immediate post World War I recession and the
more severe recession of 1920-1921, the United States economy grew rapidly over the course of the 1920s, with only mild recessionary interruptions in 1923-1924 and 1926-1927. New industries emerged during this decade that transformed the economic landscape, including aircraft, automobiles, advertising, consumer electronics (e.g., radios), movies, and telephones. The era is famously known for marking the apogee of *laissez faire* sentiment in the United States, epitomized by Calvin Coolidge’s declaration that “the business of the United States is business” (Jones 1995). The widespread prosperity of the decade reduced the urgency and appeal of the criticisms that Populists and Progressives had made in proceeding decades regarding the dangers of growing concentrations of economic power and of the “money trust” in particular. Business and financial leaders became popular heroes, while increasing numbers of middle class Americans sought to gain a piece of the prosperity as individual investment in shares and bonds boomed during the 1920s. The prices of stocks on the New York Stock Exchange roughly doubled over the first eight years of the 1920s, approximately in-line with the over 80 percent increase in corporate profits during this period, before soaring to bubble-like heights as share prices doubled again over an eighteen month period beginning in March 1928 (Seligman 2003, p. 2). Surveying the economic achievements of the previous decade during which his party held the presidency without interruption,

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1 See my discussion in Chapter 4 above.
2 The absolute numbers remained small, however, with only about 3 percent of Americans owned shares directly at this time. See Geisst (2004) for a good description of this era.
Herbert Hoover could confidently declare in his presidential inaugural speech of March 4, 1929 that the future of the United States was “bright with hope”.

The first point which I want to emphasize is that the economic crisis which began with the stock market crash of October 1929 was not a single discreet event or shock, but rather a series of interconnected events which unfolded over the course of almost a decade. As severe as the economic decline was in the first year, conditions became dramatically worse in the following years and remained so for the rest of the decade. Policymakers therefore had to react not just to the sudden and unexpected short-term shock of the 1929 stock market collapse, but to the continual unfolding of extremely negative economic developments over a period of years. These unfolding events challenged the existing cognitive frameworks within which contemporaries policymakers and elites understood the functioning of the economic and financial system.

The stock market actually peaked in September 2009, seven months into Hoover’s presidency, and experienced a substantial decline for most of the month, before recovering substantially. The stock market crash that occurred in October 1929 actually occurred in stages, with substantial market declines occurring on Friday October 18, Saturday 19, and Monday October 21, and Wednesday October 23 (Seligman 2003, p. 3). Bankers led by Thomas Lamont of J.P. Morgan and Company attempted to stem the decline by organizing a pool which made substantial securities purchases on
October 24. These efforts failed, with the Dow Jones average declining 13 percent on “Black Monday” October 28, and then falling a further 11 percent on “Black Tuesday” October 29, with a record volume of shares trading hands. Although the October stock market crash was obviously severe, it was not immediately clear that the ensuing economic crisis would be dramatically worse or different in kind than the many earlier financial crises which had occurred in the U.S, including the crises of 1873, 1890, 1893, and 1907. Seligman (2003, p. 3), quotes the financial historian John Brooks, a contemporary of these events, who wrote that the crash “…came with a kind of surrealistic slowness – so gradually that, on the one hand, it was possible to live through a good part of it without realizing that it was happening, and, on the other, it was possible to believe one had experienced and survived it when in fact it had no more than just begun.” The stock market decline had indeed just begun, with the stock market declining in value a staggering 89 percent from its peak in September 1929 to the bottom of July 8, 1929, and not recovering its pre-1929 levels until 1954.

Real economic activity had actually begun to slow in the summer of 1929 before the stock market crash, with seasonally-adjusted industrial production declining by 3 percent between July and October 1929 (Romer 1993, p. 26). Christina Romer (1993) argues that “[t]he source of this slowdown is almost surely the tightening of Federal Reserve policy in 1928” (p. 26). Under the direction of Benjamin Strong, Governor of the Federal Bank of New York, the Federal Reserve had eased monetary policy in 1924 to
help England return to the gold standard (which it did in 1925) and again in late 1926 and 1927 in an effort to help the Bank of England, the Reichsbank, and the Bank of France to accumulate gold reserves in order to support the restoration of the international gold standard shattered by World War I. This monetary easing was criticized at the time as fueling “speculation”, particularly by enabling commercial banks to expand “call loans” to securities brokers and, as I discuss below, was subsequently blamed by many contemporaries as the cause of the stock market rise and crash that they held responsible for the depression. Although Governor Strong had opposed arguments to tighten monetary as unnecessary (Meltzer 2003, p. 225), Federal Reserve policy began to shift in 1928, particularly after the death of Strong in October 1928. Policy was for some time paralyzed, with the Federal Reserve Board in Washington headed by Roy A. Young arguing that the Federal Reserve banks should use “direct action” (i.e., persuasion and surveillance) to dissuade banks from expanding call loans, while several of the Reserve Banks, including New York under the new

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3 By lowering real U.S. interest rates relative to those of Europe, the action caused an outflow of gold from the United States to European central banks. See Kennedy (1973), pp. 12-13, Meltzer (2003), pg. 171, pg. 262.
4 Call loans were loans by commercial banks to securities brokers that in turn enabled securities brokers to extend loans to their brokerage clients to purchase securities “on margin”, purchasing securities with only a fraction of the purchase price and pledging the securities as collateral to the securities broker.
5 As Secretary of Commerce in the Coolidge administration, Hoover had criticized Federal Reserve policy in 1925 as leading to speculation. See Kennedy (1973), pg. 13. In addition, many in Congress and the financial press had criticized the Federal Reserve Bank of New York (FRNB) at the time for arranging a $200 million standby loan to help England return to the gold standard, arguing that the loan had violated the authority of the FRNB. Among the chief critics was Parker Willis, who had served as a long-term advisor to Senator Carter Glass, helping him to draft much of the 1913 Federal Reserve Act, and subsequently serving as the secretary to the Board of the Federal Reserve. See Meltzer (2003), pg. 171, note 50.
Governor George L. Harrison, favoring increases in discount rates (Meltzer 2003, pp. 235-245; Schull 2005, pp. 96-97). The conflict was eventually resolved, with the Board approving a series of further increases in the discount rate beginning in mid-1929. As I discuss below, these episodes and the perceived ineffectiveness of the Federal Reserve in the wake of the stock market crash led to a questioning of the decentralized structure of power under the Federal Reserve System as it existed at that time and of the dominant role of the Federal Reserve Bank of New York within that decentralized system, with the resulting shifts in perceptions an important factor behind the bank regulatory reforms of the 1930s.

Economic output and employment declined precipitously during the first year of the depression and especially following the stock market crash, with GNP declining by 9.3 percent over 1929-1930, while unemployment rose from 3.2 percent in 1929 to 8.7 percent by end 1930. Christina Romer (1993) argues the depression was “led by a collapse of domestic consumption spending” in the United States, and that “[t]he most likely source of the precipitous drop in American consumption following the stock market crash in 1929 is the crash itself” (p. 29), as the stock market crash and ensuing stock market volatility created high levels of uncertainty that caused consumers and producers to cut spending sharply on durable goods purchases. The declines in economic activity in the first year were followed by even more terrifying declines in the next two years, with GNP declining 8.5 percent in 1930-1931 and 13.4 percent in 1931-
Unemployment rose to 15.9 percent by the end of 1931, then to 23.6 percent in 1932, and 24.9 percent in 1933, and did not fall below the high teens for the remainder of the decade. Ongoing output and employment declines of this magnitude posed an obvious threat to the survival of political leaders in a democratic system with periodic elections and required that other policy objectives be subordinated to the restoration of economic stability and growth.

The decline in economic output was accompanied by growing banking failures, which culminated in the complete collapse of the banking system on the eve of President Roosevelt’s inauguration in March 1933. Although the number of bank failures in the first year of the crisis was not markedly different than previous years in the decade, with 659 banks suspended versus an annual average of 635 for the decade of the 1920s, the rate of bank failures accelerated rapidly. Friedman and Schwartz (1963) identified four main waves of bank failures. These include a minor first wave in the fall of 1930 (with 1,350 suspensions for the year), followed by increasingly severe waves of failures in spring 1931, in fall 1931 (with 2,293 total bank suspensions in 1931) after Britain abandoned the gold standard, and the most severe wave in winter 1933 (with 4,000 total bank suspensions in 1933). Beginning in November 1932 with Nevada, increasing numbers of states declared banking “holidays” of indefinite duration in an effort to prevent bank runs and to prevent further damage to their banks. These number of states declaring bank holidays accelerated throughout the course of 1933, with Lousiana,
Michigan, Indiana, Maryland, Arkansas, and Ohio declaring bank holidays in February, Arizona, California, Mississippi, Oklahoma, Oregon and again Nevada closing their banks on March 1, and governors of New York and Illinois, the nation’s two major banking centers, issuing emergency orders to close all banks in the early a.m. hours of March 4 (Kennedy 1973). Roosevelt’s first official action upon assuming the presidency was the declaration on Monday, March 6 of a national bank holiday that suspended all banking activity in an effort to restore confidence and protect the remaining assets of a banking system that had already collapsed. The general point is that the accelerating failure of the banking system presented policymakers with a further politically urgent set of events, as individuals and businesses rapidly lost the ability to access their savings or conduct elementary financial transactions such as the processing of wage payments or clearing of checks.

An important focus of economic research has been on understanding what caused a bad economic downturn to accelerate and become dramatically worse. Bernanke (1995) provides a survey of the current state of understanding of the Great Depression by economists. He argues first that economists are now “…able to assert with considerable confidence that monetary factors played an important causal role, both in the worldwide decline in prices and output and in their eventual recovery” (pg. 3). As Bernanke argues, the growing consensus supports the view that, primarily, the monetary contraction that occurred in most major countries was the cause of the decline
in output that occurred during the Depression as argued by Friedman and Schwartz (1963), rather than the other way around, with the supply of money contracting passively in response to the decline in output as had been argued by others such as Temin (1976). Monetary contraction was caused both by direct policy actions, including actions by the Federal Reserve and other central banks that resulted in continued high real interest rates, as well as indirectly as the collapse of the banking system which contracted deposits and hence the money supply.7

While pointing to the primacy of monetary factors as a cause of the depression, Bernanke (1995) highlights the important question of why the monetary policy contraction which occurred had such persistent effects on the real economy. An important tenant of modern economic theory is that while monetary policy may be able to influence real economic activity in the short-run, but that in the long-run monetary policy should have no effect upon real economic activity (the “long-term neutrality of money”) as all prices in the economy should adjust to reflect the new supply of money just as if a new currency with a different denomination was substituted for an old

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6 As Bernanke (1994), pg. 1 notes, this does not imply that monetary factors were the only cause of the decline in output, and is consistent with the explanation offered by Romer (1993) that the shock of the stock market crash caused the initial decline in consumption that triggered the depression.

7 Romer (1993), pg. 32, explains the technical details: the large numbers of bank failures in the United States “had a direct impact on the money supply” because “the ratio of deposits to currency fell dramatically [as depositors withdrew money from banks].” As a result, this “greatly reduced the money multiplier, with the implication that a given stock of high-powered money could then support a much smaller total money supply.”
Bernanke (1995, p. 20-25) points to two sets of nonmonetary factors that explain why monetary policy had persistent effects. The first is that, contrary to economic theory, wages did not adjust downward as quickly as other prices thus causing employers to reduce their workforces leading to further falls in real output.

A second set of explanations of the persistent effects of monetary shocks, of direct relevance to the issues that I investigate, concerns the nonmonetary channels by which the financial crisis was propagated by the financial system. These nonmonetary channels explain why, in addition to decline in the money supply caused by the withdrawal of deposits from weak and failing banks, weaknesses in the financial system caused real economic output to decline. Citing previous work by himself (Bernanke 1983), and others (e.g., Mishkin 1978, Calomiris 1993), Bernanke (1995, pp. 17-20) points to two such channels of propagation (pp. 20-25). The first such channel is a revised version of the “debt-deflation” thesis originally articulated by Fisher (1933). Under this mechanism, a sharp monetary contraction can lead to a fall in the value of assets and commodities which in turn reduces the net worth of firms as the nominal value of their assets declines while that of their liabilities remains fixed (i.e., the indebtedness of firms to banks or bondholders). Drawing upon principal-agent models, Bernanke argues that as a borrower’s net worth declines the borrower will have greater incentives to take risks that harm lenders (intuitively they will have “less to loose” from risky decisions or lax

management). In turn, this will reduce the willingness of banks to extend loans, implying that even borrowers whose long-term prospects are good will find their sources of financing shut off, thereby cutting off real economic activity and harming real economic output. A second channel of propagation is linked to the health of banks and other financial intermediaries. As the value of bank assets declines (e.g., due to rising loan defaults following a sharp monetary contraction), the net worth of banks declines, threatening their solvency. This, in turn, can reduce the ability of the banking sector to serve the economic function of intermediating funds between savers and borrowers. Specifically, as the solvency of banks declines, depositors have incentives to withdraw their deposits which reduces the funds available to banks to lend; the threat of runs causes banks to shift assets away from lending and into liquid assets in order to meet potential runs by depositors; and bank closures lead to the loss of “information capital” about the creditworthiness of local borrowers necessary for lending decisions. Romer (1993) concurs with the importance of the banking system as a transmission channel, arguing that “[t]he source of the continued decline in production in the United States [after 1930] was almost certainly a series of banking panics”.9

My motivation in discussing contemporary theories of the Great Depression is not adjudicate between alternative explanations regarding the causes of the crisis – what

9 Romer (1993), p. 32. She points to both the direct monetary effects of bank panics as well as nonmonetary effects of the type discussed by Bernanke (1995).
Bernanke (1995) labels the “Holy Grail” of macroeconomic theory. Rather it is to highlight contrasts between the understanding of modern economists of the causal mechanisms that led to the Depression and the cognitive frameworks within which policymakers and their advisors operated during the 1930s. I discuss the policy impact of those cognitive frameworks below and argue that policy advisors and experts clearly underwent a process of adaptive learning as the crisis evolved. In Chapter 6 below I examine how the cognitive frameworks of contemporary policy advisors helped to shape the policy response to the 2008-2009 financial crisis.

5.1.2 The Hoover Administration Response

The financial policy response of Hoover administration to the challenge Depression was shaped by the unfolding of events and by the cognitive frameworks of the president and his chief policy advisors. I argue, in particular, that although the president clearly realized the political need to respond to the unfolding financial crisis and sought pragmatic means to do so, the administration’s response was limited by cognitive frameworks that (i) led to the belief that the crisis would be self-correcting; and (ii) which did not provide policymakers with a clear understanding of the linkages between the health of the banking sector and the policy goals of restoring employment and economic output.
Hoover was less doctrinaire in his economic thinking, more pragmatic, and more genuinely compassionate than he is frequently remembered to be.\textsuperscript{10} Hoover was praised in glowing terms by Keynes for his selfless compassion and dedication as American Relief Commissioner for Europe following World War I and as a representative at the Paris Peace Conference, and enjoyed widespread admiration in the public for his service in these and other posts. As Commerce Secretary in both the Harding and Coolidge administrations, he enjoyed a reputation as the most progressive of the cabinet members and scrupulously avoided taint with the widespread corruption that engulfed the Harding administration in particular. Although supportive of limited government regulation of business and interventions to address suffering, Hoover was, however, strongly supportive of the broad principles of \textit{laissez-faire} which his party and many contemporaries espoused and strongly defended the “American System” as it existed at the time.\textsuperscript{11}

Andrew Mellon was the chief advisor to Hoover on economic and financial policy matters, serving as his Secretary of Treasury until February 1932 (when he was replaced by Undersecretary of the Treasury Ogden Mills), a position which had held in both the Harding and Coolidge administrations. As a banker and industrialist, Mellon was one of the wealthiest men in the United States with a personal net worth of


\textsuperscript{11} Hofstadter (1948) chapter 11 documents in detail Hoover’s economic philosophy based on his public and private writings and actions before and after he became President.
approximately $127 million in 1930 (Cannadine 2006, p. 402). His economic views were more rigidly *laissez faire* than Hoover’s, and he had pushed hard in both the Harding and Coolidge administrations for budget cuts and large tax cuts, especially on higher incomes and on estates (the so-called “Mellon Plan”), a position which he defended in essentially supply-side terms in newspaper and periodical writing that were collected in a 1924 book (Cannadine 2006, pp. 315-316, pp. 343-344; Jones 1995, p. 436, p. 444).

Hoover records in his memoirs that “two schools of thought” developed early in his administration regarding the policy response to the Depression. As Hoover describes it:

First was the “leave it alone liquidationalists” headed by Secretary of the Treasury Mellon, who felt that the government must keep its hands off and let the slump liquidate itself. Mr. Mellon had only one formula “Liquidate labor, liquidate stocks, liquidate farmers, liquidate real estate.” He insisted that, when the people get an inflation brainstorm, the only way to get it out of their blood is to let it collapse. He held that even a panic was not altogether a bad thing. He said: “It will purge the rottenness out of the system. High costs of living and high living will come down. People will work harder, live a more moral life. Values will be adjusted, and enterprising people will pick up from less competent people.” (Hoover 1952, p. 30)

He places himself in a second group:

But other members of the Administration, also having economic responsibilities – Under Secretary of the Treasury Mills, Governor Young of the Reserve Board, Secretary of Commerce Lamont and Secretary of Agriculture Hyde – believed with me that we should use the powers of government to cushion the situation. To our minds, the prime needs were to prevent bank panics such as had marked the earlier slumps, to mitigate the privation among the unemployed and the farmers which would certainly ensue. (Hoover 1952, p. 31)
These differences were not as great as Hoover implies, however, and the policies pursued by his administration involved only limited ameliorative interventions rather than concerted and deliberate efforts to reverse the macroeconomic decline via fiscal or monetary policy (Jones 1995, chapter 23). Although Hoover increased spending on public works and attempted to bolster commodity prices through the newly created Federal Farm Board, Hoover focused primarily upon encouraging voluntary cooperation by businesses to maintain wages and production and insisted that unemployment relief remain the responsibility of state and local governments and private charity. Reflecting widely held contemporary views that the resumption of economic growth depended upon the restoration of business and consumer confidence and that such confidence rested upon the government’s fiscal probity, the administration pushed to balance the federal budget as the crisis worsened – the opposite policy response to that for which Keynes was later to provide theoretical justification – and a clear example of how cognitive frameworks shaped policy outcomes.12

The administration’s stance on monetary arrangements and financial sector issues was similarly orthodox and limited in its aims. Throughout its tenure, the administration staunchly supported adherence to the gold standard in the belief that

12 On Hoover’s belief that a balanced budget was a necessary foundation for economic confidence and that this, in turn, would promote economic recovery see Hoover (1953), p. 26, p. 32. On his belief that a budget imbalance would depress employment, see Ibid, p. 145.
defense of convertibility was, along with fiscal probity, essential as a foundation to the restoration of business and investor confidence. The defense of the gold standard, in turn, likely contributed to monetary contraction and thus runs directly opposite to what most modern economists would prescribe during a severe macroeconomic contraction.13

On banking sector policy, the administration moved only slowly and in limited ways to protect the capital and liquidity of the banking system. The interventions which the administration took to support the solvency of the banking system came only in response to unfolding events and a steady worsening of the banking situation as the administration learned adaptively (albeit slowly) in response to changing circumstances. Although Hoover and his administration recognized that banking failures would harm productive economic activity, the administration was not guided by a well-developed theoretical understanding of the extent and nature of the linkages between the health of the banking sector and that of the real economy and did not understand the urgency of preemptive action to prevent a collapse of the banking sector. Similarly, while Hoover at several points argued for the need for deeper structural reforms to address weaknesses in the banking system, he did not make such changes a policy priority. Finally, although Hoover strongly criticized various stock market practices which he saw as contributing to the onset of the depression, he opposed any direct role of the

federal government in regulating securities markets as unnecessary and unconstitutional (Hoover 1952; Seligman 2003, pp. 3-12).

Most generally Hoover and his administration were guided by the widespread contemporary belief, supported by prevailing economic theory, that the economy would be self-equilibrating without government intervention and that the productivity of the economy would be maximized as long as governments limited themselves to providing a stable foundation of law and order, basic infrastructure, and a sound currency. In the first two chapters of his monumental General Theory published in 1936, Keynes describes the central “postulates of classical economics” which he argues represent a special case of the general theory of economic equilibrium that he sets out to provide as a corrective to the misunderstandings of classical economics.14 These postulates, he argues, imply that “involuntary unemployment” (as opposed to “frictional” or “voluntary” unemployment) cannot exist, except to the extent of imperfections in competition. Related to this, he explains, is the assumption of classical economics first articulated in Say’s law that supply must create its own demand – that aggregate demand must equal aggregate supply for all levels output and unemployment.15 The implication of these

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14 Keynes (1964). He specifically includes Ricardo, Mills, Marshall, Pigou and Edgeworth among the “classical economists”.
15 *Ibid*, pp. 18-22. Keynes argues that this (incorrect) assumption is central to the major conclusions of classical economics: “Granted this, all the rest follows – the social advantages of private and national thrift, the traditional attitude toward the rate of interest, the classical theory of unemployment, the quantity theory of money, the unqualified advantages of *laissez-faire* in respect of foreign trade and much else which we have still to question” (p. 21).
assumptions was, of course, that no government action – fiscal or monetary – was necessary in response to an economic downturn as the economy would tend toward an equilibrium of full-employment without intervention. Indeed, such interventions would damage business confidence in the fiscal probity of the government and soundness of the currency and, therefore, would be counterproductive to the policy objective of restoring economic growth according to this cognitive framework.

As I discuss in greater detail in the previous chapter, contemporary beliefs were similarly influenced by shared historical understandings and theoretical arguments in classical economics that a money supply regulated by adherence to the gold standard and the real bills doctrine would be naturally in equilibrium with the needs of the economy. Historical experience, contemporaries believed, had taught that “fiat” paper money not convertible into gold (the assumed “natural” standard of value) was inherently inflationary as governments had no incentives to restrain the issue of such money. Classical theory taught, however, that a currency convertible into gold would retain a stable value and could not be artificially expanded beyond the natural needs of the economy.\(^{16}\) Similarly, the “real bills doctrine” first articulated by Adam Smith taught that banks should confine lending to short-term commercial transactions and that

\(^{16}\) Adam Smith saw the supply of money in a country with a paper currency convertible into gold and following the precepts of the real bills doctrine as endogenously determined by the needs of the economy, rather than as an exogenous variable determined by policy. See Laidler (1981). The amount of money required to support a given level of economic activity was fixed according to Smith. An excessive issue of currency would simply “overflow that natural channels of commerce”, with the holders of bank notes returning them to banks for conversion into specie. See Smith (1994), p. 319.
central banks should encourage such lending by only rediscounting short-term commercial paper— that is, they should only extend credit to banks that offered collateral in the form of the pledge of commercial paper. As long as commercial and central banks restrained their lending in this way, the theory taught that the supply of money would remain in natural equilibrium with the needs of trade and commerce and thus would not be inflationary. Following the real bills doctrine, the Federal Reserve Act of 1913 had restricted the Federal Reserve lending to the discounting of commercial paper. As I discuss below, these restrictions were questioned and

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17 Traditionally banks in England had borrowed from the Bank of England by pledging “bills of exchange” as collateral for the loans they received. Bills of exchange were essentially contracts by a buyer of some good to pay the supplier at a future date when funds became available. Banks would purchase such bills from their holders for a discount (hence the term “discounting”) providing the holder with liquidity, with the bank thereby assuming the repayment rights under the contract. “Commercial paper” is a broader term employed in the United States to refer to very short-term (typically 30 to 90 days) debt instruments issued by larger companies in the money market, typically on a “revolving” basis to meet short-term cash flow needs. The term “real bills doctrine” was applied by later economists to describe the theory articulated by Adam Smith. Smith does not employ the term.

18 Historically private banks in both England and the United States issued their own paper currency (bank notes) in the process of making loans to customers, with borrowers receiving bank notes when they took loans and with such notes accepted by third parties because they could be converted upon demand into specie by the issuing bank. Eventually central banks came to obtain a monopoly of note issue. Nineteenth and early twentieth century authors and policymakers typically did not recognize, as do contemporary economists, that the supply of money includes deposits also and not just currency and coin. Similarly, they did not distinguish clearly between the supply of money (deposits plus currency and coin) and credit (bank loans). See the previous chapter for detail of the U.S. history.

19 By “real bills” Smith meant bills of exchange based upon short-term commercial transactions involving the purchase of tangible goods or commodities in the process of trade or manufacture. As Smith argues, such loans would reflect the natural needs of commerce and would be “self-liquidating” once the underlying transaction was consummated. The doctrine explicitly excluded lending based on long-term transactions or transactions involving financial assets or real estates and was therefore believed to prevent the extension of “speculative” credit. As Meltzer (2003) explains, Thornton (1802) had pointed out that the real bills doctrine led to pro-cyclical lending that exaggerated the effects of the business cycle. His arguments were largely ignored by contemporaries.
eventually abandoned as policymakers adaptively reacted to the challenge posed by the Depression.

The belief in the self-equilibrating nature of the economy had its counterpart in specific understandings about the role of the financial sector in causing economic booms and contractions and the proper policy response to such events. The widespread understanding among policymakers, business and financial leaders, and many in the general public at this time was that the excessive expansion of credit led to “speculative” booms in business investment and in the price of assets such as real estate and stocks that, in turn, were naturally followed by collapses. The appropriate response of policy following a collapse was to allow such speculative excesses to correct themselves and to allow the price of assets fall – to allow “liquidation of values” in the terminology of the age – so that the value of assets would again reach their appropriate levels and the economy would once more be in equilibrium. Anticipated by the work of Henry George (1879), the academic discussion of these ideas was first developed by the Austrian economic school in the 1920s, in particular by the work of Ludwig von Mises (1924) and Friedrich von Hayek (1925).20 Mises and Hayek argued for a distinction between the natural and market rate of interest, arguing that the market rate of interest could be pushed below the economy’s “natural” rate of interest when the banking system was freed from the constraints of the gold standard, allowing excessive expansion of credit.

20 I follow the intellectual history and discussion offered by Eichengreen and Mitchener (2003), pp. 6-11.
When the market rate fell below the natural rate, prices would rise and investment
would boom, with unsound investments increasing as legitimate investment
opportunities were soon exhausted, sowing the seeds of eventual collapse. Attempts to
combat the ensuing collapse through the expansion of credit were misguided as such
policy would only postpone the inevitable and necessary correction of asset values.
These ideas were developed and applied by the British economist Lionnel Robbins
(1934) in his explanation of the origins of the Great Depression. Robbins blamed the
Depression ultimately on the loose monetary policy pursued by the Federal Reserve in
the 1920s in its efforts to support British reentry to the gold standard.

Similar, if less comprehensively articulated, views were held by many
contemporary policymakers. Meltzer (2003) argues that the view that speculative
excesses had to be wrung from the economy came to be held by policymakers at the
Federal Reserve and among many in general banking circles and were a primary reason
why Federal Reserve officials chose not to pursue aggressively expansionary monetary
policy in the early years of the crisis. Typical of these views was the commentary by
Paul Warburg in the American Banker magazine on January 30, 1931:

21 Meltzer (2003), pp. 277-282, pp. 161-165. He argues that an additional factor was adherence to what he
labels the Reiffler-Burgess doctrine. The Reiffler-Burgess doctrine was a monetary targeting framework
developed by two Federal Reserve economists, which led Federal Reserve officials in the 1930s to measure
the tightness or ease of monetary policy by reference to the level of borrowings by member banks from the
Federal Reserve and by nominal interest rates. The framework was consistent with the real bills doctrine in
that it assumed that prices would be stable if “productive” lending by banks was roughly equal to the rise in
industrial production. Meltzer argues that the doctrine caused policymakers to believe that monetary
conditions were in fact easy rather than stringent, given the failure of the doctrine to distinguish between
The way to avoid a depression (or lessen its severity and duration) is to ‘sit on the bulge’ during an excessive upward swing. Once acute over-expansion has taken place, acute overcontraction must follow with inexorable certainty22.

Meltzer (2003) cites comments on the policy views of central bankers by the highly influential contemporary economist Oliver M.W. Sprague, who explained that “all the responsible [sic] people connected with the great central banks of the world” believed in this.

The liquidationist views of Treasury Secretary Mellon have already been described. Despite placing distancing himself from the “leave it alone liquidationist” views of Mellon (Hoover 1952, p. 30-32), Hoover in fact held similar views about the necessity of a process of “liquidation of inflated values” as he makes clear elsewhere in his memoirs. At various points in his memoirs, Hoover makes explicit his understanding that a “liquidation” of “inflated” or “false values” was both inevitable and a necessary prerequisite for economic recovery (Hoover 1952, p. 20, p. 32, p. 41, p. 43). In keeping with the understandings of contemporary economic theory, he specifically did not have any explicit understanding of the need to use deliberate countercyclical fiscal or monetary policy to counteract the effects of the downturn.

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22 Quoted in Meltzer (2003), p. 278. Warburg was an influential New York banker who drafted a plan for the creation of a central bank in the United States that became known as the “Adrich Plan” after its sponsor Senator Nelson Aldrich. The plan played a major role in spurring the creation of the Federal Reserve. See chapter 4 for detail.
Rather, he makes clear that he saw his responsibility as ensuring an “orderly” process of (necessary) liquidation by maintaining confidence in the banking system and government and of taking ameliorative action (through limited public works and other actions) to reduce the suffering that would unavoidably accompany the process of liquidation (Hoover 1952, pp. 31-32, 42-57). Moreover, he makes clear that he saw primary policy tools for maintaining public confidence to be the bully pulpit of the presidency, encouragement of voluntary action such as voluntary agreements by businesses to maintain wages, and maintaining fiscal balance and faith in the currency – not large-scale countercyclical fiscal or monetary policy (Hoover 1952, pp. 32-36).

It is worth noting that the beliefs that I have just described differ in substantial respects from those held by many economists, financial market participants, and policymakers in the late twentieth century and early twentieth century. An important body of economic thought has contested the view that speculative “bubbles” in the price of assets such as real estate, stocks, or bonds can even exist. According to the influential “efficient markets hypothesis”, the market price of financial assets should essentially instantaneously reflect all publicly available information. Particularly where financial markets are deep and well-developed, such as in the United States, there will exist strong pressures to rapidly correct the prices of assets that are priced at “irrational” or “speculative” levels as such irrational prices will create arbitrage profit opportunities.

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23 See Brunnermeier (2008), Lo (2008), Bernanke (2002), for reviews of the arguments and literature.
which will rapidly bring the price of assets back to levels that correctly reflect the long-
term income generating potential of those assets.\textsuperscript{24} To the extent that stock or other asset
markets experience a rapid increase in value, such arguments suggest that the increase
in value must correctly reflect available information, not “irrational” behavior or
“speculation”. I shall argue in Chapter 6 that such beliefs, although not uncontested,
had important advocates in policy circles, such as Federal Reserve chairman Alan
Greenspan, and exercised important influence on debates regarding the liberalization of
U.S. financial markets in the 1980s and 1990s. Reflecting adaptive learning, the efficient
markets hypothesis, has come under renewed criticism in the wake of the 2008-2009
financial crisis from a variety of perspectives including behavioral economics.

A related but distinct set of questions concerns how to respond to an “asset
bubble” once the possibility of its existence is conceded. This includes the question of
whether the benefits of attempting to “pop” an incipient asset bubble outweigh the risks
of doing so; as well as the question of how to respond to a severe economic contraction
in the wake of the “popping” of an asset bubble or other shock. Contrary the
“liquidationist” prescription described above, most modern economists of course do not

\textsuperscript{24} Such arguments provide an intellectual justification for permitting short-selling, encouraging the
development of derivates markets, and the liberalization of domestic and international financial markets as
these should add to the efficiency of financial markets by providing market participants with greater
information and by enabling corrective arbitrage processes to work more rapidly. Since efficient financial
markets fully reflect available information, such steps to increase financial market efficiency assure that
financial resources will be allocated to their best possible uses to maximize economic output, with market
efficiency ensuring that the investment opportunities that yield the highest marginal (risk-adjusted)
financial return to investors also offer the highest marginal productivity for economic output.
favor simply letting the deflation of asset and other prices run its course, but rather recognize the possibility that the economy can be knocked off its equilibrium growth path by such shocks, and are prepared to support fiscal and/or monetary response to such shocks to restore the economy to its output potential. It is worth recalling the obvious point that such understandings were not fully developed until after the Depression by the work of Keynes and his successors, as part of the long-range adaptive learning that occurred in the wake of the Depression.

In addition to the belief that the economy would be naturally self-equilibrating, a second major way in which the cognitive frameworks of Hoover and his key advisors shaped their policy response was the very limited appreciation which it provided them regarding the connections between the health of the banking and financial sector and the health of the broader economy. Although Hoover and his key advisors clearly recognized that the financial crisis and the ensuing bank failures had negative effects, they lacked an appreciation of the potential severity of such effects for the real economy; understanding of the mechanisms by which banking system problems could be transmitted to the real economy; or understanding of the potential policy responses that might have contained such effects. As Hoover makes clear in his memoirs, he saw his chief responsibility as maintaining “confidence” in the banking system through public pronouncements and fiscal rectitude, rather than an active government role to maintain
the solvency and liquidity of financial institutions through, for example, capital
injections, liquidity support, or guarantees of bank liabilities.

The prevalence of belief in Say’s law and the self-equilibrating nature of the
economy had its counterpart in how policymakers understood the consequences of and
proper response to shocks to the banking system. Hoover and his administration appear
to have believed that the banking system would resume the supply of credit as soon as a
process of “liquidation” occurred in which bad loans were written down, asset prices
declined, and “speculative” excesses were purged from the financial system. It was not
until later, beginning with the seminal contribution of Fisher (1933), that clear theoretical
arguments began to emerge explaining the channels by which banking sector weakness
could harm the real economy through effects upon both the money supply and on credit
intermediation. Such new theoretical understandings pointed to the urgency of
government action to stabilize the financial system in order to prevent wider effects on
the real economy; with Hoover and his advisors lacking a set of causal understandings
that would have enabled them to perceive this urgency. At a practical level, Hoover and

25 Important twentieth century theoretical contributions to understanding the channels by which banking
sector weaknesses could be propagated through the real economy include Fisher’s debt deflation theory of
depressions (1933); the arguments of Keynes (1936) that the decline in interest rates following a decline in
real economic activity need not automatically lead to a corresponding increase in new investment activity
that will stimulate demand and return the economy to equilibrium; the arguments of Schwartz and
Freidman (1963) linking the collapse of the banking system to a collapse in the money supply with
corresponding real economic effects; Hyman Minsky’s (1975, 1986) financial instability hypothesis; and the
work of Bernanke (1983, 1995) on financial system weakness as a mechanism by which the Depression was propagated.
his administration had few historical models of concerted government action to stabilize a declining financial system to draw upon in responding to the crisis.26

Reflecting the limited understanding of the consequences of financial sector weakness for the broader economy afforded by prevailing theoretical understandings, Hoover offered only piecemeal and gradual efforts to stabilize the banking system and did not make a serious effort to press for major banking regulatory reform (see Burns (1973) and Kennedy (1973) for greater detail on these initial efforts). Hoover’s initial response was use his office to organize a voluntary response by larger private banks, with Hoover announcing in October 1931 that a number of major banks had agreed to form the National Credit Corporation (NCC), an association of banks that would offer liquidity support to one another to maintain confidence in the banking system. This effort proved largely ineffective, as the participating banks became increasingly reluctant to lend to one another as confidence in the health of the banking system declined and as the NCC lacked any means of compulsion or monitoring. Under the urging of Eugene Meyer, Governor of the Federal Reserve Board, Hoover changed course and pushed legislation authorizing the creation of the public Reconstruction Finance Corporation (RFC), with such legislation approved in January 1932. The RFC was formed with capital contributed by the U.S. Treasury (with authority to borrow

26 Such historical models as did exist were mostly voluntarist models such as the (sometimes unsuccessful) efforts of bank clearinghouses to support their members and prevent the widening of financial crises in the late nineteenth and early twentieth century (Shull 2005).
additional funds from the Treasury), and was given the power to make loans to troubled banks and directly to corporations in an effort to maintain liquidity and confidence in the banking system. This scale of lending by the RFC was not sufficient to counteract the rapid decline in banking system credit and the RFC did not have tools to address concerns regarding the solvency of banks that led to deposit runs and which were key to restoring confidence in the banking system. The Glass Steagall Act of 1932 (not to be confused with the completely different Glass Steagall Act of 1933 that I discuss below) broadened eligible collateral for discount borrowing from the Federal Reserve to include government securities for the first time, temporarily overriding the restrictions in the accordance with the real bills doctrine. This too proved ineffective, however, in restoring confidence or containing damage to the banking and financial system.

Similarly, Hoover never undertook a serious effort to press for major banking regulatory reform, despite criticizing at various points the “speculative” excesses that he believed had contributed to the crisis and providing lip service to the need for reform (Kennedy 1973). Senator Carter Glass (D-VA), the principal legislative architect of the Federal Reserve Act of 1913 and the Democratic Party’s most prominent voice on financial policy issues, drafted legislation similar to what later became the Banking Act of 1933. Glass’s efforts, however, received no support or encouragement from the Hoover administration and faltered in the absence of Republican legislative support and
the opposition of key Democrats (including a filibuster by Senator Huey Long, D-LA) who tried to extract special gains or opposed specific provisions.

The continuing unfolding of events, however, increased the pressure on political leaders to seek solutions to a problem that was becoming worse rather than better and which threatened the realization of all other policy objectives. Real economic activity continued to plunge, with GDP declining rapidly and unemployment rising. While withstanding the initial impact of the stock market collapse, the banking system became progressively weaker, with the failure of increasing numbers of banks triggering a wave of state bank “holidays” over the course of 1932 and 1933, and threatening a general banking system collapse that increasingly made clear to policymakers the need to take more decisive measures to stabilize the banking system. Public anger towards “Wall Street” was further inflamed and policymakers’ focus on problems with existing financial regulation was heightened when the Senate Committee on Banking and Currency began hearings into the causes of the 1929 stock market crash in April 1932. After dragging on with little result for almost a year, the hearings quickly became the most widely-followed news story in the nation after the charismatic Ferdinand Pecora took over as the chief counsel for the hearings, calling prominent bankers and small investors who lost life fortunes before the committee for dramatic cross-examinations that vividly illustrated the freewheeling nature of the securities industry and the dangers of “speculation” (Geisst 2004; Seligman 2003; Kennedy 1973). Although the
hearings had their most direct impact upon the debate regarding new regulation of the securities markets, the hearings also helped to focus public and policymaker attention on the connections between banks and securities firms helping to create the impression among many that such connections were a key cause of the growth of “speculation” and the resulting financial crisis. The worsening economic situation, the rapidly spiraling collapse of the banking system, and the media spectacle of the Pecora hearings set the background to the inauguration of President Roosevelt on March 4, 1933.

5.1.3 Initial responses by the Roosevelt Administration

Roosevelt faced a qualitatively worse situation upon assuming office than Hoover had faced during most of his presidency and responded more decisively. Although the candidates devoted relatively little explicit attention to financial sector issues during the 1932 presidential election, Roosevelt was clearly aware of the gravity of the situation and was prepared to experiment with unconventional approaches to find solutions to financial and economic crisis that would obviously be central to the fate of his presidency.\(^{27}\) Roosevelt quickly assembled a core of advisors during the campaign to prepare proposals for addressing the crisis, most famously the “Brains Trust” of Colombia University Professors Raymond Moley, Rexford G. Tugwell, and Adolph A. Berle, Jr.. Tugwell and others circulated plans calling for more radical means of

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\(^{27}\) Leuchtenburg (1963); Kennedy (1973). Kennedy (1973) cites Roosevelt administration officials, arguing that there was a tacit understanding between the Hoover and Roosevelt campaigns to limit explicit discussion of financial sector issues in order to avoid inflaming public opinion or provoking a wider panic.
stemming the financial crisis, with Tugwell arguing for the need for a nationalization of the banking system (Kennedy 1973; Philipps 1995). In parallel with these proposals, other Roosevelt advisors under long-time Roosevelt friend and Treasury Secretary designate and in cooperation with officials from the Hoover Treasury who stayed on to help with the transition began work on the details emergency measures to address the immediate banking crisis (Kenney 1973; Meltzer 2003). Roosevelt ultimately chose to follow these less radical proposals which were to form the basis of his first actions as President.

Roosevelt’s first actions upon assuming the Presidency were aimed at stemming the collapse of the banking system and restoring public confidence in the financial system. Roosevelt was sworn into office on Saturday March 4, 1933 and, under the dubious legal color of the World War I era Trading With the Enemy Act, declared a national bank “holiday” halting all commercial banking activity on a nationwide basis effective beginning in the predawn hours of Monday March 6, 1933, with the measure designed to stem the hemorrhaging of deposits from the banking system. Roosevelt called Congress into emergency session beginning March 9, with the joint session of Congress immediately considering emergency banking legislation drafted by the Administration. That same day, after limited debate in which only one physical copy of the administration’s proposal was circulated among top Congressional leaders and a rolled up newspaper symbolically represented the proposed legislation during floor
debate, Congress passed the Emergency Banking Act which provided authority and a basic mechanism for the seizure and liquidation of insolvent banks; for the reopening of banks deemed to be solvent; and authorized the Federal Reserve banks to convert any U.S. government debt obligation into cash (Kennedy 1973; Meltzer 2003; Freidman and Schwartz 1963).28 The government began reopening banks in waves beginning on March 13, with substantial net deposit inflows from the public signaling that the measures had restored confidence in the banking system. Presidential advisor Moley was later to argue that the administration’s actions had “saved capitalism in eight days”.

In addition to providing tools to address the immediate banking crisis, the Emergency Banking Act took a significant step towards removing the U.S. from the gold standard, authorizing the President to exercise emergency control over all foreign exchange transactions and authorizing the Treasury Secretary to require (as Morgenthau immediately did) that all gold held by private persons or entities (except that in jewelry or rare coins) be delivered to the U.S. Treasury immediately for conversion into U.S. currency or coin. This was followed by executive orders in April requiring the conversion of gold coin in denominations greater than $100 into currency; a joint congressional resolution in June abrogating the gold clause in all private contracts29; and in 1934 by the devaluation of the dollar from $20.67 to $35 per ounce of gold. Effectively

28 In parallel, the Federal Reserve committed to provide unlimited supplies of currency to banks that reopened under the terms of the Emergency Banking Act in order to meet potential depositor withdrawals.
29 The gold clause was a standard clause in many private contracts of various types which enabled creditors to require that debtors repay debts in gold rather than currency at the election of the creditor.
these steps removed the U.S. from the gold standard, freeing monetary policy from the constraint of defending an overvalued gold exchange rate.

5.2 Structural Reform of Bank Regulation

Following the initial steps which it took immediately after the inauguration to stem the banking crisis described above, the Roosevelt administration pushed through the most important structural reforms in banking regulation since the creation of the Federal Reserve in 1913. These included the Banking Act of 1933 (commonly known today as the Glass-Steagall Act\(^\text{30}\)) and the Banking Act of 1935. The less important Bank Holding Company Act of 1956, passed under the Eisenhower Administration, closed certain loopholes, serving as a capstone to the regulatory structure created by the 1933 and 1935 acts. Together, these acts established the main elements of the regulatory framework within which American banks operated through the 1990s and greatly strengthened the institutional coherence and powers of the Federal Reserve.

Close examination of the process leading to these regulatory changes highlights several points of relevance to the theoretical framework that I have offered in the proceeding chapters. First, these major financial regulatory reforms advanced because the political executive became attentive to financial sector regulatory policy and made financial regulatory change a policy priority. Moreover, the political executive made financial regulatory reform a policy priority not because it was responding to the

\(^{30}\) Not to be confused with the less significant Glass-Steagall Act of 1932 discussed above.
specific pressures of societal interest groups for regulatory reform (e.g., bankers, business leaders, labor leaders, or farmers), but because it saw financial regulatory reform as essential to a durable economic recovery and as fundamental to the success of its broader policy agenda. Second, the cognitive frameworks of the political executive and of the key policymakers with responsibility for financial sector policy clearly shaped their understanding of the nature of the problems that they confronted and of the effects and feasibility of different regulatory policy choices. The regulatory policy debates which occurred were driven as much by differences in the cognitive frameworks of different policy leaders as they were by differences in the objective interests of the participants. Moreover, these policymakers clearly learned adaptively and updated their cognitive frameworks, even if gradually and incompletely, in the face of unfolding events. Third, although important members of the financial community and organizations representing the financial sector sought to influence the policy process, their effect upon the ultimate policy outcome was more marginal than the “demand-driven” or “regulatory capture” understandings of the policy process that I have described in previous chapters would lead us to expect. The limited influence of the financial sector in this case reflected both the importance which the political executive attached to financial sector regulatory reform under the circumstances of the Depression, which made it willing to confront a powerful interest group, as well as divisions of opinion among financial sector participants themselves, which illustrate the
complexity and contingency of financial sector policy preferences that I discuss in the first chapter. To the extent that financial sector participants did exert influence over the regulatory policy outcome, it was by the ability to press for amendment and revision of regulatory policy proposals through the control of “veto points” in the legislature, rather than by the ability to set or control the reform agenda.

5.2.1 The Banking Act of 1933: Adaptive Learning and the Perceived Need to Repair Banking Sector Weaknesses

The Roosevelt administration had successfully arrested the banking crisis and restored a level of confidence in the financial system by its bold action in declaring the national bank holiday and passing the Emergency Banking Act. These emergency measures left open, however, the issue of structural reform to address the causes of the catastrophic banking crises.

Roosevelt came to office prepared to take vigorous action to restore the economy and clearly saw reform of the financial system as essential component of a lasting economic recovery, although he had made only limited and very general comments about the specific content of the financial system reforms that he sought during the campaign and in private correspondence prior to his election. A wide range of proposals for reform were debated in congress and the public during the term of Hoover’s presidency, including most importantly the unsuccessful legislative proposals by Glass in the Senate and Steagall in the House. Public anger at bankers and Wall Street intensified as the crisis progressed, and the accelerating waves of statewide bank
closures over the period October 1932 to March 1933 and the revelations of the Pecora Committee hearings in early 1933 added urgency to the perceived need for reform.

Senator Glass reintroduced his bank reform bill on March 9, the same date that the Congress Passed the Emergency Banking Act. In mid-March the President called a conference at the White house attended by Glass and senior officials of the Treasury and Federal Reserve after which it was announced that the decision had been made that “that the Glass bill would be “made the immediate vehicle for a portion of the permanent banking reform”, with the longer-run objective “to get a permanently united and coherent banking system through the Federal Reserve system”.

Over the next six weeks the White House hosted extensive consultations with congressional leaders, with Senator Glass introducing a revised version of his bill on May 10, which the Senate Banking and Currency Committee reported to the full senate on May 15, while Representative Steagall introduced a similar bill in the House on May 17. Despite vigorous debates and conflicts that briefly appeared to derail hopes for reform, the legislation moved quickly through congress. The Steagall bill passed the House by a vote of 262 to 19 on May 23 and legislation passed the Senate by voice vote on May 25, with both houses approving the conference report on June 13 after intense negotiations.

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31 Kennedy (1973), pg. 204. Colombia University Professor Parker Willis, who had played an integral role in helping Glass to draft the legislation that became the Federal Reserve Act of 1913, joined Glass once again to assist in the drafting of the new legislation. 32 See Burns (1974), pg. 80. 33 Burns (1974) pp. 79-80, Kennedy (1973), pg. 219.
over the deposit insurance provisions of the bill. Despite a last ditch push by the American Bankers Association for a veto, the President signed the Banking Act of 1933 into law on March 16. While banking reform failed to progress over a three year period under the indifference of the Hoover administration, sweeping banking regulatory reform was pushed through congress in three months by a large vote margin when the political executive under Roosevelt made it a policy priority.

The debates and conflicts surrounding the passage of the legislation reveal both the positions of specific interest groups as well as the broader cognitive frameworks within which different policymakers understood the causes of the banking crisis and the effects of potential regulatory changes. The cognitive frameworks of key policymakers, moreover, show the influence of both longer term policy debates, as well as evidence of adaptive learning in the face of the crisis. We can most easily follow these debates by considering the major components of the legislation in turn, including those elements that did not make it into the final act. These components can be grouped into several areas, including unsuccessful attempts to change the structure of the banking system; measures to prevent banks from engaging in “speculative” activities; other steps to strengthen banking regulation and limit the risks that banks could take; steps to

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34 Kennedy (1973), pg. 219, pg. 221.
strengthen the power of the Federal Reserve Board; and the introduction of deposit insurance. The major provisions of the final act are summarized below in Table 5.3.1.

Table 1: Major Provisions of the Banking Act of 1933

- Modified 1927 McFadden Act restrictions slightly, allowing national banks to branch within states to same extent as state banks.
- Prohibited commercial banks from affiliations with securities firms or from underwriting securities and prohibited securities firms from accepting time or demand deposits.
- Prohibited banks from paying interest on demand deposits; authorized the Federal Reserve to set ceilings on interest rates on time and savings deposits.
- Created the Federal Open Market Committee (FOMC) of the Federal Reserve and required individual Reserve Banks to follow Board Regulations on open market operations.
- Created the Federal Deposit Insurance Corporation (FDIC) and introduced deposit insurance for the first time at the national level.

Glass proposed two measures that would have dramatically changed the structure of the banking system, including unification of the banking system under federal regulation by requiring all banks to become members of the Federal Reserve System and the abolishment of most restrictions on the ability of federally chartered banks to extend their branch networks. Both measures were supported by the

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36 Banks then and now can be chartered either under state law as “state” banks or under federal law as “national” banks, under the 1865 Banking Act. State banks can choose to be members of the Federal Reserve system but are not compelled to do so, while this is compulsory for national banks. The McFadden Act of 1927 had effectively confirmed existing restrictions in state law and Supreme Court interpretations of the 1865 Banking Act by allowing national banks to branch only the city in which they were incorporated and
Treasury, by leaders of the Federal Reserve, and by representatives of large banks, but failed against vigorous opposition from state banking interests and their supporters in congress.

The push for unification of the banking system under the control of the Federal Reserve was driven by the belief of Glass and others that state banks were frequently poorly regulated and a significant source of weakness in the banking system. As Kennedy (1973, p. 205) notes, 82 percent of bank failures during the 1920s occurred in small, state-licensed banks, and the opinion was widespread that state banks were poorly regulated and supervised. Governor of the Federal Reserve Eugene Meyer had testified in March 1932 in hearings before the Senate Banking and Currency on the earlier Glass banking reform proposal that “effective supervision of banking in this country has been seriously affected by competition between member and nonmember banks [of the Federal Reserve System]” and that “competition between State and national banking systems had resulted in weakening both steadily.”37 Similar arguments were offered by Walter Wyatt, counsel to the Federal Reserve Board, in a report submitted to the committee in December 1932 but publicly released in March 1933. Wyatt argued that “[t]he problem, is how to achieve uniformity of corporate

only up to the extent permitted by state law, with many states with “unit bank” limiting banks to a single branch. See the previous chapter for more detailed on these provisions and on the structure of the Federal Reserve system prior to the Depression.

37 Quoted in Kennedy (1973), pg. 205. Under the Banking Act of 1933 the title of “Governor” was changed to “Chairman”.

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powers, regulation and supervision with respect to banks engaged in the commercial banking business and to provide for their safe and effective operation, by eliminating the existing competition between the Federal Government and the 48 states for the privilege of granting charters to banks transacting that type of business.”

Unification was supported by Treasury Secretary Woodin, and endorsed by the American Bankers Association and by the Magazine of Wall Street in April 1933, and supported by the New York State Banking Board which sent a resolution Congress favoring compulsory Federal Reserve membership. Various state bank associations, however, voiced strong opposition to unification, fearing that their predominantly small bank members would be disadvantaged by federal regulation and supervision, with state bank commissioners and officials of fourteen Midwestern banking associations issuing a joint resolution on April 22, 1933 calling for “recognition of the right of the states to maintain their own banking systems.” Unification was dropped from the legislation.

Glass also originally proposed that national banks be allowed to establish statewide branches regardless of the provisions of state law and to extend branches fifty miles into adjacent states that comprised an “area of trade”. Comptroller of the Currency John W. Pole had lobbied for trade area banking for several years.

Supporters argued that branching allowed greater diversification and scale that would

38 Quoted in Ibid, pg. 206.
39 Ibid, pp. 206-207; Burns (1974), pg. 82, pg. 84.
40 Burns (1974), pp. 82-83.
41 Kennedy (1973), pp. 51-52.
prevent the frequent failures of small geographically concentrated state banks. In an editorial of March 12, 1933, the New York Times pointed out that Canada, which had only ten banks but permitted nationwide bank branching, had never experienced a bank failure, whereas most of the bank failures in the United States over the past decade had occurred among small banks with limited branches and capital. Glass reported that he himself had come only reluctantly to the conclusion that bank branching was necessary, given his personal concern for the “little bank”, but that he had become convinced “of the menace they [small banks] are to sound banking and the curse to their depositors”.

The proposal attracted vigorous opposition from state banks and their defenders in Congress, particularly those from the West and South where small unit banks predominated. Senator Peter Norbeck of South Dakota, who had headed the Senate Banking and Currency Committee before the election had firmly opposed similar earlier such proposals by Glass, while Senator Huey Long of Luisiana had led a filibuster against an earlier version of the Glass bill in when it was brought before the Senate in January 1933, largely on the basis of his opposition to the branch banking provisions. In the face of renewed opposition and the threat of a contrary amendment by Senator Vandenburg of Michigan, Glass backed down and modified these sections of the bill. The final legislation reflected only slight changes from the provisions of the McFadden

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42 Cited in Ibid, pg. 207.
43 Quoted in Ibid, pg. 207.
44 Ibid, pg. 52, pg. 73,
Act of 1927, which had permitted branching by national banks within their home city to the extent permitted by state law, with the Banking Act permitting national banks to operate branches on a citywide or statewide basis depending upon the limitations of state law. In addition, national banks that sought to branch outside of their home city were subject to higher minimum total capital requirements.

The Glass bill also included provisions designed to prevent the participation by banks in “speculative” activities. These included the provision in the final draft of the bill that commercial banking and investment banking activities could not be combined in the same or related companies. The provision imposed a one year deadline upon bankers to choose between these activities. Commercial banks were prohibited from underwriting securities of any kind, and were restricted to dealing in bonds only to fulfill orders for customers’ accounts; while firms that underwrote securities were forbidden to accept demand or time deposits. The law prohibited interlocking directorates or correspondent relationships between such firms. In addition to the separation of commercial and investment banking activities, the legislation gave authority to the Federal Reserve Board to limit loans secured by stock or bond collateral as a percentage of banks’ capital. The Securities Act of 1934 extended these powers by

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46 Ibid, pg. 211, pg. 213.
giving the Federal Reserve Board the authority to establish margin requirements on the 
extension of loans collateralized by stock by securities firms.47

Glass regarded these provisions limiting banks participation in “speculative” 
activities as the central and most important feature of the legislation.48 These provisions 
reflect the tenants of a cognitive framework shared by many contemporaries that I 
describe above. Excessive extension of credit for “speculative” activities was held to be 
a primary cause behind the cycles of market boom and crash that had occurred many 
times before. Moreover, the real bills doctrine taught that that banks should extend 
credit only on the basis of “real bills” – lending to finance short-term commercial activity 
involving tangible goods – as this would ensure a balance between the supply of credit 
and the true needs of trade and commerce.49 Lending collateralized by stocks and bonds 
or by real estate was a violation of these principles and would lead to inflationary 
imbalance. As Melzter (2003) notes more generally:

Much of the period’s [the 1930s] legislation reflected the judgments reached by 
the authors of the new legislation, often shared by much of society at the time, 
that speculation was responsible for financial collapse and the Great Depression. 
Taken as a whole or separately, much of the new financial legislation sought to 
prevent or limit speculation in common stocks, restrict banks from financing 
securities, and centralize authority for the conduct of monetary policy.50

49 Glass and his principal advisor principal advisor professor Parker Willis were firm supporters of the real 
bill doctrine. See Meltzer (2003), pg. 429. As the principal author of the 1913 Federal Reserve Act, Glass had 
ensured that the Federal Reserve was only allowed to discount commercial paper in accordance with the 
tenants of the real bills doctrine.
50 Meltzer (2003), pg. 217.
Moreover, these provisions against speculative activities clearly reflected adaptive learning that the existing regulatory status quo had failed to prevent such dangerous speculative activity and that corrective legislation was necessary.

Prominent bankers and organizations representing the large banks and Wall Street firms had firmly opposed earlier efforts by Glass to separate investment banking and commercial banking affiliates and to limit lending for stock market purchases. Prominent bankers and organizations representing the large banks and Wall Street firms had firmly opposed earlier efforts by Glass to separate investment banking and commercial banking affiliates and to limit lending for stock market purchases.51

The political climate changed dramatically by March 1933, undermining resistance to the reforms. The rapid succession of statewide bank failures in early 1933 generated widespread fear and anger at bankers generally, while the widely-followed Pecora hearings exposed manipulative securities dealings by banks and egregious abuses of small investors.52 Roosevelt had supported his party’s platform position in favor of the separation of investment banking on the campaign trail53, and used his inaugural address to thunder against bankers, declaring that “[t]he money changers have fled from their high seats in the temple of our civilization.” Recognizing the changing political climate, in the new Chairman of Chase National Bank Winthrop W. Aldrich, issued a statement in March 1933 stating that “the spirit of speculation should be eradicated from the management of commercial banks” and taking the position that “commercial banks

51 Kennedy (1973), pg. 72.
52 See Geisst (2004).
53 Kennedy (1973), pg. 59. This plank in the party platform had been advocated and authored by Carter Glass.
should not be permitted to underwrite securities, except securities of the United States Government and of the states, territories, municipalities, and certain other public bodies in the United States.”54 This was followed by the announcement that his bank would immediately separate from its securities affiliate, with a similar announcement by the giant National City bank under its new president James Perkins.55 Aldrich subsequently met with President Roosevelt to discuss permanent banking sector reform along these lines, while other banks sent letters to the President indicating that they intended to follow the lead of Chase to abolish their securities affiliates.56 Although a number of large banks including the First Boston Corporation continued to lobby against the changes, opposition to the changes largely crumbled.57 Smaller state banks and their congressional allies had few reasons to leap to the defense of the large banks and Glass’s proposals met little resistance in Congress after March 1933.58

Glass proposed other measures to increase the bank regulatory powers of the Federal Reserve which advanced with little opposition and were incorporated into the final bill. The most significant of these was a prohibition on banks paying interest on

54 Quoted in Burns (1974), pp. 84-85. Aldrich was the son of Senator Nelson Aldrich, author of the Aldrich-Vreeland Act of 1908 (see previous chapter). Aldrich had been brought in to replace the previous chairman Albert H. Wiggen, who stepped down after embarrassing revelations regarding his bank’s securities business during the Pecora Committee Hearings.
55 Ibid. Charles E. Mitchell, the bank’s previous president who had led the push by commercial banks into the securities business in the 1920s, was a central target of the Pecora Hearings and was forced to step down. National City Bank was the precursor to the contemporary Citigroup. See Geisst (2004).
56 See Kennedy (1973), pg. 213
57 Burns (1974), pg. 85.
58 Kennedy (1973), pg. 213.
demand deposits and allowing the Federal Reserve Board to set ceilings on time and savings deposits.\(^5\) This was a reaction to perceptions that the crisis had forced banks to raise interest rates in competition with one another to try to stem the outflow of deposits, which Glass and other contemporaries believed had weakened the banking system.\(^6\) As I discuss in the following chapter, these restrictions on bank deposits came under challenge as part of the deregulatory push that began in the 1970s and were lifted by the Depository Institutions Deregulation and Monetary Control Act of 1980.\(^7\) Other regulatory changes proposed by Glass and included in the 1933 act were increases in the total minimum capital requirements for banks; authority for the Federal Reserve Board to remove bank officers and directors from their positions if they operated their banks in an unsound manner; and regulatory authority by the Federal Reserve Board over bank holding companies.\(^8\)

A further set of proposals by Glass, incorporated into the final act, were meant to address problems that Glass and others had come to perceive with the ability of the Federal Reserve to act cohesively and competently on monetary policy questions. As discussed above, Glass and others saw the Federal Reserve as playing a significant role in causing the depression by following expansionary monetary policies during the 1920s.

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\(^5\) Schull (2005), pg. 106.
\(^6\) Kennedy (1973), pg. 211.
\(^7\) Schull (2005), pg. 146.
\(^8\) Kennedy (2005), pg. 209; Schull (2005), pg. 106. The definition of a bank holding company under the act inadvertently omitted one-bank holding companies, allowing some banks to evade supervision by the Federal Reserve. This loophole was closed by the 1956 Bank Holding Company Act.
which contributed to the growth of “speculative” lending. A related criticism was that the Federal Reserve had failed to check the growing practice of banks making “call” loans to brokers\(^6^3\) – an extension of credit which directly violated the tenants of the real bill doctrine since it entailed banks making loans secured by “unreal bills” (i.e., secured by the pledge of securities held in brokerage accounts).\(^6^4\) The Federal Reserve Bank of New York (FRBNY) in particular was seen as wielding undue influence and as representing “Wall Street” interests at the expense of the national interest as evidenced by its actions during the 1920s that I describe above. The Federal Reserve Board was seen as weak and ineffectual, both in its failures leading up to the crisis and its paralysis after the crisis, with Glass believing that the Federal Reserve Board had been dominated by the Treasury and by the FRBNY.\(^6^5\)

As I discussed in the previous chapter, the 1913 Federal Reserve Act had created a decentralized structure under which the twelve Federal Reserve Banks could operate relatively independently of the central Board. This reflected Glass’s belief, as the

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\(^6^3\) Brokers used call loans to finance loans that they in turn made to their own customers to enable them to purchase securities “on margin.” Customers who purchased securities on margin paid a fraction of the cost of the security and borrowed the rest of the cost from their broker, pledging the security that they purchased as collateral to the broker for this loan. The broker, in turn, pledged the underlying securities held in such customer margin accounts to the bank to secure the call loan in a process called “rehypothecation”. Call loans could be “called” at any time by the bank as could margin loans to customers. During the stock market crash banks frequently called their loans to brokers who in turn called their loans to customers, who were forced to sell securities at falling prices to raise cash to repay such margin loans. Contemporaries saw margin the “speculative” purchase of securities “on margin:” as a significant cause of the stock market rise and collapse, although Meltzer (2003), pg. 417, cites econometric research suggesting that margin rates (the percentage downpayment required) do not significantly affect either stock prices or trading activity.

\(^6^4\) See Meltzer (2003), pg. 417.

principal author of the Federal Reserve Act, that the supply of currency66 should be “scientifically” regulated according to the real bills doctrine and should not be subject to the control of either the federal government (which he believed would be inflationary) or of Wall Street banks (a fear shared by many in the Democratic party). Glass had accordingly proposed a decentralized system of twelve Reserve Banks, owned and operated by member banks, and had only grudgingly accepted creation of a relatively weak Board.67 Under the act, each of the twelve Federal Reserve Banks could set its own discount rate68, subject to the vaguely-defined “review and determination” of the Federal Reserve Board.69 Conflicts over policy between the Board and individual

66 The focus was upon the supply of paper currency rather than money, reflecting the fact that contemporaries typically failed to recognize that the stock of money included both deposits and currency.
67 Glass followed the model of Bank of England, which was owned by private bankers at the time. He believed that bankers had the requisite professional knowledge to ensure that the currency was scientifically managed. See Hoffman (2001), pp. 120-127. Under the original Federal Reserve Act, the Federal Reserve Board consisted of seven members, five of whom were appointed by the President of the United States with the consent of the Senate to staggered ten year terms, with the Act requiring “due regard to a fair representation of the different commercial, industrial, and geographical divisions of the country.” In addition to the Board members appointed by the President, the Secretary of the Treasury and the Comptroller of the Currency also served as ex officio members. Although the Board had a Governor, selected from among the five members appointed by the President, in practice, the Treasury Secretary effectively outranked the Governor of the Board and reflected administration policy preferences in Board deliberations. The capital stock of each of the twelve Federal Reserve Banks was owned by the member commercial banks in its district, with member banks electing six of the nine members of the board of directors of each such Federal Reserve Bank (three of which were required to be bankers and three of which were required to be businessmen, with the other three board members public members selected by the Federal Reserve Board). The Chairman of the board of directors of each Federal Reserve Bank were chosen by the Federal Reserve Board, while the board also elected the top officer of the bank, designated as the “Governor” of the bank. In practice, the Governors became the chief executive officers of the respective Reserve Banks, with the Chairmen, originally intended as the agents of the Board, declining in significance. See Shull (2005), pp. 48-53.
68 The discount rate refers to the rate at which commercial banks could borrow from the Federal Reserve by pledging (“discounting”) eligible securities as collateral.
69 Shull (2005), pg. 54. In accordance with the real bills doctrine, Federal Reserve Banks could only discount short-term commercial paper. Commercial paper included short-term promissory notes arising out of
Reserve Banks and among Reserve Banks were common during the first two decades of
the System and discount rates of different Reserve Banks were at times at variance with
one another. Moreover, individual Reserve Banks had the authority to engage in open
market operations\textsuperscript{70} at their own discretion within general rules prescribed by the
Board.\textsuperscript{71} In practice, the New York Federal Reserve took effective leadership of such
operations by virtue of its larger balance sheet and its location in the nation’s financial
capital.\textsuperscript{72}

In response to the perceived failures of the Federal Reserve described above, the
Glass bill increased the power of the Board and removed the discretion of individual
Reserve Banks over open market purchases, by stating that individual Reserve Banks

\textsuperscript{70} Open market operations refer to the purchase or sale of securities by the Federal Reserve. Such actions
directly increase or decrease the reserves of banks, affecting their ability to extend credit under the fractional
reserve banking system.

\textsuperscript{71} Shull (2005), pg. 54. See Section 14 of The Federal Reserve Act of December 23, 1913, pp. 2455-2456, in
Kroos (1969). At the time of the passage of the Federal Reserve Act in 1913, open market operations were
\textit{not} understood as a tool to affect general economic conditions, such as the price level or economic output.
Rather, the authority to undertake open market operations was seen as a technical necessity in order to
promote the development of a market for bills of exchange and bankers’ acceptances, which the founders of
the Federal Reserve saw as important to the goal of creating an “elastic currency” that would enable the
Federal Reserve to smooth seasonal fluctuations in interest rates by extending or withdrawing credit to the
banking system by rediscounting such commercial paper in accordance with the prescriptions of the real

\textsuperscript{72} Shull (2005), pg. 54. See Section 8 of The Banking Act, June 16, 1933, pp. 2732-2733, in Kroos (1969). The
open market operations of the different reserve banks had been (imperfectly) coordinated in the 1920s by
the non-statutory Open Market Investment Committee (OMIC), which was replaced by the similarly non-
statutory Open Market Policy Committee in 1930. Both committees had been dominated by the Federal
could not conduct open market operations except in accordance with regulations approved by the Board, but provided that individual Reserve Banks could refrain from joining an open market operation with which they disagreed.  Authority over the execution of open market operations, subject to the regulations prescribed by the Board, was now vested in the new statutory Federal Open Market Committee (FOMC) composed of twelve members, including one representative selected annually by each of the Reserve Banks. The FOMC, however, subsequently voted to sustain its existing executive committee with the representative of the Federal Reserve Bank of New York acting as chairman. Glass also proposed removing the Secretary of the Treasury from the Board to curb what he regarded as undue influence by the Treasury, but backed down in the face of strong opposition by Treasury Secretary Woodin. In terms of the argument that I present, these measures represented adaptive learning by Glass and others that the existing regulatory status quo had failed in certain respects and required repair. In particular, they went against Glass’s earlier opposition to the creation of a Board in debates with President Wilson and his Secretary of State William Jennings

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74 Schull (2005), pp. 106-107. See Section 8 of The Banking Act, June 16, 1933, pp. 2732-2733, in Kroos (1979). As Schull, pg. 107, notes, “[t]his was the first legislation in which Congress acknowledged the Federal Reserve’s use of open market operations as an instrument of policy.” The Federal Reserve had only gradually “discovered” during the early 1920s how to use coordinated open market interventions as a monetary policy tool to affect the money market and general credit markets, although there was still not a fully-developed understanding of the role of monetary policy in affecting general economic conditions. Thus open market operations came to represent an additional policy tool for the Federal Reserve in addition to that provided by its ability to alter the discount rate. Ibid, pp. 88-93.
Bryan which I discuss in the previous chapter. These measures to strengthen the board were, however, far less sweeping than the changes introduced by the Banking Act of 1935 as discussed below.

The final and most controversial major component of the 1933 act was the introduction of deposit insurance. Roosevelt was strongly opposed to the introduction of deposit insurance from the outset and Glass was similarly unenthusiastic, with Roosevelt speaking out against deposit insurance at his first news conference as President on March 8, 1933. Their opposition reflected the belief held by many contemporaries that previous experiments with deposit insurance in various states had been failures and that deposit insurance would create problems of moral hazard without addressing the fundamental weaknesses of a banking system based upon small non-diversified banks. Larger banks opposed deposit insurance because they believed, based on past such experiments, that they would end up subsidizing the losses of smaller banks through their contributions to any deposit fund, while small banks supported deposit insurance for similar reasons. Deposit insurance was a popular idea with the general public and grew more so as the issue was debated, with frequent bank failures both before and during the Depression meaning that it was a frequent occurrence for depositors to loose savings as a result of bank failure.

76 Kennedy (1973), pg. 215.
77 Meltzer (2003), pg. 32; Kennedy (1975), pp. 214-215. More extensive branching by banks was seen by many as the most important step to increasing the soundness of the banking system.
Intense debates occurred within the administration and in policy circles. Vice President Garner, himself the former Speaker of the House of Representatives, strongly supported a broad deposit guarantee of the type proposed by Representative Henry Steagall in the House. He was joined in March by prominent Democrats who petitioned the president for a guarantee, including Senator McAdoo, who had served as Treasury Secretary under Wilson, together with labor leaders.78 Treasury Secretary Woodin, who joined Roosevelt in opposing deposit insurance, met in April with executive committee of the board of directors of the Federal Reserve Bank of New York to solicit Federal Reserve opinion on the issue. At this and subsequent internal meetings the opinion of a majority of Federal Reserve officials was opposition to deposit insurance, with several officials expressing concerns that if deposits in state banks were insured it would reduce incentives for state banks to join the Federal Reserve System and weaken the move toward a unified banking system which Federal Reserve officials strongly supported.79 Woodin and President Roosevelt himself met with members of Glass’s subcommittee in April and expressed their strong disapproval of the inclusion of deposit insurance in the legislation.80

78 Kennedy (1973), pp. 214-215,
79 Burns (1974), pp., 88-89. Officials also argued that it was wrong to provide guarantees to state banks that did not choose to become members of the Federal Reserve system and subject to its supervision. Recall that membership in the Federal Reserve system is mandatory for nationally chartered banks but optional for state chartered banks. Governor Harrison of the FRBNY expressed the opinion that the President should veto the legislation if it contained provisions for broad deposit insurance.
80 Kennedy (1973), pg. 218.
On May 10 Glass and Steagall introduced their drafts of the bank reform legislation in their respective legislative chambers. In place of federal insurance of deposits Glass proposed a sinking fund to assist payments to depositors during the event of bank failure and liquidation, with the requirement that banks join the Federal Reserve System in order to be covered by the fund. Steagall, however, proposed a broad guarantee fund for all depositors that all banks could join without paying fees. Vigorous debate continued, but public opinion appeared to overwhelming support deposit insurance as evidenced by the flow of telegrams and letters to Congress and President. Republican Senator Arthur Vandenburg introduced an amendment to the Senate bill providing for immediate insurance of all deposits up to $2500 per depositor, threatening to make deposit insurance a major issue in the 1934 Congressional elections. The House bill was passed on May 23, while the Senate bill containing the Vandenburg Amendment was passed on May 26, sending the bill into conference committee. The president of the American Bankers’ association, Winthrop A. Aldrich of Chase Banks, and a host of other banks and banking organizations came out strongly against deposit insurance. Privately, President Roosevelt threatened conferees that he would veto the entire bill if a broad deposit guarantee remained in the final version.

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81 Kennedy (1973), pp. 218-222.
82 Ibid, pg. 219.
83 Meltzer (2003), pg. 433, note 38.
85 Kennedy (1973), pg. 219.
In the end, however, the President and Glass bowed to growing public opinion in support of deposit insurance and a compromise was reached in conference. The final bill, approved by the House and Senate on June 13, provided for the creation of a Federal Deposit Insurance Corporation to become effective on funded by banker and U.S. Treasury contributions and providing a graduated guarantee of deposits, including a full guarantee for the first $10,000 of deposits, and declining percentage guarantees for larger deposits. All member banks of the Federal Reserve where required join immediately, while banks outside the Federal Reserve System could enjoy the benefits of the fund but had two years to meet the standards to qualify for Federal Reserve membership. Roosevelt signed the bill into law on June 16, despite a last ditch campaign by the American Bankers Association for a presidential veto over the issue of deposit insurance.

The Banking Act of 1933 reflected the outcome of intense bargaining and compromise between interests who supported and opposed particular provisions of the bill. Consistent with the theoretical framework that I presented in Chapter 2 and the bargaining model I describe in Chapter 3, economic interests sought to influence the legislative outcome by using their resources to try to capture various veto points in the policy process. As a consequence, the existing pattern of economic interests shaped what was possible for political leaders to achieve. Economic interest groups or coalitions

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of such interests did not simply dictate the terms of policy, however, nor set the agenda for policy reform as “demand-driven” arguments might predict. Rather, major regulatory reform advanced only when it became a policy priority of the political executive, which acted to prioritize financial sector regulatory reform because the success of its broader policy objective of obtaining a durable economic recovery was perceived to hinge upon successful financial regulatory reform. The content of the reform that was proposed, moreover, was shaped by the cognitive frameworks of key policymakers which determined both how they understood the nature of the problems with the existing regulatory status quo as well as the consequences of specific regulatory reforms. The policy preferences both of policy leaders and of the interest groups which contested different regulatory proposals were inextricably bound up with the cognitive frameworks within which actors understood cause and effect relationships in the financial sector and broader economy.

5.2.2 The Banking Act of 1935: Building a Coherent Federal Reserve

While the Banking Act of 1933 mainly comprised a variety of “fixes” to diverse weaknesses that policymakers had come to perceive in the commercial banking system and which they believed had been contributing causes to the Depression, the main thrust of the reforms introduced with the Banking Act of 1935 (which was signed into law on August 23) was to centralize authority within the Federal Reserve under the Board and to enable the vigorous and coherent exercise of monetary policy. These
reforms set the stage for a gradual shift in the role of the Federal Reserve from that of a largely passive manager of an “elastic currency” the supply of which was meant by the Federal Reserve Act of 1913 to adjust “naturally” to the needs of commerce and industry through the discounting of commercial paper according to the precepts of the real bills doctrine, to that of an independent policymaking body responsible for the active management of monetary policy in pursuit of broad macroeconomic objectives. Largely as a byproduct of these changes, the Act enabled the Federal Reserve to take a much more active role over time in the regulation and supervision of commercial banks.

In terms of the theoretical framework which I have outlined, examination of the policy process surrounding the passage of the Banking Act of 1935 highlights three important points. First, the impetus for the reforms embodied in the Banking Act of 1935 came entirely from the political executive, which came to perceive that the existing regulatory status quo posed a threat to its ability to pursue its broader policy objectives – specifically that of sustained deficit spending to combat the economic decline of the Depression. Second, the specific content of the reforms contained in the Act was clearly driven by the clash and bargaining between its principal author, Governor of the Federal Reserve Board Mariner Eccles, and Senator Carter Glass, both of whom were motivated by opposing cognitive frameworks which led them to different understandings of the causes of the Depression and the likely consequences of specific regulatory reforms. Lastly, while interest groups, notably the banking industry, mobilized strongly to
oppose key features in the legislation, their influence upon the regulatory outcome was relatively minor, reflecting the importance which the political executive attached to the reforms.

Although the immediate urgency of fundamental banking reform receded following passage of Emergency Banking Act of 1933 and the Banking Act of 1933, pressures for further reform existed. While deposits flowed back into banks when they were reopened, the general economic situation remained dire and banks remained hesitant to resume lending. Prominent economists from the University of Chicago submitted a radical plan for restructuring of the banking system which became known as the “Chicago Plan” in a memo to Secretary of Agriculture Wallace in March 1933, and again in November 1933. Among other things, the plan called for the elimination of the existing private banking system and its replacement by two categories of institutions, including institutions that accepted deposits but were required to match 100 percent of their deposits with cash or reserves held at the Federal Reserve and therefore would not be able to extend credit of any kind, and a second category of institutions which could extend credit but which could only raise funds by issuing securities and were prohibited from taking deposits. The purpose behind the proposal was to completely sever the deposit-taking and lending functions of the financial system, in order to prevent the

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87 Other elements of the proposal included the abolition of most elements of the gold standard (in the March memorandum), massive reflation through monetary and fiscal means, and nationalization of the Federal Reserve Banks so they could take over the direct provision of credit to businesses and individuals from the banking system during the transition period. See Philips (1995), pp. 47-48, pp. 64-65.
supply of money from collapsing due to deposit withdrawals whenever the loan system collapsed.\textsuperscript{88} While not a signatory the memos and expressing minor disagreement with particulars of the plan, the prominent economist Irving Fisher campaigned vigorously for the Chicago Plan both publicly and in private communications with President Roosevelt.\textsuperscript{89} Within the administration, Braintrusters Adolf Berle and Rexford Tugwell advanced similar arguments.\textsuperscript{90}

In Congress a range of proposals were introduced to address the perception that banks were not contributing to recovery by their failure to resume lending. Progressive Republican Senators had advocated sweeping government intervention in unemployment insurance and public works to combat the Depression as early as 1931 and took an early interest in the Chicago Plan proposal.\textsuperscript{91} Arguing that Roosevelt had missed the opportunity to nationalize the banking system and that private bankers had failed to supply credit to those who needed it, Progressive Republican Senator Bronson

\textsuperscript{88}Ibid. Recall that the stock of money includes both deposits and currency. Under the system fractional-reserve banking practiced in most market economies at that time and today, banks take deposits (generally redeemable upon demand) and make loans (for generally longer time periods), while retaining a fraction of their deposits as reserves (in vault cash or deposits with the central bank) to meet legal reserve requirements and anticipated withdrawals by depositors. The authors expressly rejected branch banking and deposit insurance as inadequate solutions to the vulnerability of banks, arguing that the only practical alternative to their plan would be the “complete socialization of banking” as long as deposit-taking banks were allowed to engage in the inherently risky activity of lending.

\textsuperscript{89}Ibid, chapter 9. Fisher played a major role in developing the overall theoretical understanding of the effects of monetary policy on the real economy and had advanced a theory of “debt deflation” in a 1932 book and 1933 article that explained the Depression as the consequence of the overextension of bank loans and the subsequent collapse and downward spiral of credit (see above).

\textsuperscript{90}Ibid, pp. 58-61, pp. 68-72.

\textsuperscript{91}Ibid, pp. 72-74. Among the Senators in this group were William Edgar Borah of Idaho, George W. Norris of Nebraska, Robert M. La Follette, Jr. of Wisconsin, Gerald P. Nye of North Dakota, and Bronson Cutting of New Mexico.
Cutting of New Mexico (the former Republican National Committee Chairman), with the support of Representative Wright Patman of Texas, introduced a bill in June 1934 which contained many of the provisions of the Chicago plan and which called for the creation of a “Federal Monetary Authority” to take over all monetary powers from the Federal Reserve.\textsuperscript{92} A similar bill to create a Federal Monetary Authority had earlier been introduced by Democratic Representative T. Alan Goldsborough in January 1934.\textsuperscript{93} These proposals and rumors that the Roosevelt administration was planning a “government takeover” of banking sparked alarming commentary in business journals and strong denunciations from banking organizations and prominent bankers throughout 1934.\textsuperscript{94} Less radical proposals in Congress called for the Reconstruction Finance Corporation (RFC), originally created by Hoover, to take on a more extensive role in the direct provision of credit.\textsuperscript{95} Under the Roosevelt administration the RFC expanded lending beyond banks to include direct lending to a wide-range of industries, while under Roosevelt’s direction the RFC used existing powers to pressure reluctant banks to issue preferred shares to the RFC as a means to recapitalize banks.\textsuperscript{96} President Roosevelt in public speeches criticized banks for failing to do enough to restore lending

\textsuperscript{92} ibid, pp. 79-84. Large parts of the bill were drafted by University of Chicago economist Henry Simons, and the bill was explicitly endorsed by Fisher. Philips argues that these congressional leaders failed to distinguish between the supply of money and the provision of credit in their rhetoric (pg. 78).
\textsuperscript{93} Ibid, pg. 78.
\textsuperscript{94} See Burns (1974), pp. 131-133.
\textsuperscript{95} Philips (1995), pg. 77.
and encourage recovery.\textsuperscript{97} Treasury Secretary Henry Morgenthau Jr., who replaced the gravely ill William Woodin in January 1934, supported a balanced budget and opposed more extensive use of RFC lending to revive credit as an ineffectual expenditure of fiscal resources.\textsuperscript{98}

The formation of administration options for further monetary and banking reform began in the Treasury before shifting to the Federal Reserve after the appointment of Mariner Eccles as Governor of the Board of the Federal Reserve in November 1934. In early 1934, Morgenthau established a committee within the Treasury, headed by economist Jacob Viner, to consider possible further changes in monetary and banking legislation.\textsuperscript{99} On June 25, the Board of the Federal Reserve approved the establishment of a System Committee for Legislative Suggestions, headed by George Harrison the Governor of the Federal Reserve Bank of New York, to study potential changes in monetary and banking regulation and to work with the Treasury in the formulation of policy.\textsuperscript{100} In August 1934 Morgenthau established an Interdepartmental Loan Committee consisting of representatives from the different federal agencies which dealt with issues related to bank lending to assist in the

\begin{itemize}
  \item Burns (1974), pg. 133-134.
  \item Philips (1995), pp. 88-89. The RFC entailed a fiscal expenditure as the Treasury purchased the capital stock of the RFC (providing the equity capital) as well as its notes and debentures (lending it money). Kennedy (1973), pp. 36-27.
  \item Philips (1995), pp. 94-95, Meltzer (2003), pg. 470.
  \item Burns (1974), pg. 132, Meltzer (2003), pg. 470. The board of directors of the Federal Reserve Bank of New York had recommended cooperation with the Treasury in shaping a legislative response rather than an effort to present an alternative plan.
\end{itemize}
coordination of policy. Under the explicit instruction of President Roosevelt, on
November 26 Morgenthau established a subcommittee (the Interdepartmental
Subcommittee on Banking Legislation) to coordinate the development of specific
legislative proposals for banking and monetary policy reform, including himself as
Chair, Marriner Eccles the newly appointed Governor of the Board of the Federal
Reserve, Chairman Leo T. Crowley of the Federal Deposit Insurance Corporation, and
Comptroller of the Currency J.F.T. O’Connor. The members of the subcommittee were
told by Morgenthau to prepare and offer their legislative suggestions within two weeks
and that the President wanted “one omnibus bill.”

Marriner Eccles was to have by far the most consequential impact on the
resulting legislation. Eccles was an extremely successful Utah businessman, who
rapidly expanded the family business that he and his brothers inherited, acquiring
controlling interests and assuming management positions in companies in logging,
construction, railroads, electric power, sugar and milk, and growing a strong regional
bank the First Security Corporation. He was brash, impatient, and at times abrasive in
his manner. Eccles reports in his memoirs that he originally held strong laissez-faire
views that he shared with his parents and social contacts, but that his own views

101 Burns (1974), pg. 132.
102 Ibid, pg. 132, pp. 139-140.
103 Ibid, pg. 140.
underwent a radical transformation as a result of the Depression\textsuperscript{105}. He describes how the unfolding events of the depression caused him to begin to challenge his own cognitive framework:

During 1930 I awoke to find myself at the bottom of a pit without any known means of scaling its sheer sides. Since the crash of 1929, men I respected assured me that the economic crisis was only temporary and that soon all the things that had pulled the country out of previous depressions would operate to that same end again. But the weeks turned into months. The months turned to a year or more. Instead of easing, the economic crisis worsened. The pit grew deeper and I found myself in it.\textsuperscript{106}

And further:

“Do nothing,” some business and financial leaders replied \[to the question of what was to be done about the Depression\]. They argued again that a depression was the scientific operation of economic laws that were God-given and not man-made. They could not be interfered with. Depressions were phenomena like the one described in the Biblical story of Joseph and the seven kine, fat and lean. The leaders said we were in the seven lean years that must inevitably follow the seven full years. And they further explained that we were in the lean years because we had been spendthrifts and wastrels in the roaring twenties. We had wasted what we earned instead of saving it. We had enormously inflated values….But was this true? Did economics proceed on the basis of God-given laws?...My own reaction was that all such talk was naïve. Economics is merely the production and distribution of wealth brought about the application of labor to raw materials. It is all man-made and has developed by the application of the human intellect to problems that presented themselves from the days of cave men to our own. The moment the production and distribution of wealth moved beyond a hermit’s cave, economics became artificial in character, in the sense that

\textsuperscript{105} Eccles (1951), pg. 51, pp. 54-55. He explains, “...for almost two decades after my father’s death I was somehow blind to the shape of the interdependent and industrialized society he, and others like him, helped to create. It took a general economic collapse to show that ‘thrift’ as it was practiced – quite correctly in a former epoch, could, in the present one, be a source of great danger to the nation as a whole when practiced to excess.” (pg. 51).

\textsuperscript{106} Ibid, pg. 51.
it was subject to man-made rules and regulation, which were changed constantly in accordance with the needs of a dynamic society.  

As a result of his experience and reflection, Eccles came to hold what can be described as proto-Keynsian beliefs about the causes of and remedies to the Depression. He rejected traditional arguments that overexpenditure and profligacy during the twenties were the cause of the depression, noting that “[w]e did not as a nation consume more than we produced”. Rather the causes of the Depression lay in overinvestment and the excessive expansion of debt, caused by a maldistribution of wealth, which led to excessive capital accumulation in the hands of the few and underconsumption by lower-income earners. Ultimately this led to an imbalance, with the accumulation of excess productive capacity relative to the purchasing power of consumers. Once their “credit ran out”, debtors curtailed their consumption, causing a fall in prices and employment, and setting in motion “a vicious circle of deflation”. The proper response to the Depression was countercyclical government expenditure to “put idle men, money, and material to work” in order to counteract the reduction in expenditure by the private sector and restore “balance” to the economy. Deficit spending was appropriate in such circumstances, and arguments that a balanced

107 Ibid, pp. 73-74.
108 Hoffman (2001); Meltzer (2003). He claims in his memoirs never to have read Keynes. Eccles, (1951), pg. 132.
109 Eccles (1951), pg. 74.
110 Ibid, pp. 76-77.
111 Ibid.
112 Ibid, pp. 78-79.
government budget was necessary to restore business confidence were simply misguided. Moreover, inflationary monetary policy was not a solution as it would “have limited effect on the purchasing power of the nation” and “the only way we could get out of the depression was through government action in placing purchasing power in the hands of people who were in need of it.”

Eccles came to national attention when he, as a private banker, offered testimony expressing similar proto-Keynesian arguments in hearings held by the Senate Finance Committee in February 1933. In early November 1933, he was invited to Washington by Rexford Tugwell, who arranged private meetings with himself and other officials in the administration who favored more aggressive government intervention in response to the Depression, including Secretary of Agriculture Wallace, the future Works Progress Administration head Harry Hopkins, Under Secretary of the Treasury Dean Acheson (a wavering potential convert to deficit spending according to Eccles), and Secretary of the Interior Harold Ickles. Eccles later received a fax in January 1934 from Treasury Secretary Morgenthau inviting him to Washington, with Eccles explaining that he thought that the invitation was arranged by his previous hosts, who “no doubt wanted to surround him [Morgenthau] with men who recognized the need for large deficit

113 Ibid.
114 Ibid, pp. 80-81.
115 Ibid, pp. 129-131. Eccles noted that “I have often wondered since then whether I would have won any hearing at all had it not been for my bizarre status as a reputed millionaire banker and industrialist who preached the gospel of logical radicalism”. Ibid, pg. 133.
spending". Eccles was offered and accepted a position starting in February 1934 as a special assistant to Morgenthau for banking and monetary issues. Despite some personal friction and intellectual disagreement over deficit spending, Morgenthau proposed to President Roosevelt that Eccles replace Eugene Black as Governor of the Federal Reserve Board after Black announced his resignation in June 1934. Eccles met with President Roosevelt in September, telling him that he would accept the post only if the President would agree to fundamental changes in the Federal Reserve System to strengthen the power of the Board and to reduce the relative power of the individual Federal Reserve Banks which Eccles felt had become controlled by “private interests”. Roosevelt expressed interest, asking Eccles to prepare written recommendations. Eccles recruited Lauchlin Currie, a Canadian economist who had been working in the Treasury committee headed by Jacob Viner, to assist him in preparing a memorandum to the President. As part of Viner’s research committee, Currie had written reports arguing that the Federal Reserve’s adherence to the real bills doctrine had been an important cause of Depression, arguing that the Federal Reserve should seek to control the quantity of money rather than the quality of credit (i.e. encouraging

116 Ibid, pg. 136. Morgenthau supported more orthodox balanced-budget views within the administration, but was willing to tolerate some degree of deficit spending as necessary for relief efforts. See Leuchtenberg (1963), pg. 91, Meltzer (2003), pg. 465.
117 Meltzer (2003), pg. 467, Eccles (1951), pg. 165.
118 Eccles (1951), pg. 166.
lending based on “real” rather than “speculative” economic activity) as implied by the
doctrine, with Currie also supporting aspects of the “Chicago Plan”.119

Eccles presented the memorandum to President Roosevelt in a two hour meeting
on November 4. The memorandum called for sweeping changes in the organization and
focus of the Federal Reserve that went directly counter to the key principles that had
motivated Glass’s design of the Federal Reserve. The first such principle was that the
Federal Reserve should operate as a decentralized institution representing diverse
geographic interests rather than as a “central bank”, either dominated by New York
bankers as under the earlier Aldrich Plan and feared by many in the Democratic Party at
the time120, or a central institution subject to political control as also feared and resisted
by Glass but advocated by others in the Wilson administration such as Secretary of State
(and former Democratic Party presidential nominee) William Jennings Bryan. The
second such central principle behind Glass’s design was the commitment to the real bills
doctrine advanced by Glass and enshrined in the 1913 Federal Reserve Act by the
requirement that the Federal Reserve discount only short-term commercial paper.
Eccles memorandum began with the opening statement, contrary to the existing

120 The 1912 Democratic Party platform under which Woodrow Wilson campaigned for the presidency,
ruled that the Democrats firmly opposed the establishment of any kind of “central bank”. The term
“central bank” was understood by many as synonymous with concentrated financial power and the “money
trust” described by Brandeis and attacked by Populists and Progressives. Shull (2005), pp. 42-43. See the
previous chapter for a discussion of these issues and of the evolution of the concept of a “central bank” in
the late nineteenth and early twentieth century.
understanding of the Federal Reserve’s role as a largely passive manager of a money supply determined by the relatively automatic mechanisms of the gold standard and the discounting of commercial paper in accordance with the tenants of the real bills doctrine, that “if the monetary mechanism is to be used as an instrument for the promotion of business stability, conscious control and management are essential” and stating that the Federal Reserve Board had the duty “to assure that adequate support is available whenever needed for the emergency financing involved in a recovery program”.  

The memorandum laid out three specific sets of changes that were necessary. First, the control of open-market operations should be taken away from the privately run Federal Reserve Banks and should be vested entirely an Open Market Committee of the Federal Reserve Board in Washington, with the power to initiate such policies and the responsibility for their execution. Second, the independence of the individual Reserve Banks should be curtailed, although the existing private ownership of the banks...

122 Ibid, pg. 174. In his memoirs Eccles explains the weakness in the Banking Act of 1933 that he sought to correct: “[w]hile [under the Banking Act of 1933] no Reserve bank could engage in open-market operations except in accordance with regulations adopted by the Reserve Board, the statute preserved the right of any Reserve bank to refuse to participate in operations recommended by the committee. Thus the Federal Reserve Board, which was ultimately held responsible for policy, could not initiate it. It possessed only the power to approved or disapprove of the policies initiated by the Open Market Committee. The committee, which was formed of governors who represented the private interests in control of the Reserve banks, could initiate policy but could not execute it. The board of directors of the individual Reserve banks, who took no part in forming policy, had the power to obstruct it….A more effective way of diffusing responsibility and encouraging inertia and indecision could not very well have been devised. Yet it seemed to suit the New York Federal Reserve Bank, through which private interests in the New York financial district exercised such enormous influence over the national economy.” Ibid, pp. 170-171.

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Reserve banks should be maintained. Specifically, the separate office of chairman of the board of directors of each Reserve Bank should be abolished with the executive responsibilities merged with the office of Governor of the Reserve Bank, with the Federal Reserve Board empowered to approve or reject any Governor nominated by the board of directors of an individual Federal Reserve Bank. Third, explicit definition of “eligible paper” that could be discounted by member banks at the Federal Reserve banks should be deleted from the Federal Reserve Act, with the original Act restricting “eligible paper” to commercial paper in accordance with the tenants of the real bills doctrine. Instead, the Federal Reserve Board in Washington should be allowed to define the “sound assets” that were eligible for discount. Eccles’ expectation was that the Board would broaden the definition of assets that banks could discount, which would enhance the power of the Federal Reserve to affect money market conditions through open market operations and also would enable banks to expand longer-term lending such as mortgage lending. Roosevelt opposed a further extemporaneous suggestion by Eccles that the Federal Reserve Act be changed to allow nationwide branching by

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125 Ibid, pp. 171-173. Eccles explains that the volume of eligible commercial paper held by banks was small, limiting the potential effect of open market operations. Moreover, he argues, banks were discouraged from making longer-term loans, especially real estate loans, that would help economic recovery because such assets were not eligible for discount, implying that banks could not readily obtain funds from the Federal Reserve to meet depositor potential withdrawals and hence would limit the amount of such lending as a precaution. Recall that the Glass-Steagall Act of 1932 had broadened eligible paper to include government bonds held by banks. This was an emergency measure advanced by Hoover and initially opposed by Glass as a violation of the real bills doctrine.
banks, explaining that he opposed “bigness”. Eccles records that at the end of his meeting with the President, Roosevelt agreed with the proposals in his memorandum, saying:

Marriner, that’s quite an action program that you want. It will be a knock-down and drag-out fight to get it through. But we might as well undertake it now as at any other time. It seems to be necessary.

Roosevelt’s support for the sweeping financial regulatory reforms which Eccles proposed reflected his perception that further such financial reforms were necessary in order to achieve his other policy objectives. With the Democratic majority increasing substantially in both houses of Congress following the November 5, 1934 Congressional elections, and with the economic situation remaining dire and increasing demands for more radical actions to transfer wealth generating pressure for action by the administration, Roosevelt prepared to advance a policy agenda that entailed substantial expenditures, with Federal Reserve cooperation important to help finance such expenditures. Eccles is explicit on this point in his memoirs, stating:

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126 Ibid, pg. 175.
127 Ibid, pg. 175.
128 Democratic control of the Senate increased from 60 to 69 Senate seats (out of a total of 96 seats), and increased from 313 to 322 seats (out of a total of 435 seats) in the House of Representatives.
129 Eccles (1951), pg. 187, states “In the event the program [for work relief spending] was approved, it was clear that the Reserve System would be the channel through which the banking system would have to absorb the securities Burns (1974), pg. 144; Leuchtenberg (1963), see chapter 5 passim, and pp. 116-117 on the election; Jones (1983), pp. 461-465. As Badger (1999), pp. 108-113, notes, however, although Roosevelt did support a wide range of new programs entailing additional spending, he did not wholeheartedly commit to countercyclical deficit spending until 1938 and raised taxes to offset much of the new expenditure.
…in November 1934 many of us knew that Roosevelt was preparing to ask Congress for at least four billion dollars to launch a work-relief program of some sort. In the event the program was approved, it was clear that the Federal Reserve System would be the channel through which the banking system would have to absorb the securities and provide the credit basis by which the program would be financed. But under the prevailing Reserve setup a group of private individuals in the Reserve banks had the latent power to block the program by damming needed funds or by withholding the sort of action in Federal Reserve operations that could maximize in the economy the benefits sought through a resumption of large scale spending. Thus the urgency to overhaul the Federal Reserve System.\textsuperscript{130}

As Blum (1959) details, Treasury Secretary Morgenthau shared similar perceptions that private bankers and the Federal Reserve were not cooperating with the administration’s program and were making it difficult for the administration to finance its expenditures:

\textit{[t]}he Secretary would have liked the cooperation of the Open Market Committee of the Federal Reserve System. He did not soon get it….These bankers, Morgenthau later recalled, “had been the dictators of monetary policy. The large New York private banks and insurance companies dominated the Federal Reserve Board and the Open Market Committee.”…The Federal Reserve System, he believed, had public responsibilities it was not discharging.\textsuperscript{131}

As a result, Morgenthau firmly supported the legislative changes proposed by Eccles:

Because he considered monetary policy a public matter, and because that policy depended in large part upon the control of the bond market, Morgenthau advocated vesting the authority of the Open Market Committee in a reconstituted Federal Reserve Board free from the pressure of private bankers…He [Morgenthau] and the President, he said, backed Marriner Eccles, the newly appointed Governor of the Federal Reserve Board, in contending that

\textsuperscript{130} Eccles (1951), pg. 187, quoted in Shull (2005), pg. 111.
\textsuperscript{131} Blum (1959), pp. 343-344. Blum’s book \textit{From the Morgenthau Diaries: Years of Crisis 1928-1938}, is based on a review of Henry Morgenthau’s personal diaries, official and private correspondence, and press records. Blum explains that Morgenthau reviewed “every word” of the text personally with him. The preface is written by Eleanor Roosevelt and the “introductory note” by Morgenthau.
the Board should have both a veto over the appointments of the governors of the regional Reserve Banks, and the authority to appoint and control the Open Market Committee. Whatever else banking legislation might involve, Morgenthau was going to insist on those changes.132

Six days after his meeting with Roosevelt, on November 10, Eccles was nominated by the President to serve as the Governor of the Federal Reserve Board, with the President appointing Eccles as a recess appointee because the new Congress was not yet in session.133 Three days after his recess appointment, Governor George Harrison of the Federal Reserve Bank of New York came to congratulate Eccles on his appointment, at which meeting Eccles informed Harrison in blunt language that he was abolishing the System Committee for Legislative Suggestions headed by Harrison and replacing it with a new drafting committee composed only of Board personnel.134 Whether by design or by oversight, Roosevelt did not inform Senator Glass in advance of Eccles’ nomination, while Glass was not briefed on the content of legislative proposals under discussion by the Interdepartmental Subcommittee on Banking Legislation chaired by Treasury Secretary Morgenthau.135 Glass, who regarded himself as the senior figure within the Democratic Party on banking and financial issues, was apparently greatly offended

132 Ibid, pg. 344. Shull (1995), pp. 109-111, provides additional evidence, based on other historical sources including private correspondence from Federal Reserve Bank of New York Governor George Harrison to Chase Chairman Winthrop Aldrich, that Morgenthau and Roosevelt suspected private bankers and the Federal Reserve of actively sabotaging the administration’s agenda by working to defeat sales of government bonds, with Shull arguing that this was a primary motive for the 1935 legislation.
133 Meltzer (2003), pg. 468.
these omissions, with Glass delaying the vote on Eccles appointment in the
Subcommittee on Monetary Policy, Banking and Deposit Insurance until April 1935.136

The Interdepartmental Subcommittee on Banking Legislation met again several
weeks after its creation to consider the legislative priorities of the heads of the different
agencies. Conflict quickly emerged between the agency heads and for a time appeared
to threaten the administration’s legislative program. Eccles submitted proposals to the
Subcommittee mirroring those which he gave to the President. Chairman Crowley of
the FDIC proposed legislative changes to ease the type and rate of fees assessed upon
banks to join the deposit insurance scheme as a way to lessen banker resistance to
deposit insurance; while Comptroller O’Connor wanted a legislative change to grant an
extension to bankers from a rapidly approaching July 1, 1935 deadline imposed by the
Banking Act of 1933 which required the executive officers of national banks to divest
themselves of any loans which they received from their own institution.137 Crowley and
O’Connor strongly opposed combining their legislative proposals with those of Eccles,
arguing that their proposals were higher short-term priorities than the more
controversial proposals of Eccles.

The fights between these agency heads highlight the theoretical point that I make
in previous chapters about the ability of bureaucratic actors to use strategies of non-

136 Burns (1974), pp. 153-154. Glass cast the only vote against Eccles’s confirmation when the full Senate
voted on the nomination.
137 Ibid, pp. 141-142.
cooperation in order to modify policy outcomes toward their preferences. Such obstructionist “punishment strategies” compliment their ability to influence policy outcomes by shaping the cognitive frameworks through which leaders understand their policy choices. Morgenthau had on previous occasions advocated abolition of the Office of the Comptroller of the Currency which he felt had become redundant following the Federal Reserve Act of 1913 and the Banking Act of 1933.\textsuperscript{138} As Blum (1959) explains:

...O'Connor fought to prevent any aggrandizement of the Federal Reserve System which might ultimately threaten him. Partly to frustrate Eccles, whom he intensely disliked, he opposed changes to the Federal Reserve Board and Open Market Committee which Eccles and Morgenthau had advocated. He flouted the Secretary’s instructions that the Interdepartmental Loan Committee should present a unified front, and instead lobbied for his own objectives, which were those also of Senator Glass and his conservative subcommittee on banking.

As Bloom (1959) explains, Morgenthau and Eccles had early on recognized the importance of bundling the more controversial legislative proposals of Eccles with those of Crowley and O’Connor:

Crowley and O’Connor, resisting the diminution in their own power, had too many friends in Congress to be vulnerable to direct attack. Indeed it was evident by November 1934 that amendments to the Federal Reserve Act were possible only if they were part of general statute that could command conservative support by easing the condition of bank membership in the Federal Deposit Insurance Corporation and by protecting the Office of the Comptroller from loss of authority. Roosevelt therefore suggested presenting only one bill with three or four titles. This was an obvious strategy, acceptable to Morgenthau and Eccles but anathema to Crowley and O’Connor, who endeavored with unabashed zeal to subvert it.\textsuperscript{139}

\textsuperscript{138} Blum (1959), pp. 344-345.
\textsuperscript{139} Ibid, pg. 346.
Only direct intervention by Roosevelt in January 1935 succeeded in convincing Crowley and O’Connor to cooperate, and an omnibus bill was drafted by January 30, with Title I containing the provisions sought by FDIC head Crowley, Title III containing the provisions sought by Comptroller O’Connor, and Title II containing the provisions sought by Eccles. The legislation was almost sabotaged, however, when it was discovered that, contrary to Morgenthau’s express instructions to keep the Subcommittee’s deliberations confidential, Crowley and O’Connor revealed that they had provided an advance copy of the deposit insurance legislation to Glass. Henry Steagall, Chairman of the House Committee on Banking and Currency, then informed Morgenthau that he feared that Glass would introduce that same day a bill containing only the deposit provisions sought by Crowley in an attempt to divert support from a broader omnibus bill. Morgenthau informed the President who authorized release of the full legislative proposal from Morgenthau’s committee and intervened to ensure that the full bill was introduced on February 5 by Representative Steagall in the House and on February 6 in the Senate by Senator Duncan Fletcher, Chairman of the full Senate Banking and Currency Committee, in order preempt any legislative move by Glass.

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141 Ibid, pg. 146.
142 Ibid, pp. 146-147
143 Ibid, pg. 139, pp. 146-147, pg. 152. The aging Fletcher had nominal control over the full committee as a result of an agreement to have Glass head the Appropriations Committee. However, Glass retained de facto control over the Banking and Currency Committee.
The legislation moved quickly in the House of Representatives, with the full House Banking and Currency Committee, chaired by Representative Steagall, commencing hearings on February 21.\textsuperscript{144} The hearings were stacked toward witnesses reflecting the administration’s views, with no witnesses from large banks and no witnesses from the individual Federal Reserve Banks.\textsuperscript{145} The general counsel of the American Bankers Association did testify, strongly supporting Title’s I and III, and suggesting “constructive changes” in Title II, including proposals that the governors of the individual reserve banks should hold office for at least three years (rather than annually as proposed by Eccles) and that the control over open market operations be vested in a Federal Open Market Committee that consisted include the entire Federal Reserve Board and four Governors selected from among the twelve Federal Reserve banks.\textsuperscript{146} Reflecting the outcome of difficult negotiations between Morgenthau and Eccles, the legislation introduced by the administration eliminated the \textit{ex officio} representation of the Treasury Secretary and the Comptroller of the Currency on the Federal Open Market Committee, creating a Federal Open Market Committee composed of three members selected by the Board and two representatives of the regional Federal Reserve Banks.\textsuperscript{147} Eccles, however, broke this agreement with Morgenthau, testifying extemporaneously before the House committee that control over open market

\begin{flushleft}
\textsuperscript{144} Burns (1974), pp. 146-147.
\textsuperscript{145} \textit{Ibid}, pg. 149.
\textsuperscript{146} \textit{Ibid}, pp. 148-149.
\textsuperscript{147} Blum (1959), pg. 346.
\end{flushleft}
operations should be vested in the entire Federal Reserve Board, with only an advisory committee of five regional Federal Reserve Bank governors.148

The bill was reported out of the House Banking and Currency Committee on April 19, with two major changes supported by Eccles during his testimony. The first was the provision that open market operations be vested in the entire Board rather than in an Open Market Committee discussed above.149 The second change was the insertion of language asserting that the Board should actively pursue monetary policy to influence general economic conditions, with the bill stating that that the Board was required to “exercise such powers as it possesses in such manner as to promote conditions conducive to business stability and to mitigate by its influence unstabilizing fluctuations in the general level of production, trade, prices, and employment so far as may be possible within the scope of monetary action and credit administration.”150 A final important change to the bill eliminated the requirement under the Banking Act of 1933 that nonmember state banks become members of the Federal Reserve System after July 1, 1937, and reflected strong support by state banking groups in the House.151 The

149 Burns (1974), pg. 149.
150 Ibid, pp. 149-150.
151 Ibid, pg. 150.
full House voted on May 9 to approve the Banking Act without further amendment, with 271 representatives voting in favor and 110 against the bill.\textsuperscript{152}

The legislation remained stalled in the Senate, however. Against the President’s wishes, the full Senate Banking and Currency Committee had delegated the bill to consideration of the Subcommittee on Monetary Policy, Banking and Deposit Insurance that Glass chaired.\textsuperscript{153} Glass delayed the start of Subcommittee hearings until April 19, under the pretext that the Appropriations Committee (also chaired by Glass) needed to give full attention to the administration’s separate proposals for unemployment relief. Glass was adamantly opposed to the major tenants of the bill, which provided what he regarded as centralized political power over monetary policy and which widened the assets which banks could use to secure discount loans from the Federal Reserve in direct contravention of the real bills doctrine.\textsuperscript{154} Glass had expressed his strong opposition to the purposes of the bill in private correspondence writing to one that “The Eccles bank plan is opposed to the whole history and tradition of the Democratic Party, and it is something never attempted to be done even by a central bank of Europe.”\textsuperscript{155} He had expressed his intention to defeat the bill to his personal friend and frequent advisor on banking issues Parker Willis, “I am not yet rid of the five billion dollar Appropriation

\textsuperscript{152} Ibid; Meltzer (2003), pg. 475.
\textsuperscript{153} Burns (1974), pg. 153.
\textsuperscript{154} Ibid; Meltzer (2003), pp. 479-480.
\textsuperscript{155} Quoted in Burns (1974), pg. 153.
Bill and as soon as that is out of the way, I must go on to the Eccles Banking Bill and do my best to wreck it. I have some hope also of wrecking Eccles.”156

With the active assistance of Governor George Harrison of the New York Federal Reserve, Glass recruited many witnesses strongly opposed to Title II of the proposed legislation to the hearings conducted by his subcommittee.157 Glass initially did not invite Eccles to testify, inviting instead FDIC Chairman Crowley and Comptroller Crowley, both of whom advocated in their testimony passing Titles I and III and separating and defeating title II.158 After this initial slight, Glass invited Eccles to testify, but clashed with him openly during his testimony.159 Professor Parker Willis, who had assisted Glass in drafting the original Federal Reserve Act of 1913, testified that the proposed Title II, eviscerated “everything in the theory of the Reserve Act”.160 Opposition to Title II was expressed in the testimony of Federal Reserve Board members George R. James, and Charles S. Hamlin, but broadly supported by Board member Adolph Miller.161 Prominent bankers expressed strong opposition to Title II in their testimony, including James Warburg of the Bank of Manhattan, James H. Perkins of

156 Quoted in Ibid, pg. 154. The letter was written on April 3, before the confirmation vote for Eccles.
158 Meltzer (2003), pg. 480, note. 134. Meltzer notes that O’Connor was a former law partner of Senator McAdoo and a personal friend of Glass, while Crowley was supported by James Farley, head of the Democratic Party.
159 Ibid, pg. 480.
160 Ibid, pg. 482. Broadly similar critical testimony was offered by Princeton economist Edwin Kemmerer who read a statement signed by sixty-two economists of the National Committee on Monetary Policy who advocated defeat of title 2. See Ibid, note 138. Kemmerer played an influential role in advocating the creation of independent central banks throughout Latin America during the 1920s.
161 Ibid, pp. 481-482.
National City Bank, and Winthrop Aldrich of the Chase National Bank, who charged that the banking bill was “…making it [the Federal Reserve] over to into an instrument of despotic authority” and that “it appears that the objective of the bill is to put into the hands of a few people…the power to manipulate the credit and currency system of the United States in furtherance of a plan or sequence of plans, which they themselves may draw up.”  

The financial press adopted similarly stern warnings, while regional bank associations and other financial institutions throughout the country contacted shareholders and organized lobbying efforts against the bill. Some dissenting voices were heard from the financial sector, however, most notably Gianinni of the California-based Bank of America, who criticized the testimony of James P. Warburg stating that “Personally I would rather that this power [over monetary policy] be exercised by a public body in the public interest than by the New York banking fraternity”.

The Roosevelt administration became frustrated as the Glass hearings extended over the next several months. Fearing that the Senate might not approve the provisions of title II, and believing that Eccles’s independent efforts during the House hearings to achieve complete Board control over open market operations had undermined the administration’s unified bargaining position, Morgenthau testified in mid-May in the

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163 Ibid, pp. 150-151, 156-159.
164 Ibid, pg. 160.
Senate that he thought it might be necessary for the government to purchase the stock of
the individual Federal Reserve banks in order to end the influence of private banks over
monetary policy. 165 In a private hand-couriered letter, Roosevelt urged Senate Banking
and Currency Chairman Fletcher to get the bill out of Carter’s Subcommittee, to which
Fletcher responded positively. 166 Only on June 3 did the Subcommittee hearings end, but
the bill again stalled in the full Committee when Glass decided to travel abroad to accept
honorary degrees. 167 Glass spoke to Harrison privately telling him that when he
returned to Washington he planned to amend title II “in such a fashion as to make it
objectionable to the Administration” and stating that “I think I have them badly
whipped both in the subcommittee and the big committee”. 168 As the July 1 deadline
for bank officers to divest their personal loans that was the object of Title III approach, it
appeared that chances for an omnibus bill were sinking, forcing the president was
forced to issue an executive order extending the deadline by sixty days. 169

165 Blum (1959), pp. 347-349. Blum explains that Morgenthau regarded government ownership of Federal
Reserve Bank stock as a second best option and alternative to the five member Open Market Committee
which he proposed consisting of three Board and two Reserve Bank members. Based on statements that
Glass made to him privately, Morgenthau had reasons to believe that Roosevelt was keeping his options
open and considering trading away parts of Title II in a secret agreement with Glass. Roosevelt denied the
charge when confronted by Morgenthau, but Morgenthau’s suspicions remained. Roosevelt instructed
Morgenthau to testify that “he knew nothing about banking but that he favored unified examination of
banks, a permanent plan of deposit insurance, the placing of the Open Market Committee under the Federal
167 Ibid, pg. 165.
168 Ibid.
169 Ibid, pp. 165-166.
The bill was finally reported out of the full Committee on July 2, including extensive amendments to Title II by Glass. The bill reported out of the committee changed the term of governors of the Federal Reserve Banks from one year as proposed by Eccles to five years, but retained the Board’s veto over the appointment of governors.\(^{170}\) The Senate bill created a Chairman and Vice-chairman of the Board, to be nominated by the President and approved by the Senate, and repealed the ex officio representation of the Secretary of the Treasury and of the Comptroller from the Board.\(^{171}\) The bill vested control over open market operations in an Open Market Committee composed of all Board members plus five representatives of the Federal Reserve Banks.\(^{172}\) Like the House bill, the Senate bill also granted new powers to the Board to vary the reserve requirements of member banks, making permanent emergency powers that had been granted by the Thomas amendment to the Agricultural Relief Act of 1933.\(^{173}\) Additionally, the provision favored by Glass and included in the House bill requiring the Federal Reserve Board to conduct open market operations in a way that

\(^{170}\) Ibid, pg. 167.

\(^{171}\) Ibid, pp. 167-168.

\(^{172}\) Ibid, pg. 168.

\(^{173}\) Ibid, pg. 168; Kennedy (1973), pp. 235-236; and Section 19 of The Federal Reserve Act of December 23, 1913, pp. 2462-2465, printed in Kroos (1969). Reserve requirements are rules that require commercial banks to hold a certain percentage of their customer deposits in the form of either vault cash or deposits at other banks, typically the central bank. The Federal Reserve Act of 1913 required banks to hold fixed percentages of their deposits as reserves at their district Federal Reserve Bank. The percentages specified by the Federal Reserve Act were the same as those specified by the National Bank Act of 1865, but required that such reserves be deposited with the district Federal Reserve Bank rather than with in the pyramidal structure specified under the National Bank Act of 1965 whereby pyramidal structure whereby reserves were deposited with other private banks in reserve and central reserve cities. Along with open market operations and the discount rate, reserve requirements are an additional tool that the Federal Reserve can use to alter the money supply.
promoted business stability was deleted from the Senate bill. After debate in the full Senate between July 23 and July 26 in which all amendments were defeated, the Senate voted to approve the version of the bill reported by the committee.

The final bill reported out of conference committee on August 17 and was passed easily by both chambers of Congress. The bill was signed into law by President Roosevelt on August 23. Table 2 below summarizes the main provisions of the Banking Act of 1935 as enacted.

**Table 2: Major Provisions of the Banking Act of 1935**

<table>
<thead>
<tr>
<th>Provision</th>
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<tr>
<td>Reorganized the Board of Governors: removed the Treasury Secretary as an ex officio member and created the new position of Chairman of the Board.</td>
</tr>
<tr>
<td>Gave the Board of Governors the power to confirm the President of each individual Federal Reserve Bank following nomination by the board of directors of the individual Federal Reserve Bank.</td>
</tr>
<tr>
<td>Gave the Board of Governors the authority to vary the reserve requirements of member banks.</td>
</tr>
<tr>
<td>Made permanent the eligibly of government securities as collateral for discount window borrowings.</td>
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**5.3 Theoretical Alternatives and Conclusions**

I conclude by briefly considering how potential theoretical alternatives to the theoretical framework that I have presented in previous chapters fare when considered against the events described in this chapter. I consider, in particular, what I label

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175 Ibid, pg. 169.
“demand-side” or interest group explanations; partisanship explanations; and institutional explanations. It is important to note that these sets of theoretical explanations are not strictly alternatives to the theoretical framework that I present, but rather are complimentary to and help to explain different aspects of the political process. Nevertheless, none of these alternatives are adequate to explaining the most important questions of why change occurred when it did (or at all) or why the particular changes that occurred were adopted.

As I discuss in Chapter One, “demand-side” or interest group explanations treat financial sector regulatory outcomes as the product of policy demands which particular interest groups or coalitions of interest groups place upon political leaders. Such approaches, as I discuss in previous chapters, tend to view policy outcomes as determined by the relative size or “strength” of different such coalitions – with relative strength determined by factors such as the electoral support, economic importance, or financial power such groups. An implication of these approaches is that policy change occurs when longer-range economic (or other) changes alter the relative size and strength of different interest groups and hence the degree of support for different types of policy “demands”.

Such “demand side” explanations are unconvincing as explanations of the timing or content of the regulatory changes which I have described in this chapter. First, there is no major break in the structure of the American economy (e.g., the size of the traded
goods sector, the size of the manufacturing sector, etc.) that preceded and which could plausibly explain the major financial regulatory changes that occurred during the years 1933-1935. Second, if “demand side” explanations are correct, we should expect to see evidence that interest groups were actively lobbying political leaders for changes similar to those that occurred and that such interest group demands provided the primary impetus for the policymakers to consider changes. This is simply not a plausible reading of the historical record. Contrary to what demand-side arguments would lead us to expect, the impetus for financial regulatory reform instead came almost entirely from the political executive (or by the choice of the political executive to actively support changes advocated by other political leaders). Proposals for financial regulatory reform were initiated by and formulated by political leaders and their advisors who responded to the unprecedented shock of the Depression because they perceived that the existing regulatory status quo had failed and that changes were necessary to achieve broader policy objectives of economic recovery and long-term stability. Interest groups only responded to such proposals; they did not initiate them. Consistent with the theoretical arguments that I have made, however, interest groups sought to modify and amend policy proposals by attempting to influence decision-makers at various “veto points” in the political process.

A second set of potential alternative explanations centers around partisanship. Political parties play an important function in modern representative democracies by
prioritizing and structuring the various policy demands of office-seekers into coherent and simple platforms that attract groups of office-seekers to work together toward common electoral and policy goals against other such rival groups (Aldrich 1995). Where partisan competition is programmatically structured, the policy “bundles” which rival political parties offer tend to cluster coherently around relatively few dimensions of underlying conflict which change only slowly over time (Kitschelt 1993, 2006). It might be expected, therefore, that changes in financial sector regulatory policy should be driven by shifts in the partisan control of government. I argue that this is generally not the case, however, because, with certain major exceptions, financial regulatory policy is generally not electorally salient and generally remains outside the realm of electoral politics. This reflects the comparatively greater complexity of financial sector policy, which raises the costs of communicating the impacts of financial policy to voters, and the fact that the distributive consequences of financial sector policy are often ambiguous or uncertain, with financial policy choices often inherently difficult to map onto the underlying dimensions of party conflict.

The historical record of financial reform during the 1930s supports my arguments on these points. Although major financial regulatory reform followed partisan changes in the political executive and in the composition of the legislature, the two political parties and the presidential candidates did not articulate clear programmatic alternatives with respect to banking and financial sector policy during the
electoral campaigns of 1932 or 1934. Moreover, many of the most important regulatory changes which the Roosevelt administration advocated went against regulatory measures enacted by his co-partisans under the Wilson administration; were not mentioned by Roosevelt at all during his presidential campaign; and/or were completely new innovations in response to the problems with the regulatory status quo that policymakers came to perceive as a result of the shock of the Depression and which had not figured in previous national debates. Both the timing and the content of the major regulatory policy changes that emerged in the early 1930s are better understood as the products of adaptive learning by policymakers in response to unanticipated events, rather than as the outcome of the electoral competition between clearly defined programmatic alternatives advocated by rival political parties.

A final set of rival explanations is offered by institutional accounts. A wide range of institutional features can shape the ease with which political leaders can advance their policy objectives as well as the ability of competing interest groups to affect the policy process. It is certainly true, of course, that the particular institutional features of the United States – including the division of powers between the executive and legislative branches and between houses of Congress, as well as the committee structure of the U.S. legislature – affected the political process by which reform occurred. A political system which contained fewer institutional checks and balances might have enabled the political executive to advance its policy priorities more rapidly
and with fewer concessions. By itself, however, the institutional structure of the United States government does not enable us to understand why major financial regulatory reforms were introduced at this time and not ten years earlier; nor do they explain why the political executive chose to advance the particular policy proposals that it did and not completely different regulatory reforms. Answering these questions requires rather that we understand how political leaders perceived the problems that they faced and how they believed that regulatory reforms would enable them to better reach their broader policy objectives.

In this chapter I examine the observable implications of the theoretical framework that I outline in earlier chapters against the historical record of financial regulatory change in the United States over the period from approximately 1980 to 2010. By considering regulatory changes over a relatively long time period I am able to examine both (i) the timing and broad correlates of regulatory change; and (ii) the details of the policymaking process. I contend that, overall, the theoretical framework that I offer provides a better fit and more plausible interpretation of this change than do alternative explanatory frameworks, including the interest-based, partisan, and institutionalist frameworks that I have discussed in earlier chapters.

The first section of this chapter examines the gradual process by which the financial regulatory framework established during the 1930s was transformed by piecemeal but cumulatively significant changes over the period from roughly 1980 to 2000. I argue that this constituted a shift from what I label the “rules-based risk segmentation and control” regulatory paradigm that emerged in the wake of the Great Depression toward what I label a “market incentive” regulatory paradigm. The second section of the chapter examines the 2008-2009 financial crisis and the political process by which major financial regulatory change has again been put on the policy agenda, with
at least preliminary evidence suggesting that a new regulatory paradigm may be emerging.

6.1 Emergence of a new financial regulatory regime 1980-2000

The financial regulatory regime that emerged from the Depression era segmented markets for different types of financial services and restricted the competition and activities of financial firms in important ways. As I have argued in the previous chapter, the major financial regulatory changes of this era were driven in large part by the adaptive learning of policymakers, filtered through their cognitive frameworks, as policymakers came to perceive that flaws in the existing regulatory status quo had contributed to the onset of the Depression. In response to the perception that the securities activities of banks and their affiliates had contributed to the stock market bubble and subsequent crash, the Banking Act of 1933 (commonly known as the Glass-Steagall Act) prohibited banks from engaging in most types of securities activities or from affiliating with securities firms and imposed parallel restrictions on securities firms. The act also subjected deposit interest rates to regulatory control, prohibiting banks from paying interest on demand deposits and giving the Federal Reserve the authority to set interest rate ceilings on savings accounts. This was a response to the perception that competition between banks to attract deposits in an uncertain environment had undermined the stability the banking system. In addition, the act confirmed existing prohibitions on interstate banking and restrictions on the ability of
banks to open multiple branches within a given state. The Bank Holding Company Act of 1956 further segmented financial services by prohibiting banks from engaging in or affiliating with companies that engaged in non-financial activities or financial activities that were not merely incidental to the business of commercial banking. Most importantly, this had the effect of preventing banks from offering insurance products or affiliating with insurance companies.

The legislation of this era strengthened existing federal regulators and added to an already complex system of financial regulatory agencies with overlapping responsibilities. The introduction of federal deposit insurance in 1933 saw the creation of the Federal Deposit Insurance Corporation (FDIC), which shared responsibility for supervising banks with existing bank regulators, including the Office of the Comptroller of the Currency (OCC), the Federal Reserve, and state bank regulators. As described in the prior chapter, the Banking Act of 1935 set the foundation for the Federal Reserve to assume a more active role as a regulator by centralizing power in the politically-appointed Board of Governors in Washington, D.C. The Securities Act of 1933 and the Securities Exchange Act of 1934 extended federal regulation for the first time in U.S. history over, respectively, the issuance and secondary trading of securities, with the 1934 act creating the Securities and Exchange Commission (SEC) to assume these regulatory responsibilities. With minor changes, this system of regulatory agencies has governed U.S. financial markets until the present time, with these different regulators often taking
quite active and frequently competing roles as protagonists in regulatory policy debates as I discuss below (See Appendix A for a detailed description of the major regulatory agencies, including their organization and powers).

The financial regulatory regime that emerged in the wake of the Depression drew broad support from political leaders in both major parties and from most government and academic policy experts, with few serious challenges over the next four to five decades. This support rested upon broadly shared intellectual understandings among policymakers and policy experts as to the methods and purposes of financial regulation, reflecting existing theoretical knowledge and the lessons that policymakers learned from the historical experience of the Depression era regarding the operation of financial markets and the effects of regulatory policies, with these Depression-era policy lessons and their theoretical justifications further and more explicitly articulated by academic and policy research in subsequent decades.¹ This set of historically-grounded understandings constituted a cognitive framework which underpinned a model of financial sector regulation that I label the “rules-based risk segmentation and control” paradigm that remained dominant for nearly half a century.

This regulatory paradigm rested upon several key pillars, around which there was broad consensus. First, there was agreement that the primary focus of regulation

¹See Chapter 5 above for a discussion of the political process by which the Depression era financial regulatory regime emerged and detailed discussion of the cognitive frameworks of the policymakers of that era. Dewatripont & Tirole (1994) offer a review and discussion of traditional rationales within the academic literature for the regulation of financial intermediaries.
should be upon the safety and soundness of the commercial banking system, implying
the need for more extensive regulation of commercial banks than of other financial
intermediaries or markets. This reflected the recognition of the moral hazard inherent in
deposit insurance and the importance of banking system stability to broader economic
stability given the centrality of banks to the functioning of the payments system and in
determining the money supply under the system of fractional reserve banking.2

Regulation of other financial intermediaries and financial markets was generally less
extensive and focused more upon protection of consumers than upon objectives of
systemic stability.3 Second, there was broad agreement that ensuring the safety and

2 Dewatripont & Tirole (1994) point to these rationales for the regulation of commercial banking as
traditionally important, while offering some critiques. As I discuss in the previous chapter, prior to the
Depression there was not generally a very clear or theoretically explicit understanding of the connection
between the health of the banking system and the stability of the broader economy. More explicit
theoretical understanding began with Fisher’s (1933) seminal debt-deflation argument; with important
subsequent contributions including Friedman & Schwartz’s (1971) monetarist interpretation of the Great
Depression and their examination of the role of the banking system collapse and the consequent contraction
of the monetary base upon the propagation of the crisis; Minsky’s (1975, 1986) financial fragility hypothesis;

3 Dewatripont & Tirole (1994) discuss the general pattern of regulation of financial intermediaries and
markets arguing that more extensive regulation is typically found where those who hold claims against
financial intermediaries (e.g., deposits, insurance contracts) are dispersed and unsophisticated and thus
unable to effectively monitor financial institutions directly, where private representation mechanisms
cannot easily be established, and where the types of financial claims are riskier in nature. Insurance
companies, securities companies, and pension funds most closely resemble banks in having dispersed and
unsophisticated claimants who hold inherently risky claims, although they have not historically had the
same importance for the payments system or money supply as commercial banks. Not surprisingly,
therefore, insurance companies, securities firms, and pension funds in the United States have, like banks,
have been subject to capital requirements and certain activity restrictions. Such regulatory requirements,
have, however, emerged only more recently for these financial intermediaries and remain less extensive
than those for banks: the Employee Retirement Income Securities Act (ERISA) of 1974 established safety
guidelines for pension fund investments; the National Association of Insurance Commissioners (NAIC)
agreed to uniform risk-based capital adequacy requirements for insurance companies in 1993; and the
Securities and Exchange Commission established minimum capital requirements for brokers and dealers in
1975 with the Uniform Net Capital Rule of 1975 (for further detail see U.S. GAO 1998). Asset managers by
soundness of the commercial banking system required the clear separation of
commercial banking from other financial and non-financial activities (particularly
securities market activities); other restrictions on bank activities designed to constrain
risk-taking and/or potentially destabilizing competition (e.g., restrictions on deposit
interest rates and on permissible bank lending); and minimum capital requirements to
protect bank solvency and to incentivize shareholder monitoring of bank managers.\footnote{As I discuss below, U.S. regulators adopted explicit capital adequacy guidelines for commercial banks only in the 1980s with domestic legislative pressure for more explicit capital adequacy guidelines paralleling the negotiation of the first Basle Accord on capital adequacy. U.S. regulators did, however, employ risk-based capital adequacy measures broadly similar to those ultimately adopted in the Basle accord as a supervisory tool as early as the 1950s. Regulators, however, did not employ consistent definitions of equity capital and relied upon peer group comparisons that allowed for greater regulator discretion, rather than explicit ratios. See Reinecke (1995), Federal Deposit Insurance Corporation (1997), and Singer (2007).}

Third, there was agreement that the objectives of regulation – the containment of risks
and the protection of unsophisticated consumers – would be best realized through the
imposition of explicit and relatively simple rules proscribing or prescribing particular
contrast have generally been subject to only basic disclosure, antifraud and minimal activity restrictions
where they manage assets on behalf of retail clients (e.g., mutual funds, money market funds); or no
regulation at all where they manage assets on behalf of sophisticated investors (e.g., hedge funds).
Similarly, capital markets transactions have generally been subject to more limited regulatory oversight
designed to protect retail customers and to ensure the orderly functioning of markets through disclosure
and reporting, anti-fraud and anti-market manipulation rules. The primary issuance of securities is
governed by the Securities Act of 1933 which requires the registration of new securities issues and specifies
required disclosures in the registration statements and issuer prospectuses. Secondary market trading in
securities and the activities of securities exchanges are governed by the Securities Exchange Act of 1934
which established regular reporting and disclosure requirements for publicly traded companies, anti-
fraud and anti-market manipulation rules, regulatory oversight of securities exchanges, and margin
requirements. Trading in certain securities (e.g., government bonds) has historically been excluded from the
requirements of these acts as are certain transactions between sophisticated counterparties (e.g., private
placements). Beyond these restrictions and requirements, U.S. securities regulation has not traditionally
sought to restrict the trading activities of private market actors or to explicitly ensure the systemic stability
of capital markets, apart from minimal measures such as margin requirements or rules governing the
“orderly” execution and settlement of trades on exchanges. For an excellent discussion of the evolution of
U.S. securities regulation see Seligman (2003).

\footnote{As I discuss below, U.S. regulators adopted explicit capital adequacy guidelines for commercial banks only in the 1980s with domestic legislative pressure for more explicit capital adequacy guidelines paralleling the negotiation of the first Basle Accord on capital adequacy. U.S. regulators did, however, employ risk-based capital adequacy measures broadly similar to those ultimately adopted in the Basle accord as a supervisory tool as early as the 1950s. Regulators, however, did not employ consistent definitions of equity capital and relied upon peer group comparisons that allowed for greater regulator discretion, rather than explicit ratios. See Reinecke (1995), Federal Deposit Insurance Corporation (1997), and Singer (2007).}
activities and actions – such as segmentation and activity restrictions on financial intermediaries, reporting and disclosure requirements, and capital adequacy requirements. The proper role of government financial regulators was, therefore, to review compliance with these explicit rules through periodic “point in time” examinations of financial intermediaries at regular intervals. Finally, there was agreement that regulatory rules should focus on containing the risks and protecting the unsophisticated claimants of individual financial institutions. Although systemic stability was clearly an objective of financial regulation, regulators and policy experts believed this objective could be attained by the application of uniform rules to individual institutions and saw no need for explicit consideration of overall systemic effects and risks in the design of regulatory rules – in other words, focus was placed on the safety and soundness of individual institutions and, only as a byproduct rather than an explicit focus of regulatory attention, would systemic stability be achieved. As long as individual institutions complied with the basic uniform prudential rules established by regulators, market competition in financial markets would tend toward socially optimal outcomes.

Most of the barriers between different financial markets and restrictions on the activities of financial firms erected in the Depression era were gradually dismantled in a series of steps over the course of the period from approximately 1980 to 2000. Many incremental steps were taken by the regulatory agencies themselves, often supported by
court decisions, as the regulators came to interpret statutory restrictions increasingly broadly, and in some cases pushing the boundaries of existing law. A series of major pieces of legislation successively dismantled the different barriers and restrictions established in the Depression era, in some cases merely ratifying changes which were already occurring due to technological and financial innovations and the cumulative effects of the incremental changes that federal and state regulatory agencies had previously allowed. Restrictions on the ability of banks to set deposit interest rates were removed by the Depository Institutions Deregulation and Monetary Control Act of 1980. Restrictions on interstate banking were lifted with by the Reigle-Neal Interstate Banking and Branching Efficiency Act of 1994. Of greatest importance to the structure of the financial system, the Gramm-Leach-Bliley Act repealed the vestiges of the Glass-Steagall Act of 1933, expanding the permissible activities of commercial banks and allowing the affiliation of commercial banking, insurance, and securities firms within “financial holding companies”. Most recently, the Commodity Futures Modernization Act of 2000 (“CFMA”) ensured that most over-the-counter (“OTC”) derivates, including the burgeoning market for credit default swaps, would remain largely outside the regulatory purview of the Commodities Futures Trading Commission (CFTC) or the SEC and, therefore, exempt from many of the controls that exist on organized futures exchanges and exempt from the tighter reporting, anti-manipulation, and anti-fraud provisions that apply to other securities. Together with other changes that regulators
initiated and that I discuss below, the passage of the CFMA facilitated the massive
growth of OTC derivatives and the closely related growth of the so-called “shadow
banking system” which fundamentally changed the character of and structure of risks
within U.S. financial markets during the first decade of the twenty-first century in ways
that, it can be reasonably argued, made the massive financial crisis of 2008-2009 possible.
Cumulatively, the regulatory changes described in this paragraph constituted a
fundamental shift away from the regulatory paradigm imposed in the wake of the
depression and toward a “market incentive” based regulatory paradigm.

Although policymakers and policy experts continued to accept the basic need to
regulate and supervise commercial banks and other financial intermediaries to protect
consumers and limit systemic risks, the consensus of expert and policymaker opinion
shifted over this period. A sophisticated and coherent body of academic and policy
research and theoretical argumentation emerged over the course of 1970s through 1990s
challenging many of the causal assumptions and policy prescriptions that guided the
earlier “rules-based risk segmentation and control” paradigm. As I argue below, to a
significant extent, much of this new research and theoretical argumentation was driven
by the efforts of policy experts and policymakers to address perceived problems with
the regulatory status quo in the face of new market and technological developments,
reflecting adaptive learning in response to new events.
Cumulatively these formed the basis for a shift in the prevailing cognitive framework through which policymakers and policy experts understood the consequences of different regulatory policies, with this shift underpinning the articulation of a new model of financial sector regulation that I label the “market incentive” paradigm. As I discuss in greater detail below, the new paradigm consisted of a set of interrelated beliefs regarding the functioning of financial markets and the effects of policy interventions which placed much greater faith in the efficiency and optimality of market outcomes. First, policy experts came to explicitly question the theoretical justification for segmenting financial markets (e.g., separating commercial banking and securities market activities) and for imposing activity restrictions on financial institutions (e.g., interest rate controls or lending restrictions). Consensus expert opinion increasingly saw such restrictions as unnecessary or even counterproductive to the policy objectives of containing systemic risk and of protecting consumers and saw such restrictions as imposing significant efficiency costs on the broader economy. Second, policy experts increasingly argued that “market monitoring” by sophisticated counterparties should compliment or even partially replace the traditional role of regulatory agencies in supervising and monitoring risk-taking by banks and other financial intermediaries. Third, policy experts and regulators argued that the increasing complexity of financial firms and markets necessitated a shift away from a regulatory model based on “point-in-time” monitoring of compliance with
simple and explicit rules toward a regulatory model based upon the monitoring of the
process of risk management within financial firms. This, in turn, justified greater
reliance upon the internal risk models that large financial institutions began to develop
at this time. These shifts in expert beliefs paralleled the shift in regulatory policy and
practice that I describe above, marking a basic shift in the paradigm guiding U.S.
financial regulation. I argue in the concluding section of this chapter that a new
regulatory paradigm may be emerging in the wake of the 2008-2009 financial crisis, with
significant shifts in both the dominant cognitive framework guiding financial regulation
and in the substance of financial regulation away from the “market incentive” paradigm.
I postpone discussion of this new paradigm until the concluding section of this chapter.

The important question from the point of view of the theoretical argument that I
present is why the cumulatively major regulatory shift towards the “market incentive”
regulatory paradigm occurred over the three decades from roughly 1970 to 2000. It is
clearly the case, as I discuss below, that evolving market and technological factors
placed important competitive pressures upon certain types of financial firms and that
these firms aggressively exerted lobbying and political pressure for regulatory change to
enable them to respond to and/or take advantage of such changes. This in many
respects presents a difficult test for the theoretical arguments that I present as plausible
arguments can be advanced that explain the regulatory change that occurred as driven
by the pressure of a powerful interest group able to use its money to influence the
political process and regulatory outcomes. These are the explanations offered by traditional interest-group “demand-side” explanations and regulatory capture arguments that I discuss in previous chapters.

I argue in this chapter, however, that although superficially appealing, these arguments do not correctly characterize the process by which financial regulatory change occurred during this period. While important segments of the financial industry lobbied aggressively for certain of the regulatory changes that were eventually adopted, other important segments of the financial industry lobbied equally aggressively in opposition to those same regulatory changes which they saw as harming their competitive position. There is no obvious way by which an observer, without the benefit of hindsight, would have picked the “winners” of these regulatory policy struggles based simply upon an assessment of the relative “strength” of different industry groups at the outset of this process. Rather, the available evidence suggests that, consistent with the theoretical argument I have offered, the political executive and other key political leaders took the initiative to advance market-oriented financial regulatory change because they believed that such regulatory change was instrumentally important to their ability to realize other important policy objectives including improved economic growth and the restoration of national economic competitiveness. In addition, the heads of the specialized financial sector bureaucracies were influential upon the course of regulatory policy debates as advocates of particular
regulatory policy positions. Moreover, the content of regulatory reform was clearly shaped by the cognitive frameworks of political leaders and regulators, with such cognitive frameworks providing a basis for the expectations of these actors that particular regulatory changes would indeed be helpful to their realization of other policy objectives. While financial industry lobbies clearly exerted influence upon the policy process, they did not simply set the policy agenda or “buy” regulatory outcomes. Rather, consistent with my theoretical argument, the evidence suggests that such lobbies had greatest influence as “veto players”, frequently able to block regulatory change with which they disagreed and thus able to constrain the feasible set of policy choices available to political leaders.

In section 6.1.1 immediately below I discuss the emergence of the new cognitive framework that underpinned the market incentive regulatory paradigm. In particular, I discuss the major theoretical pillars of that cognitive framework as it is important to understand the theoretical beliefs of policymakers and policy experts in order to understand how they understood the consequences of the policy choices which they faced. Further below, in section 6.1.2, I discuss the political process by which the major elements of the new regulatory paradigm were enacted. In my discussion, I compare the consistency of the historical record against my and alternative theoretical frameworks and highlight the important role of cognitive frameworks in shaping regulatory decisions.
6.1.1 The Emergence of a New Cognitive Framework

I argue in this and the following section that the financial regulatory policy decisions which political leaders and regulators took over the period from roughly 1980 to the early 2000s were driven, to a significant extent, by the growing emergence of a coherent set of beliefs (or in my terminology “cognitive framework”) which led decision-makers to perceive the nature of policy problems and the consequences of different policy choices in specific ways that differed sharply from how they were perceived by decision-makers in the decades following the Depression. This emerging cognitive framework provided policymakers with coherent explanations of how the financial regulatory status quo inherited from the Depression era harmed national competitiveness and economic growth and of why a shift to a more market-oriented financial regulatory framework would unleash the productive potential of the economy.

This shift in the cognitive framework through which policymakers increasingly came to understand the consequences of financial regulatory choices paralleled a broader shift in the structure of prevailing economic beliefs among many policymakers, economists and other academics, business leaders, journalists and other elite opinion-leaders beginning in the late-1970s and early 1980s. While a comprehensive discussion of the growing ascendancy of “free market” or “neoliberal” policy views starting at this time goes well beyond the scope of this dissertation, two general points are important in conjunction with the theoretical argument that I advance. First, these policy views
gained traction as the persistent stagflation of the 1970s provoked a search for policy solutions and provided fertile ground for those who questioned the economic viability of the postwar Keynesian welfare state and regulatory order; with the resumption of generally rapid economic growth for much of the 1980s and 1990s seeming to vindicate advocates of “free market” policies of deregulation, privatization, reductions in marginal rates of taxation on wages and investment income, and reductions in social welfare expenditures (Woodford, 1999; Yergin & Stanislaw, 2002, pp. 551-558). Second, the advocates “free market” policies, most famously the “Chicago School” of economics in its different variants, provided a comprehensive, internally consistent, and elegantly elaborated theoretical alternative that offered both clear explanations for the economic difficulties of the 1970s and clear policy prescriptions.5 This represents an example of

5 On the evolution of the Chicago School and its place within twentieth century economic thinking see (Emmett, 2008; Redder, 2008; Woodford, 1999). Milton Friedman developed the Monetarist challenge of the foundations of Keynesian aggregate demand management and challenged the existence of a trade-off between unemployment and inflation posited by the Philips curve, arguing that the economy has a “natural” or “non-accelerating rate of unemployment” (NAIRU) that is determined by the structure of the labor market and other “structural” factors. The implications of Friedman’s arguments were that attempts to counter unemployment through aggregate demand management (e.g., fiscal policy or monetary policy) were futile and were responsible for stagflation, and that state interventions that “distorted” the labor market such as unemployment insurance could contribute to persistent high unemployment (J. E. Stiglitz, 2010, pp. 258-265; Walters, 2008; Woodford, 1999). Robert Lucas (with important contributions by Robert Barro, William Brock, Edward Prescott, Thomas Sargent, and Neil Wallace) developed the “rational expectations” model in the 1970s which became the foundation of the New Classical Economics school criticism of the traditional Keynesian framework. The rational expectations model argued that rational economic actors would anticipate the effects of any monetary policy intervention intended to increase output and employment, causing nominal wages and prices to adjust instantaneously and thereby thwarting the effectiveness of any such policy intervention (Woodford, 1999). In addition to criticisms of Keynesian economics, the Chicago School provided intellectual foundations for the criticism of government regulation, with Chicago School economists arguing generally that markets would clear and would optimize social welfare as long as prices were set by market forces rather than “distorted” by government regulation (Reder, 2008). Ronald Coase (1960) criticized the view that the existence of negative externalities
the process of “adaptive learning” that I discuss in previous chapters by which cognitive frameworks are modified and sometimes replaced by other frameworks which seem to better explain new events and/or offer policymakers tools for reacting to new situations.

Although the shift in the cognitive framework guiding financial regulation had clear links to the broader rise of “free market” ideas in the 1980s and 1990s, the point that I wish to make is that what I have labeled the “market-incentive” regulatory paradigm draws upon a specific set of interrelated beliefs and theoretical arguments which gave a coherent basis for the shift in financial regulatory policy and which must be understood in their own right. On such set of arguments offered a coherent theoretical framework to support the belief that most regulatory restrictions on financial markets would harm economic efficiency and growth. These included the theoretical argument that markets will tend toward socially-optimal equilibria, supported by the Arrow-Debrau theorem; related and more applied arguments that that regulatory interventions in financial markets tend to distort the allocation of financial resources and harm potential economic growth, as argued by the “financial repression” and “finance and growth” literatures; and the argument that in competitive financial markets the prices of financial assets will rationally reflect all available information as argued by the

from an economic activity (e.g. pollution) requires government intervention (e.g. Pigovian taxes), arguing that Pareto-optimal solutions could always be reached by contracting between the affected parties as long as property rights were well-defined and transaction costs nonexistent (Mueller, 2003, pp. 27-30). George Stigler (1971) developed the theory of regulatory capture, arguing that economic regulation is generally the result of the capture of regulatory policy by interest groups who use the coercive power of the state to distort markets and extract gains for themselves at the expense of competitors and broader social welfare.
“efficient markets hypothesis”, with important implications that I discuss below. A second, broadly related, set of theoretical arguments offered a basis for the belief that the negative risk externalities of financial firms could be effectively contained by a regulatory regime that relied to a much greater extent upon market-based incentives. These arguments included explicit arguments that the segmentation of financial activities – particularly the separation of commercial banking and securities activities imposed by Glass-Steagall – was unnecessary and even misguided as a means to contain the risks posed by financial firms; arguments that market mechanisms provide effective means for monitoring and restraining risk-taking by the managers of financial firms; and arguments that the risk exposures of financial firms could be effectively quantified by mathematical models and managed by hedging strategies based on modern portfolio theory. I discuss these in turn below.

Most generally, the shift toward a “market-incentive” financial regulatory paradigm has depended upon the belief that an economy characterized by competitive markets in which self-interested buyers and sellers who freely determine the prices at which they transact with one-another will generally reach an equilibrium in which the demand for each good will equal the supply of each good (i.e. all markets will “clear” simultaneously) and the quantities traded will maximize the well-being of the society as a whole. This is the famous “invisible hand” of Adam Smith. As Smith (2010, pp. 46-47) and Stiglitz (2010, pp. 241-245) note, belief in the scientific foundations to support such a
“general equilibrium” are widespread in the economics and finance professions and rest upon the mathematical model provided by Kenneth Arrow and Gerard Debreu in 1954 (Arrow & Debreu, 1954). The Arrow-Debreu Theorem is considered by many to be the most elegant and foundational result of twentieth century economics (rivaled only by Keynes' *General Theory*) and is taught in graduate microeconomics courses and in intermediate undergraduate courses (in simplified form). As I discuss below, the belief that markets will generally reach an equilibrium in which markets clear and which maximize the welfare of society, in other words the belief that markets are “efficient”, underlies many other more specific beliefs that have guided policy.

Stated more precisely, the general equilibrium model developed by Arrow and Debreu makes offers a proof of the following three propositions. The First Theorem of Welfare Economics states that if a given allocation of goods and their corresponding prices is a Walrasian equilibrium then the allocation of goods will be Pareto efficient, meaning that there is no alternative feasible allocation of consumption bundles that all individuals would prefer. A given allocation of goods and their corresponding prices is

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6 I draw upon chapter 16 of (Mas-Colell, Whinston, & Green, 1995). For an essentially similar exposition see chapter 17 of (Varian, 1992).

7 Where an “allocation” is a specification of a consumption vector of quantities of each good consumed by each individual and of a production vector of quantities of each good produced by each firm. An allocation is “feasible” if it is physically possible; that is, the total goods consumed by all consumers equals the total of the initial endowment of commodities in the economy plus all goods produced using the part of the initial endowment that is not consumed (Mas-Colell, et al., 1995, pp. 546-547).

8 A Pareto efficient allocation is always also “efficient in production” (or “technically efficient”) meaning that it is not possible to reallocate goods in such a way as to permit more of one good to be produced without reducing the output of some other good. Technical efficiency implies (i) that each firm uses inputs
a Walrasian (or “competitive” equilibrium) if the allocation is feasible and (i) every firm maximizes its profits given the equilibrium prices; (ii) each consumer maximizes his or her utility given the equilibrium prices and their budget constraint; and (iii) all markets clear at equilibrium so that consumers and firms can achieve any desired trade. The Second Theorem of Welfare economics roughly states the converse: for any given Pareto efficient allocation of goods there exists a vector of prices such that the allocation is also a competitive equilibrium, provided that a hypothetical social planner can adjust the initial endowments through lump sum transfers. Finally, the Arrow-Debreu theorem states that a Walrasian equilibrium will always exist as long as the assumptions of the theory hold.

The assumptions under which the predictions of the Arrow-Debreu Theorem hold are demanding and include both explicit and implicit assumptions. These include the assumptions that that markets are perfectly competitive so that no individual or firm

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9 If the initial endowment of resources is skewed in favor of certain individuals, there may be Pareto efficient allocations that the individuals will not reach by voluntary trade with one another. The definition of Pareto efficiency says only that once a given Pareto allocation has been achieved there will be no other allocation which all individuals would prefer; not that any feasible Pareto efficient allocation can be reached by voluntary trade. The Second Fundamental Theorem essentially says that, provided appropriate lump sum redistributions can be implemented, any desired Pareto efficient allocation can be achieved as the equilibrium of competitive market prices (Mas-Colell, et al., 1995, pp. 551-558; Nicholson, 2005, pp. 370-373)
can influence prices; that all economic agents have perfect information; that a complete set of insurance markets exists so that individuals and firms can purchase insurance against any conceivable risk (against “all states of nature”); that perfect capital markets exist so that any individual or firm can borrow any amount of money for as long as it wants at competitive interest rates; that technological change (i.e. innovation) is not affected by allocative decisions; and that there are no externalities or public goods (J. E. Stiglitz, 2010, pp. 241-243). Stiglitz (2010, pp. 243-245) argues that many economists and policymakers have incorrectly assumed that departures from these assumptions can be treated as minor deviations that do not significantly affect the predictions of the theory.

I argue further below that the 2008-2009 financial crisis appears to have prompted much greater interest among policymakers, financial journalists, and academics in the appropriateness of the assumptions and the accuracy of the predictions of the Arrow-Debreu model, particularly with respect to financial markets, with potentially important implications for how financial regulation will be understood by policymakers in the future. As I point out below, however, policymakers supported many of the regulatory changes that occurred over the period 1980-2010 precisely because they believed that these changes would move markets closer to the ideal presented by the theory – for example, rapid and unfettered growth of the derivatives market was seen as advantageous by key policymakers because they believed it would
enable firms to hedge (insure) themselves against a more complete set of risks and thereby improve the efficiency of markets.

The general arguments linking competitive markets and economic efficiency developed by the Arrow-Debreu model have been extended and applied to financial markets by a body of economic research beginning in the 1970s and continuing in subsequent decades, falling under the headings of the “financial repression” and related “finance and growth” literatures, which has sought to apply these general insights to demonstrate linkages between the development of competitive, market-based financial systems and broader economic growth. The financial repression literature, pioneered by the work of McKinnon (1973) and Shaw (1973), has sought to elaborate how state interventions can distort the functioning of financial markets resulting in lower economic efficiency, even when these are designed with good intentions to channel the savings of the banking system toward developmental objectives such as government borrowing to finance fiscal expenditures on development projects or borrowing by targeted sectors. Such interventions can include direct restrictions on deposit interest rates designed to lower government borrowing costs; restrictions on capital outflows that make domestic savers “captive” and unable to seek alternatives; government ownership of banks; requirements that banks purchase government debt; and requirements that banks lend to specific targeted economic sectors (“directed lending”).

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Two arguments are particularly important in this literature. First, this literature has argued that such interventions lower the returns that savers (i.e. depositors) earn in the formal banking system, either directly or indirectly by forcing deposits to be invested projects that do not earn high returns. The consequence is that the rate of savings is depressed, reducing the pool of savings available in the formal financial system to finance productive investment. Second, governments generally make poor decisions in allocating capital compared to competitive private financial markets, resulting in the misallocation of resources and a loss of economic efficiency. The potential for efficiency gains from removing such distorting interventions has underlain calls for financial liberalization that came to be a recognized part of the “Washington Consensus” (Caprio, Hanson, & Honohan, 2001; Caprio, Honohan, Feige, & World Bank., 2001; J. Williamson, 1989, 2009). The closely-related “finance and growth” literature has sought to demonstrate econometrically that there is a close relationship between the development of the private financial sector and economic growth (King & Levine, 1993; Levine, 2004; Porta, Lopez-de-Silanes, & Shleifer, 2002). Although originating in a concern with specific types of government interventions in the financial markets of developing countries, this literature helped to reinforce a general consensus among many policymakers in the 1980s and 1990s that most government restrictions on

10 For criticism of the financial liberalization literature, particularly for its failure to distinguish between small and large distortions or to consider how state interventions can overcome market failures see (J. E. Stiglitz, Jaramillo-Vallejo, & Park, 1993).
financial markets, apart from some minimum subset necessary for basic stability, would tend to lower growth.

Rivaling the Arrow-Debreu Theorem in its generality and importance, both in terms of its impact upon economic theory and its impact upon practical regulatory policy debates, is the closely-related “Efficient Markets Hypothesis” (“EMH”) in finance. As Lo (2008) explains in his review of the literature, the Efficient Markets Hypothesis has its origins in the contributions of Samuelson (1965) and Fama (1965a, 1965b). Fama (1991, p. 1575) succinctly describes the “strong version” of the hypothesis as “the simple statement that securities prices reflect all available information” and the “weaker and more economically sensible version of the efficiency hypothesis” as the statement that “prices reflect information to the point where the marginal benefits of acting on information (the profits to be made) do not exceed the marginal costs”.11 The logic of the theory is straightforward and compelling.12 Financial markets typically have many active participants, each strongly motivated to seek out profit opportunities. In such markets, participants have strong incentives to seek out and exploit even small informational advantages, purchasing or selling securities that are mispriced in light of

11 The strong version of the EMH is the same as the definition of an efficient market presented in Fama (1970, p. 383): “A market in which prices always “fully reflect” available information is called “efficient”. The weak version of the hypothesis responds to the criticism of Grossman and Stiglitz (1980) that perfectly informationally efficient markets are an impossibility because such markets would remove the potential for any market participant to gain from superior information and thereby destroy the incentive that competing market participants have to undertake the (costly) search for such information, with such competitive search efforts necessary for informationally efficient markets to arise in the first place.
12 The theoretical argument is presented succinctly in Fama (1965a) and Lo (2008).
the information that they discover. The result of many competing participants
simultaneously trying to exploit all potential informational advantages is that the prices
of securities will quickly adjust to reflect any new information. As a consequence, the
current prices of securities should reflect all available information and securities prices
should only change in response to new information, which by definition cannot be
predicted.

The theory is generally taken to imply three major empirical predictions: (i) it
should not be possible to predict the future prices of securities from their past returns or
from other currently publicly available information, implying that securities prices will
follow a “random walk”\(^\text{13}\); (ii) the prices of securities should adjust very rapidly to new
information; and (iii) except as would be expected by chance, it should not be possible
for market participants to systematically exploit superior information or insights to earn
“excess returns” above the normal market rate of return.\(^\text{14}\) The EMH has resulted in a

\(^{13}\) Technically, as Fama (1970) notes, a “random walk”, in which successive price changes are independent
and identically distributed random variables, is only one specific type of stochastic process that is consistent
with the theory’s prediction that the future prices of securities should be unpredictable based upon
historical information. Another more general such stochastic process is a “submartingale process”. Lo
(2008, pp. 782-783) stresses the general importance of the theory’s prediction of randomness: “Such
compelling motivation for randomness is unique among the social sciences and is reminiscent of the role
that uncertainty plays in quantum mechanics. Just as Heisenberg’s uncertainty principle places a limit on
what we can know about the electron’s position and momentum if quantum mechanics holds, this version
of the EMH places a limit on what we can know about future price changes if the forces of economic self-
interest hold.”

\(^{14}\) Empirical investigations of the Efficient Markets Hypothesis can generally be classified by which of these
of the EMH face the inherent difficulty of the “joint hypothesis problem” in that market efficiency “must be
tested jointly with some model of equilibrium, an asset-pricing model”. The implication is that “we can
only test whether information is properly reflected in prices in the context of a pricing model that defines
huge empirical literature in economics and finance that has sought to test the implications of the theory, although consensus remains elusive (Lo, 2008). As Lo (2008) notes, some of the most productive areas of recent research are motivated by behavioral economics which offers arguments to support the possibility that market participants may behave in systematically irrational ways that violate the predictions of the EHM as well as by techniques of agent-based modeling which do not rely upon the assumption that markets automatically tend toward equilibrium outcomes as implied by the deductive arguments of standard economics. I will argue farther below that such arguments have gained prominence as a result of the 2008-2009 financial crisis, with potentially profound implications for regulators and other policymakers understand the role of regulation in financial markets.

The efficient markets hypothesis is widely understood among economists, financial market professionals and regulators. While the theory has been the subject of

the meaning of ‘properly” and, therefore, that “precise inferences about the degree of market efficiency are likely to remain impossible”. Major asset-pricing models include the Capital Asset Pricing Model (“CAPM”) and Arbitrage Pricing Theory. Since the future return on any asset cannot be known with certainty, these models generally argue that the equilibrium price of an asset must depend upon the riskiness of the asset. As Varian (1992, pp. 368-370) notes, this necessarily involves considerations of general equilibrium, as the value of any risky asset depends upon whether or not other risky assets exist as substitutes or compliments, and thus upon the covariance of the asset with other assets. The price of an asset (e.g., a stock or a bond) is the present discounted value of the future stream of returns on that asset, where the appropriate discount rate is determined by the asset pricing model. Within the financial industry, the price of a financial asset is colloquially said to “reflect fundamentals” when its price properly reflects such information as the earnings prospects of the company, the general state of the economy, and the risk of the security relative to other possible investments, where “properly” implies reference to some asset-pricing model. The price of a financial asset is said to “deviate from fundamentals” when its price cannot be justified by such information – for example, because speculative trading has pushed the value of the asset above what can be justified by fundamentals. Techniques derived from these theoretical foundations are regularly used in applied finance.
vigorous and ongoing debate among economists and has attracted the criticism of some prominent financial market participants (e.g., Soros, 1987), it is a fair characterization to say that the EMH was the dominant perspective among academic economists and many financial professionals during the 1980s and 1990s and that the theory continues to enjoy substantial support (Fox, 2009). In addition, the theory appears to have strongly influenced the policy views of key policymakers in this period, including most notably Alan Greenspan who served as Chairman of the Federal Reserve from 1987 to 2006, and significantly influenced the broader intellectual climate within which regulatory policy was debated in these decades. The theory has been a staple in recent decades, moreover, in introductory finance courses in business schools and a required part of the curriculum for the Chartered Financial Analyst (CFA) program, an important professional credential particularly in the investment management industry. The theorem was popularized by Malkiel (1973) in the best-selling book *A Random Walk Down Wall Street*, and has provided the intellectual justification of for the rise of “passive” index mutual funds which have attracted a large share of the total assets managed on behalf of private and institutional investors and which, a substantial but not uncontested body of empirical research argues, provide better average returns to investors than “actively” managed funds, consistent with the predictions of the EMH (Fama, 1991).

As I discuss below, in the wake of the 2008-2009 financial crisis a host of authors, many writing for general audiences, have criticized the EMH and have suggested
various ways in which policymakers’ belief in the validity of the EMH contributed to monetary policy and regulatory decisions which made the financial crisis possible.15 Perhaps most remarkably, belief in the theory has been blamed as a cause of regulatory policy mistakes by the official report on the financial crisis of Lord Turner issued by the British financial regulator the Financial Services Authority (FSA), which financial journalist Martin Wolf has labeled a “watershed” in finance for its criticism of the EMH and advocacy of attention to behavioral economics as a guide to future regulatory policy (Turner, 2009; Wolf, 2009). Further below I make the argument that such reconsideration of theoretical beliefs among policymakers in the aftermath of the 2008-2009 financial crisis may be leading to a shift in the paradigm guiding financial regulation, representing a clear example of how cognitive frameworks shift in response to events in a process of adaptive learning.

Here, I highlight three ways in which the intellectual commitment of key policymakers to the efficient markets hypothesis contributed to specific financial regulatory changes during the period 1980-2000. First and most generally, the related beliefs that competitive markets tend toward efficient equilibrium (the Arrow-Debreu theorem) and the belief in the validity of the efficient markets hypothesis have supported a general belief among policymakers that innovations in financial products and markets can enhance the efficiency of financial markets (as this is defined by the

15 See for example Cooper (2008), Fox, (2009), Akerlof & Shiller (2009), Smith (2010), and Stiglitz, (2010).
EMH) and, in turn, that increased efficiency in financial markets will enhance the efficiency of the real economy by providing accurate price signals that ensure that capital is allocated to its most productive uses within the economy, thus enabling the economy to reach its highest growth potential. These ideas are clearly stated in Fama’s widely-cited 1970 article:

The primary role of the capital market is allocation of ownership of the economy’s capital stock. In general terms, the ideal is a market in which prices provide accurate signals for resource allocation: that is, a market in which firms can make production-investment decisions, and investors can choose among the securities that represent ownership of firms’ activities under the assumption that security prices at any time “fully reflect” all available information. A market in which prices always “fully reflect” available information is called “efficient.” (Fama, 1970, p. 383)

There are several ways in which it can be plausibly argued that financial innovations such as credit derivatives and securitization can increase the efficiency of capital markets and thus, following the above understanding of the link between efficient capital markets and the productive efficiency of the real economy, can promote economic growth. First, as noted above, such instruments can help to create a more complete set of financial markets, enabling financial market participants to trade different types of risk with one-another and thus to more closely approximate a situation where complete insurance markets exist (i.e., markets in which participants can insure themselves against any “state of nature”) as assumed by the Arrow-Debreu theorem. For example, credit derivatives allow two parties to effectively exchange bets on the likelihood that a particular borrower will default, thereby enabling the “protection
buyer” to hedge itself against a risk that it might not be able to hedge itself against as easily in the cash market.\(^{16}\) Similarly, securitization enables financial firms which do not wish to hold certain types of risks (e.g., the default risk on a particular portfolio of assets) to sell those risks to other parties. Second, by creating large liquid markets in which participants can trade previously untradable risks, such financial instruments establish market prices for different types of risks, thereby expanding the information available to financial market participants so that financial markets more closely approach the ideal of perfect information. Market spreads on credit default swaps, for example, are regularly used as indicators of market perceptions of the likelihood of default on different assets or classes or assets. Finally, by enabling a more complete set of risks to be traded, such instruments enable market participants to take bets on risks they believe to be mispriced by the market, thereby facilitating the process of arbitrage which underlies market efficiency in the EMH.

Key policymakers, including Greenspan, appear to have believed that the potential benefits from such financial innovations were potentially large for the real economy and that excessive regulation could hinder the spread of such innovations and

\(^{16}\) The “cash market” refers to markets in which actual securities (i.e. bonds or stocks, rather than derivative contracts based on such underlying securities) are purchased or sold, or are borrowed from another party (e.g. a broker or custodian) and then sold short. Purchasing or selling an illiquid asset (e.g., most corporate bonds) can lead to large changes in the price of the asset, which can make it impractical to hedge against a price change in the asset by entering into an offsetting long or short position. Second, shorting a stock requires that the short-seller borrow funds to finance the short position, which can frequently be more expensive than purchasing a credit derivative. Finally, in some markets (e.g., foreign securities) it may not be possible to enter into short sale at all. Credit derivatives may enable financial firms to cost effectively establish hedges in these circumstances. (Dages, Palmer, & Turney, 2005)
deprive the economy of important growth opportunities. Greenspan summarized such arguments in a 2000 speech:

All the new financial products that have been created in recent years contribute to economic value by unbundling risks and reallocating them in a highly calibrated manner. The rising share of finance in the business output of the United States and other countries is a measure of the economic value added by the ability of these new instruments and techniques to enhance the process of wealth creation. The reason, of course, is that information is critical to the evaluation of risk. (Greenspan, 2000b)

Similarly, in testimony before Congress in 2000 in which he advocated regulatory changes that would ensure limited regulation of most derivatives, Greenspan offered similar arguments:

Over-the-counter (OTC) derivatives have come to play an exceptionally important role in our financial system and in our economy. These instruments allow users to unbundled risks and allocate them to the investors most willing and able to assume them. A growing number of financial and nonfinancial institutions have embraced derivatives as an integral part of their risk capital allocation and profit maximization. In particular, the profitability of derivatives products has been a major factor in the significant gain in the finance industry’s share of American corporate output during the past decade – a reflection of their value to nonfinancial industry. Indeed, this value added from derivatives itself derives from their ability to enhance the process of wealth creation throughout our economy. (Greenspan, 2000c)

In the same testimony, he argues that “[i]mposing government regulation on a market can impair its efficiency”, and goes on to argue that there are no compelling public policy grounds for the regulation of OTC derivatives markets (Greenspan, 2000c). I argue below that, driven by these beliefs, the heads of the specialized financial sector bureaucracies played a major role in advancing the regulatory changes embodied in the
Commodities Futures Modernization Act of 2000. This act ensured that OTC credit derivatives remained largely unregulated and contributed to explosive growth in OTC derivatives trading and a major structural shift in U.S. financial markets as derivatives markets become larger than underlying “cash” markets.

It is important to note that significant theoretical arguments have been raised against the linkage between the informational efficiency of financial markets and economic growth that these policy arguments presume. One set of arguments, developed by Stiglitz and his collaborators, attacks the claim directly drawing upon arguments about the consequences of incomplete markets and of the role of information in markets. Stiglitz (1980) argues that even if financial markets appear to be competitive and to fully reflect all available information (the definition of efficiency specified by the EMH), this is neither a necessary nor sufficient condition for the allocation of capital produced by those markets to be Pareto efficient and thus productively optimal.17 Grossman and

17 Pareto efficiency, he explains, implies (i) exchange efficiency (given the information (beliefs) of the participants, the available assets are traded in such a way such that no reallocation will improve the utility of all participants); (ii) production efficiency (given available technology, resources and information are assets allocated so that productivity is optimized – in other words, it is not possible to reallocate goods in such a way as to permit more of one good to be produced without reducing the output of some other good); and (iii) information efficiency (a broader concept that includes both efficiency as defined by the EMH and the requirements that the market provide the correct incentives to gather the right types and amounts of information and that firms are able to efficiently convey information regarding their prospects to potential investors). Starting with these clarifications, he first argues that productive efficiency (implied by Pareto efficiency) requires that firms seek to maximize their market value. The maximization of market value by shareholders, however, will only lead to Pareto optimal market allocations if a complete set of risk markets exist and only if information is exogenous to the market so that the individuals beliefs regarding the characteristics of different securities and likelihood of different events is not endogenous to the market. Even if financial markets are competitive and reflect all available information, it is generally the case that information is endogenous to the market and that complete risk markets do not exist. Secondly, he offers a
Stiglitz (1980) show that it is impossible for a competitive economy to be in equilibrium, such that all markets including the market for information are simultaneously in equilibrium, if prices are fully arbitraged such that they reflect all available information, since this would destroy the incentives necessary for equilibrium by removing the potential for profit from the costly activity of arbitrage.\textsuperscript{18} Stiglitz and Weiss (1981) show that credit markets will generally not clear (i.e., “credit rationing” will exist) in markets with imperfect information, even if prices (i.e. interest rates) are set competitively. Greenwald and Stiglitz (1986) show that, generally, equilibria in markets with imperfect information or incomplete markets will not be Pareto efficient. A second related set of arguments can be made drawing upon the General Theory of Second Best developed by Lipsey and Lancaster (1956-1957). The theorem makes two claims. First, if a one of the conditions for the existence of a Pareto optimum cannot be attained, then the “second best” optimum can in general only be achieved by departing from all the other Pareto conditions. Second, and as a corollary to the first claim, the theorem states that “it is not true that a situation in which more, but not all, of the optimum conditions are fulfilled is necessarily, or is even likely to be, superior to a situation in which fewer are fulfilled” (Lipsey & Lancaster, 1956-1957, p. 12). The direct implication of the theory is that even if variety of arguments as to why informational efficiency (in the broader sense implied by Pareto efficiency) will not necessarily hold even if prices fully reflect all available information. Finally, information asymmetries and differences in interests between managers and shareholders typically imply that managers do not simply maximize shareholder value as required for Pareto efficiency.

\textsuperscript{18} Only if prices only partially reflect the information of informed individuals (those who engage in arbitrage) will general equilibrium hold. Prices can never “fully reflect” all available information.
financial innovations such as derivatives and securitization remove certain
imperfections in particular markets, for example by helping to complete missing risk
markets, as long as other market imperfections remain (as they surely will) there is no
necessary reason to believe that such changes will improve the equilibrium outcome of
the economy (they could even make it worse).\textsuperscript{19} To these deeper critiques, moreover, we
can add the simpler and more direct critique that, even if these financial innovations
contribute positively to economic efficiency and growth, it is possible that such gains are
outweighed by the negative externalities associated with such innovations in the
absence of proper regulation – including increased systemic risk to the financial system.
I postpone for later consideration how the events of the 2008-2009 financial crisis have
led to increased attention to such critiques among economists and the policymaking
community, many of whom previously treated such critiques as interesting but not
fundamentally important footnotes to a theoretical framework that justified belief in a
relatively straightforward linkage between financial market innovation and economic
growth.

A second way in which policymakers’ belief in the validity of the EMH affected
their regulatory policy decisions flows from the implication of the EMH that credit or
asset bubbles cannot exist, where bubbles are defined as a rapid increase in the price of

\textsuperscript{19} Smith (2010, pp. 51-53) makes similar arguments about the often-overlooked importance of the theory for
market-fundamentalist beliefs more generally, citing the example of trade policy.
particular types of assets (e.g., stocks, real estate) that are not justified by available
information. The reason why such “irrational” or “speculative” bubbles are
inconsistent with the EMH is straightforward: mispriced assets will attract arbitrages
whose trading will cause the price of the asset to quickly adjust to its “fair” value. The
widely (but not universally shared) theoretical belief that asset “bubbles” were not
possible had straightforward implications for regulatory policy: the concern with
“speculation” that had so obsessed policymakers in the 1930s (and which I discuss in
detail in Chapter 5) could confidently and “scientifically” be understood to be misplaced
and misguided. Not only was “speculative” trading activity not socially harmful (in the
sense of creating potentially dangerous asset bubbles with negative economic effects)
but the EMH argued such activity was essential to the efficient functioning of financial
markets, by enabling the market to quickly respond to new information and by enabling
arbitrageurs to quickly correct mispriced assets. Regulatory policy should encourage
rather than discourage active financial market trading. While volatility was inherent in
financial markets, the EMH suggested that such volatility reflected the rational reaction

20 The “fair” price of an asset given available information can only be determined by reference to a specific
asset pricing model, raising the “dual hypothesis” problem that Fama (1991, pp. 1575-1576) notes makes it
impossible to conclusively determine whether or not a given asset is “fairly” valued.
21 See Lo (2008). Bubbles can be consistent with rational behavior under certain conditions, including the
existence of information asymmetries between investors who nevertheless share a common prior
distribution; limitations in the ability of investors to engage in arbitrage activity; or the existence of
heterogeneous beliefs (i.e., investors do not share the same prior distribution) (Brunnermeier 2008). The
EMH, however, assumes that investors have rational expectations, common beliefs, and perfect information.
Such assumptions are grounded on the assumption that markets are competitive and that the potential for
arbitrage profits will justify the costs to investors of acquiring information and updating their beliefs in light
of available information.
of investors to changing information and economic conditions – implying that financial market volatility was a consequence of either bad economic policy or exogenous shocks, rather than a cause of economic problems (e.g., in the way suggested by Fisher 1933).

A third way in which the EMH affected regulatory policy decisions was that it led policymakers to believe that market prices are almost always “correct”. As I have discussed above, a central implication of the EMH is that the market prices of financial assets will fully and correctly reflect all available information. Markets process a vast amount of information and markets are always better informed than any policymaker can conceivably be. Policymakers should look to market prices as a valuable source of information rather than trying to intervene in ways that alter market prices. As I discuss in greater detail below, these beliefs were the foundation for a specific set of regulatory policies that sought to use “market monitoring” to supplement or even replace the use of regulatory supervision as a means to contain risk-taking by financial institutions. Reliance on market monitoring meant essentially trying to incentivize and facilitate the ability of shareholders and other sources of external funding for financial firms (e.g., bondholders) to monitor risk-taking by the management of financial firms. Belief in the efficacy of market monitoring depends centrally upon the belief that the prices of shares and other financial assets are “correct” and offer accurate information about the profitability and risk profile of a firm.
In addition to the more general arguments for the broader economic benefits of less restrictive financial regulation described above, a second, broadly related, set of theoretical and empirical arguments provided a coherent intellectual basis for the belief that the risk externalities posed by financial firms could be effectively managed by a regulatory regime that relied to a greater degree upon market incentives in place of rigid “rules-based” regulatory guidelines. As I have noted above, the regulatory paradigm that emerged in the wake of the Depression sought to protect the retail clients of financial firms (i.e. individual and small business depositors and investors who were presumed to be less sophisticated than large institutional clients) and to contain the risks that individual financial firms took by regulations that imposed strict segmentation of financial activities (most notably the separation of commercial banking and securities market activities); the use of relatively simple and point-in-time capital adequacy requirements to protect depositors and incentivize shareholders to monitor the risk-taking of bank managers; and detailed regulation of securities issuance and secondary market transactions to prevent fraud and market manipulation. In the place of this post-Depression regulatory paradigm, the theoretical arguments that I discuss below provided the foundation for a new regulatory paradigm in which it was perceived that the segmentation of financial activities was unnecessary; that regulators should rely upon “market monitoring” to supplement or even partially replace supervision by government regulators of the “safety and soundness” of financial firms; and that large
and sophisticated financial firms could safely determine their own capital needs based 
on proprietary mathematical models, subject to general parameters and procedural 
oversight by regulators.22 I discuss the theoretical foundations for this new regulatory 
paradigm immediately below. In section 6.1.2 below I describe the concrete elements of 
this new regulatory paradigm in greater detail and examine the political process by 
which it emerged.

One important set of arguments that informed the new regulatory paradigm 
were explicit theoretical and empirical arguments that the segmentation of financial 
activities – particularly the separation of commercial banking and securities activities – 
was not necessary to contain the risk externalities of financial firms. Theoretical 
arguments favoring the separation of commercial banking from other financial services 
include the argument that conflicts of interest arise when banks engage in diverse 
activities, creating incentives for banks to exploit unsophisticated retail depositors by 
selling them complex or risky securities or other financial products; that moral hazard 
problems (e.g., the incentive to take excessive risks given deposit insurance) are 
exacerbated when firms engage in a wider range of activities; and that complex 
institutions are more difficult to monitor.23 Proponents of the removal of restrictions on 

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22 For articulate presentations of this overall financial regulatory philosophy by proponents see Barth, 
23 Barth, Caprio & Levine (2004) summarize this literature, but themselves oppose separation of activities. 
As White (1986) notes and as I discuss in Chapter 5 above, support for the separation of investment banking 
and commercial banking under Glass Steagall drew upon the perception that the affiliates of commercial
commercial bank activities pointed to the apparent financial system stability of many European countries which had long allowed banks to engage in “universal banking” combining banking, securities, insurance and other financial activities; argued for the potential economic benefits of increased economies of scale and scope from the removal of restrictions; and argued that diversified financial firms which engaged in multiple different financial businesses would actually be more stable than non-diversified firms since their different revenue streams would not be perfectly correlated (Barth, et al., 2004; Claessens & Klingebiel, 2001). These arguments were buttressed by empirical studies which offered evidence that the securities issued by bank-affiliated firms in the 1920s performed no worse than those of independent securities firms, suggesting that banks did not systematically exploit customers (Ang & Richardson, 1994; Kroszner & Rajan, 1994); that banks with securities affiliates did not fail more frequently than banks without such affiliates during the Depression (White, 1986); and, that permissive regulations regarding universal banking were associated with greater banking system

banks had been particularly egregious in exploiting retail customers by selling them securities that the sellers knew to be wildly overvalued or even worthless (the Pecora hearings focused special attention on National City’s securities businesses); that commercial bank’s soundness had been threatened by the reckless activities of their securities affiliates; and by the belief that bank affiliation with securities companies had encouraged lending on the basis of stock market collateral in violation of the tenets of the real bills doctrine and had led the expansion of “speculative” credit responsible for boom and subsequent collapse of the stock markets.

24 Modern portfolio theory (MPT), originating in the contribution of Markowitz, argues that it is possible to construct an “optimal portfolio” of assets that provides a desired level of expected return at the lowest possible risk (minimum variance of returns) by combining assets whose returns are not perfectly correlated. The potential benefits of business diversification are based upon this theoretical foundation. Modern portfolio theory rests upon the assumption of that investors are rational and markets are efficient and is the basis for the Capital Asset Pricing Model (CAPM).
development and a lower incidence of recent banking crises in a cross-section of countries (Barth, et al., 2006; Barth, et al., 2004). With the Depression an increasingly distant memory and with European countries, led by London’s 1986 “Big Bang”, deregulating their financial markets with few apparent problems, these types of arguments became increasingly plausible to policymakers in the 1980s and 1990s.

A second set of arguments had an important influence upon the new regulatory paradigm, providing a basis for the belief that markets could effectively monitor and control the risks that bank managers take so that “market monitoring” mechanisms could supplement or even partially substitute for oversight by government regulators. These arguments are linked to the efficient markets hypothesis as they presume that the market prices of securities (i.e., the price of shares and bonds issued by firms) rapidly incorporate all available information and therefore can therefore provide valuable information on how well firms (including of course financial firms) are managed. The general belief that markets could provide effective monitoring and feedback mechanisms to ensure that firms were well-managed was supported by explicit arguments that drew widespread support during the 1980s and 1990s. The general theoretical problem of the separation of ownership and control in modern corporations with dispersed shareholders and professional managers was articulated in 1932 in the influential book *The Modern Corporation and Private Property* by Adolf A. Berle Jr. and Gardiner C. Means, who argued that the managers of large corporations with dispersed
shareholders lacked the incentive, existing in the simple owner-operated firms of classical economic theory, to maximize the profit and hence efficient resource utilization of their firms, creating the problem of “corporate plunder” and a misalignment of social and managerial interest.25 The issue was explicitly formulated as that of a principal-agent problem by economists in the 1970s and early 1980s.26 Fama and Jensen (1983a) argued directly that the separation of management and control was economically optimal, with shareholders as “residual claimants” specializing in risk-bearing and in allocating capital among competing firms (alternate investment opportunities) while professional managers specialized in management. Fama and Jensen (1983b) argued that the benefits to large firms from the separation of ownership and control (including the ability to raise capital more efficiently) significantly outweighed the agency problems, with modern corporations typically controlling such agency problems effectively through universally employed mechanisms that include organizational decision hierarchies, mutual monitoring systems among employees (who are incentivized by the fact that their human capital becomes more valuable in efficient

25 Dispersed and disorganized shareholders lacked the means to effectively monitor or discipline professional managers in their argument. The corporation depicted in Berle and Means is an idealized version of the publicly-held American corporation, with concentrated ownership typical in other countries (Porta, Lopez-de-Silanes, & Shleifer, 1999). Berle was a member of Roosevelt’s “Brain Trust”.

26 Seminal contributions were Ross (1973) and Jensen & Meckling (1976). Lazonick and O’Sullivan (2000) note that agency theory arose during the 1970s as economists focused on the problem of lagging economic performance and the declining competitiveness of American industry that many contemporaries perceived.
organizations), and by boards of directors who represent the interests of shareholders. Complementary arguments were offered by other economists, who argued that with large capital markets the threat of takeovers could effectively discipline managers (M. C. Jensen, 1986; Scharfstein, 1988) and that incentive compensation schemes that included stock-based and performance-related compensation for managers would effectively align the interests of shareholders and managers (Demsetz, 1983). These ideas were popularized by the “shareholder value” movement that took hold in the 1980s, which stressed share price performance as the key metric to measure management performance (Lazonick & O’Sullivan, 2000). Shareholder value was championed by Jack Welch, the celebrity CEO of General Electric, in a best-selling book by Rappaport (1986), by market commentators and management consultants.

The general idea that “private market monitoring” and “market discipline” could effectively control excessive risk-taking by managers of financial firms and could at least partially substitute for supervision by government regulators attracted the support of key policymakers and policy-oriented economists in the 1990s and early 2000s. Support for “market monitoring” as an adjunct or substitute for regulatory oversight

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27 Both articles appear in a special edition of the June 1983 of the *Journal of Law and Economics* devoted to a reexamination of Berle and Means’ book, with contributions by Gardener Means, George Stigler and Claire Friedland, Harold Demsetz, Douglas North, Robert Hessen, and Oliver Williamson. The tone of most of the contributions is sharply critical of the conclusions of Berle and Means, with the important exception of Williamson (1983) who took issue with the argument of Fama and Jensen (1983b) that the agency problems of large corporations are easily solved.

rested upon two ideas: (i) that market mechanisms could effectively incentivize managers to maximize the profits of financial firms (for the types of reasons discussed above), which was implicitly assumed to mean that they would avoid unreasonable risks, and (ii) that the growing complexity of large financial institutions meant that traditional supervisory tools – in particular, annual bank examinations to examine the “point-in-time” financial condition and compliance of banks with simple rigid capital adequacy and leverage ratios – were becoming obsolete. In order to offset the perceived weaknesses of traditional methods of supervision, beginning in the mid-1990s the Federal Reserve began to implement “risk-focused supervision” (or “risk-based supervision”) of what were termed “large complex banking organizations” (“LCBOs”) (DeFerrari & Palmer, 2001). Risk-based supervision entailed (i) more continuous supervision of LCBOs (with teams of supervisors embedded inside such institutions on an ongoing basis), and (ii) an emphasis on the evaluation of the process and internal systems for risk management and control in LCBOs, which came to include the reliance by regulators on (and their attempt to evaluate the adequacy of) the proprietary mathematical models that large banks were developing to measure their risk exposures and capital needs across different business lines and which I discuss further below.

Within this context, and given that they expected market prices to rationally and rapidly

\footnote{Unlike “traditional” commercial banks, large modern banks increasingly engage in propriety trading, securitization of assets, and large derivatives transactions which can shift the composition of a banks’ assets and the risks to which it was exposed very rapidly. An examination of the quality of a bank’s assets or its capital adequacy conducted at one point in time are, therefore, unlikely to be representative.}
incorporate all new information, regulators saw “market monitoring” as an important means to discipline complex financial institutions and to supplement or even partially replace traditional methods of banking supervision. Greenspan summarized the general argument in a 2000 speech:

Today’s products and rapidly changing structures of finance mean that supervisors are backing off from detail-oriented supervision, which no longer can be implemented effectively. We are moving toward a system in which we judge how well your internal risk models are functioning and whether the risk thus measured is being appropriately managed and offset with capital. And we are moving toward a system in which public disclosure and market discipline are going to play increasing roles, especially at our large institutions, as a necessity to avoid expansion of invasive and burdensome supervision and regulation (Greenspan, 2000a).

The expected benefits and functioning of “market discipline” are explained in greater detail by Federal Reserve officials DeFerrari and Palmer (2001, p. 56):

The need for market discipline – and its prerequisite, public disclosure – is heightened because the unusual size and complexity of LCBOs requires either more burdensome and detailed supervision and regulation or incentives from other sources to ensure safe and sound banking operations. Discipline of LCBOs and other banking organizations by the market can complement supervision by reducing excessive risk-taking, by alleviating some of the moral hazard that exists with a federal safety net, and, it is hoped, by decreasing the level of supervision that would otherwise be necessary.

   Market discipline works through changes in access to funds and changes in risk premiums as banks take on or shed risk or engage in certain types of transactions. Market discipline can function directly, for example, if the cost of funding for a banking organization rises as its risk-taking increases; or indirectly, as market participants and bank supervisors observe prices of the company’s financial instruments (including its equity shares and various types of debt) to assess whether the risk profile has increased and then take appropriate action.
Beyond the general advocacy of increased disclosure by financial firms, belief in the efficacy of market monitoring drove a set of specific regulatory initiatives. These included the passage of the Commodities Futures Modernization Act of 2000 (the “CFMA”). This act ensured that over-the-counter credit financial derivatives, including credit derivatives, remained outside the regulatory purview of the SEC and the CFTC and that trading in such derivatives remained in over-the-counter markets rather than on organized exchanges – a factor which arguably contributed to the financial crisis of 2008-2009 as I discuss below. Greenspan took a key role in advocating passage of the CFMA, basing his support for the CFMA on the argument that regulation of such derivatives was unnecessary since they involved sophisticated counterparties which could effectively monitor one another – a position clearly based upon belief in the efficacy of market monitoring (Smith 2010).

In addition, changes to bank capital adequacy guidelines under the Basel II rules agreed by members of the Basel Committee on Banking Supervision in June 2004 incorporated elements of market monitoring in several ways30 (for detail see Hull 2010, chapter 11). First, the new capital accord required that banks base the asset risk weights

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30 See Hull 2010, chapter 11 for detail. Basil I required banks to hold total capital (“Tier I” and “Tier II” capital) equal to at least 8% of their the sum of their risk-weighted assets, with loans and other bank assets assigned simple risk-weights of 0%, 20%, 50% or 100% depending on the type of asset. The “Pillar I” of the Basel II framework required banks to hold total capital equal to 8% of the sum of their credit risk plus their market risk plus their operational risk (the second two are both completely new). The credit risk was calculated in new ways as described below. “Pillar II” requires that supervisors review banks’ calculation of capital adequacy and risk management procedures. “Pillar III” requires that banks disclose their capital adequacy and risk management practices in order to enable monitoring by outside counterparties.
used in the calculation of capital adequacy on the ratings supplied by credit rating agencies. This was intended to provide more accurate weightings of the actual risks of assets in capital adequacy than the crude but simple set of weights used under the Basel I capital adequacy guidelines, with the ratings of credit rating agencies seen as representing “market” judgment regarding the creditworthiness of different borrowers.

Second, the Basel II framework required sophisticated banks to use their own internal mathematical models of to calculate credit and market risk. This was consistent with the belief in the value of market monitoring since it was believed that the use of internal models would provide banks with incentives to base their lending and trading decisions

31 The U.S. regulators chose to apply Basel II only to larger sophisticated banks and to retain a modified version of Basel I for small regional banks. The European Union applies Basel II to all banks. Basel II requires that less sophisticated banks (as judged by the regulator) must use a “standardized approach” to calculate capital adequacy that resembles the old Basel I calculations but which uses risk weights based on the ratings of credit rating agencies. As I discuss below, sophisticated banks were required to base their estimated credit and market risks on their own internal mathematical models and to supply their own estimates of the likelihood of the default of different counterparties, rather than relying on rating agency estimates. However, rating agency ratings were required to be used as the basis for calculating the credit risk associated with loan guarantees or credit derivatives.

32 Under the old Basel I guidelines issued in 1988, for example, a loan to a AAA rated corporation received the same 100% risk weighting as a loan to a B rated corporation. Similarly, loans to any bank or public entity of any OECD country received only a 20% risk weighting, no matter how risky the borrower might be in reality. It was generally believed that such rigid guidelines were inadequate and provided perverse incentives for banks to lend to riskier borrowers in order to obtain higher yields on the same level of required capital.

33 These mathematical models are based upon “value at risk” models, which base the capital requirement on a calculation of the expected losses due to credit and market risk over a one-year time horizon at the 99.9% confidence interval using what is known as a one-factor Gaussian copula model. Firms supply their own estimates, based upon historical time series, of the probability of default by different issuers over this time horizon and the expected loss given default (incorporating estimates of recovery of collateral, etc.). A benefit of such models was believed to be that they required banks to explicitly consider the cross-correlations between different default and market market risks, an element of risk not captured by the older Basel I guidelines. As I discuss below, such internal models have been extensively criticized in the wake of the 2008-2009 crisis. Among the key criticisms are the reliance upon the assumption of a normal distribution of losses (underlying the Gaussian copula model) and the reliance upon estimates of default probability and cross-correlations based upon limited available historical data for many types of risks.
upon capital requirements that accurately reflected the banks own best estimate of the risks inherent in such activities rather than arbitrary fixed weightings set by regulators.\textsuperscript{34}

Third, “Pillar III” of Basel II included guidelines that required banks to increase disclosures regarding their capital adequacy and risk-management procedures in order to facilitate the ability of market counterparties to better monitor their risks and thus better impose market discipline. In addition, proposals to require banks to issue subordinated debt as part of their capital structure were widely discussed but ultimately not included in the guidelines. The theory behind such proposals was that banks would be sensitive to the interest rate that they paid on the subordinated debt they were required to issue and that the large institutional investors in such subordinated debt would have strong incentives and ability to monitor the riskiness of issuing banks, thus enabling a further form of market discipline. As noted above, an additional and closely-related general reason why regulators supported the move toward internal risk models was the belief that the simple formulaic point-in-time measure of risk under Basel I was increasingly inadequate the measure the risk of large complex financial institutions - that is, that risk-based rather than rule-based supervision would better enable

\textsuperscript{34} This implicitly assumes that the managers of banks will seek to maximize shareholder value which is assumed to require that banks consider the both the risk and the potential reward of alternative opportunities. Pillar II of Basel II required, however, that supervisors review the adequacy of banks’ internal risk models – a very demanding supervisory task given the complexity of such models and of their inputs.
supervisors to monitor and control the true risks of increasingly complex financial firms. I discuss Basel II further below.

6.1.2 The political process of regulatory reform

In this section I examine the political process by which the major financial regulatory reforms of the period from roughly 1980 through 2000 were enacted. I first examine the political process by which controls over deposit interest rates were removed by the Depository Institutions Deregulation and Monetary Control Act of 1980 ("DIDMCA") and restrictions on interstate banking were removed by the Reigle-Neal Interstate Banking and Branching Efficiency Act of 1994 (the "Reigle-Neal Act"). I then consider in greater detail the longer and more contentious process by which the significant changes wrought by the Financial Services Modernization Act of 1999 (the "Gramm-Leach-Bliley Act"), which permitted the affiliation of commercial banks, insurance companies, and securities firms that had been prohibited by the Glass-Steagall Act of 1933 and the Bank Holding Company Act of 1956. Finally, I examine the political process by which the growing over-the-counter derivatives market was excluded from explicit regulation under the Commodities Futures Modernization Act of 2000 (the "CFMA"); the regulatory capital requirements of large financial institutions were changed under the Basel II accord of 2004; and much of the rapidly emerging "shadow banking system" was left outside the scope of regulation. As I discuss below, the
As I have noted above, these regulatory changes pose a tough test for my theoretical arguments. Different segments of the financial industry actively and openly engaged in lobbying in support of and in opposition to the various aspects of these regulatory changes, with financial sector lobbies at times playing an important role in setting the regulatory agenda. Moreover, long-range technological and market developments clearly shaped competitive pressures within the financial industry, which in turn shaped the evolving (and sometimes changing) position which different financial industry groups took with respect to different regulatory proposals. Finally, it also seems reasonably clear that senators and congressional representatives were frequently responsive to these lobbying pressures, often taking fairly predictable regulatory policy positions in support of the particular financial industry constituencies important in their home state.

All of these observations offer support for conventional interest-group and regulatory capture arguments which explain regulatory policy outcomes as responses to the demands of powerful interest groups who effectively purchase regulatory outcomes from politicians and regulators through campaign contributions, implicit or explicit promises of lucrative future employment to politicians and regulators (e.g., as lobbyists or consultants), and even outright bribes. Politicians and regulators in this view sell
their services to the highest bidder because they value the direct pecuniary gains (i.e. “rents”) of doing so and/or because such financial contributions are instrumentally valuable in helping them to win reelection to office which they value in its own right.

Politicians and regulators are susceptible to such pecuniary inducements both because they place little intrinsic value on policy outcomes per se so that their policy decisions hinge largely upon which interest group is able to offer the largest campaign contribution; and because the general electorate is either uninformed or largely indifferent to regulatory policy outcomes. As a result and in crude terms, “money talks”, and so it is hardly surprising that as long-range technological and market changes increased the costs of Depression-era regulatory policies upon important segments of the financial services industry and increased the potential returns to new business models which stressed economies of scale and scope (i.e. combining multiple financial product lines in single firms), those financial firms which had the most to gain

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35 It is of course possible to express the utility functions of politicians and regulators in more precise mathematical terms to allow for the possibility that, in addition to the value of personal pecuniary gain and the instrumental value of campaign contributions, they also place intrinsic value on regulatory policy outcomes per se (perhaps because they believe that these affect broader economic outcomes that they care about) and that they take into consideration the potential loss of votes that might occur if voters become informed of and disapprove of their regulatory policy decisions. Given this specification of the utility functions of politicians, a politician might refuse to change regulatory policy in response to a campaign contribution if the amount of the contribution was not sufficiently high to offset their distaste in supporting a policy position with which they disagreed or to enable them to justify the loss of votes. The spirit of both the interest group and regulatory capture arguments, however, is that “money talks” and that politicians and regulators are typically responsive to financial inducements as long as the price is right, so that the motives of personal pecuniary gain and/or the instrumental value of campaign contributions usually dominate other considerations (e.g., the degree to which the policy demanded from a financial contributor deviates from the politician’s own ideal point) in actual practice. See Chapter 1 and Chapter 2 above for more in depth discussion of these theoretical issues and related literature.
from regulatory change were able to mobilize resources in order to triumph in the policymaking arena and to dismantle or change financial regulations which stood in their way.

While acknowledging the obvious roles of money and interest-group lobbying in the political process, I argue that interest-group and regulatory capture arguments do not adequately account for and are in some respects inconsistent with the historical record of regulatory change over the period from roughly 1980 to 2000. Importantly, this is precisely the time period, that is most favorable to these theoretical arguments as the tide of regulatory change over this period was broadly in-line with the “demands” of important segments of the financial industry, whereas the regulatory changes of the Depression era and in wake of the 2008-2009 financial crisis (at least as of when I write) proceeded despite the opposition of and ran more clearly against the interests of important segments of the financial industry.

There are several specific ways in which the historical record of regulatory change over the period 1980 to 2000 is more consistent with the theoretical framework that I have offered in previous chapters than with conventional interest-group or regulatory capture arguments. First, although it is clear that financial industry groups lobbied to put various regulatory changes on the policy agenda, it is also clear that the political executive took a key role in framing and setting the regulatory agenda by offering specific and detailed blueprints for regulatory reform, by signaling regulatory
priorities, and by seeking to broker compromises between competing interests.

Moreover, the regulatory policy initiatives of the political executive can be plausibly understood and were explicitly justified in terms their importance for broader policy goals – including economic growth, financial system stability, and national economic competitiveness – rather than as merely responses to the particularistic demands of segments of the financial services industry.

Second, the heads of the specialized financial policy bureaucracies (i.e., the “regulators”) played an active and central role in shaping the process of regulatory change – specifically including shaping and influencing financial regulatory legislation. The Treasury, the Federal Reserve, the Office of the Comptroller of the Currency, the Federal Deposit Insurance Corporation, and state regulators were all active protagonists in the major regulatory struggles that I discuss below. Their role was not limited to merely shaping the implementation of policy determined by political actors. Rather they played an active and influential role in identifying policy priorities and framing the public discussion of financial policy issues; in proposing and advocating particular changes in financial legislation; in developing the specific details of legislative proposals; in opposing legislative proposals with which they disagreed; in taking policy initiatives which tested the boundaries of existing law and forced policymakers in the legislature to respond; and, sometimes, in hindering the implementation of policy with which they disagreed. This is a very different picture of the role of regulatory agencies from that
depicted in the idealized conceptions of the regulatory capture literature in which a clear separation of function exists in which political actors (i.e. the legislature and/or the political executive) set regulatory policy objectives and delegate the implementation of policy to regulatory agencies charged with meeting these objectives. The interesting question from the point of view of the regulatory capture literature is simply that of understanding why policy outcomes deviate from the goals set by political leaders, with such deviations naturally understood in terms of a principal-agent framework in which legislative principals try to constrain regulatory agents from shirking or extracting rents\textsuperscript{36}. These are indeed interesting and important questions, but they entirely miss the crucially important role of regulatory agencies in setting the legislative agenda and shaping legislative policy outcomes. By framing the theoretical question in the way they do, regulatory capture arguments prevent researchers from even considering important aspects of the political process by which major regulatory changes occur.

Finally, the regulatory policy proposals of political actors (the political executive and key legislative leaders) and regulators clearly reflected the influence of cognitive frameworks that evolved through adaptive learning in response to exogenous events. This is evident in the way that policymakers defined the problems that they sought to address; in the specific regulatory policy proposals that they offered as solutions to these

\textsuperscript{36} In the language of economics the problem is that of “mechanism design” – how to set the optimal level of delegation of discretionary authority and optimal system of monitoring, rewards, and sanctions to ensure that that outcomes can be as closely constrained to the objectives of the principals as possible.
problems; and in the intellectual justifications which they offered for the policy positions which they advocated. Policy did not simply reflect straightforward and obvious choices between different policy objectives or different interests, but rather reflected complex assumptions about cause and effect relationships across multiple interrelated dimensions (e.g., overall economic growth, financial stability, the differential consequences of policy for different types of firms and for consumers), which in turn rested upon complex theoretical frameworks provided by policy experts. That the cognitive frameworks of policymakers mattered is evident not only by close examination of the content of policy choices and policy arguments, but also by the clear shifts in regulatory policy which occurred with shifts in the identity of key policymakers. As I argue below, this is particularly evident in the shift in the position of the Federal Reserve on key regulatory policy issues that occurred when Greenspan took over as Chairman of the Board of Governors of the Federal Reserve from Paul Volker, particularly with respect to the expansion of permissible activities for banks and the desirability of regulating new financial products.

It is important to make clear how exactly my argument and the historical evidence differs from the predictions offered by the interest group or regulatory capture literatures. I argue that the financial regulatory policy actions of the political executive and other key policymakers were driven in large part by their belief that these financial regulatory decisions were instrumentally important to their ability to realize broader
policy objectives – such as economic growth, financial stability, and national economic competitiveness. Policymakers’ beliefs that particular financial regulatory decisions would promote these broader policy goals were rooted in the cognitive frameworks which policy experts helped to provide and which offered theoretical foundations for their expectations of specific causal relationships between different financial regulatory policy choices and broader economic outcomes. These cognitive frameworks changed as result of adaptive learning, as unanticipated events forced policymakers and policy experts to reconsider their existing understandings and the regulatory status quo. I argue that most policymakers attached significant value to such broader policy goals, whether because they saw broader economic well-being as necessary for their political survival or because they were genuinely personally concerned with the welfare of the public as they understood it. As a result, policymakers and regulators were not generally indifferent to the content of financial regulatory policy and did not generally simply sell regulatory policy to the highest bidder as implied by interest-group and regulatory capture arguments.

In particular, I argue that the fact that many of the regulatory changes which policymakers adopted during this period were responsive to the demands of and beneficial to important segments of the financial industry should not automatically be interpreted as confirmation that policymakers simply sold regulatory policy in response to financial contributions by the financial industry. I argue, rather, that they often
adopted policies responsive to the demands of financial industry lobbies because they believed, wrongly or rightly, that such policies were in fact important for and consistent with the realization of broader public policy goals such as economic growth and stability, given the causal relationships that they believed to exist as a result of their cognitive frameworks. I argue below that the historical record is on the whole more consistent with this interpretation of the motivation of key policymakers, in particular in the case of the political executive and heads of the specialized financial bureaucracies. It seems plausible, however, that financial contributions may have been more important as a motivating factor in the decisions of members of congress, reflecting the narrower constituencies to which they must respond and consistent with the veto point capture argument that I make in previous chapters, although even here the record suggests that many key legislators pursued policies they genuinely believed to reflect the public interest. The argument that policymakers were often motivated by broader policy goals underpinned by cognitive frameworks contrasts sharply with the view presented by interest group and regulatory capture arguments. The analytic bite of these arguments is precisely that money purchases policy outcomes that politicians would not otherwise choose and, therefore, that policy change is explicable only by changes in the preferences of powerful groups or by changes in the relative power of different groups, where power consists of the relative capacity to organize and to make financial contributions.
Although I have pointed to a variety of different ways in which the historical record is more consistent with the theoretical argument that I offer, it is important to acknowledge the inherent difficulty of definitively determining empirically whether a particular regulatory decision by a particular policymaker was motivated by a sincere desire to achieve a broader policy objective given the policymaker’s understanding of the effects of the policy, or whether the policymaker acted as a result of a financial inducement offered by an interest group or firm seeking to influence policy. Even in principle, it is difficult to imagine conclusive “smoking gun” proof regarding the policymaker’s motivation. For example, the policymaker or the policymaker’s party may have received substantial campaign contributions from a particular segment of the financial industry, but the policymaker may argue strongly for the economic merits of the policy concerned and their policy actions may be consistent with a well-defined theoretical framework shared by many contemporaries. A researcher may conclude that the policymaker’s statements in defense of the policy are mere obfuscation and an effort to deflect potential criticism and attention away from their action. It must be stressed, however, that the converse conclusion is equally justified based upon the empirical facts. Absent the ability to directly measure the policymaker’s thought process, it is possible to conclude that the policymaker acted upon a sincere belief in the merits of the policy and merely accepted the conveniently available campaign contributions as part of the “normal” business of serving in elected office. Indeed, the lobbyist’s contribution might
have been intended to ensure resources (campaign funds) for the reelection of a policymaker known to be sympathetic to the lobbyist’s general policy positions (i.e. a bet on the future) rather than as an effort to purchase a particular decision. In general, therefore, researchers must inherently engage in a degree of judgment as to the plausibility of competing interpretations of motivation based upon the totality of the facts available in particular cases.

Researchers who approach the same information with differing strongly held prior theoretical beliefs about what in general motivates the decisions of political leaders – whether the theoretical belief that political leaders are often motivated by their attraction to particular conceptions of desirable societal order and theoretical beliefs about how policy choices affect those outcomes or by the belief that political leaders are almost always motivated by self-interest narrowly conceived (e.g., office-seeking or rent-seeking) – are likely to reach different conclusions. These differing theoretical understandings each provide comprehensive accounts of human motivation that allow different researchers to explain the same set of empirical facts in logically-consistent but differing ways. Kuhn (1970, p. 94) makes the broader point about the impossibility of conclusively arbitrating between competing paradigmatic explanations based on logic or empirical observation alone.

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37 In other words, the same empirical data are often consistent with different assumptions regarding the weight of different factors in the utility functions of policymakers, depending upon the researcher’s assumptions regarding how policymakers perceive the structure of the decision problem that they face. Utility functions, of course, can never be directly observed.
Like the choice between competing political institutions, that between competing paradigms proves to be a choice between incompatible modes of community life. Because it has that character, the choice is not and cannot be determined merely by the evaluative procedures characteristic of normal science, for these depend in part upon a particular paradigm, and that paradigm is at issue. When paradigms enter, as they must, into a debate about paradigm choice, their role is necessarily circular. Each group uses its own paradigm to argue in that paradigm’s defense.

The resulting circularity does not, of course, make the arguments wrong or even ineffectual. The man who premises a paradigm when arguing in its defense can nonetheless provide a clear exhibit of what scientific practice will be like for those who adopt the new view of nature. That exhibit can be immensely persuasive, often compellingly so. Yet, whatever its force, the status of the circular argument is only that of persuasion. It cannot be made logically or even probabilistically compelling to those who refuse to step into the circle. The premises and values shared by the two parties to a debate over paradigms are not sufficiently extensive for that.

6.1.2.1 Allowing Banks to Set Deposit Interest Rates: The Depository Institutions Deregulation and Monetary Control Act of 1980

The Depository Institutions Deregulation and Monetary Control Act of 1980 (“DIDMCA”) phased out ceilings on the maximum interest rates that banks could pay on deposits. The Banking Act of 1933 had prohibited banks from paying interest on checking accounts (“demand deposits”) and gave the Federal Reserve the authority (which it exercised under Regulation Q) to set uniform maximum rates on savings and time deposits (S. K. Cooper & Fraser, 1986). The framers of the Banking Act of 1933 had believed that price competition between banks to attract deposits (i.e. the ability of banks to set deposit interest rates at their business discretion) encouraged smaller regional banks to hold large deposit balances with larger banks in the major financial centers which used such interbank deposits for speculative lending and believed that
competition for deposits undermined the stability of banks during financial panics by forcing banks to pay unaffordably high interest rates to prevent the outflow of deposits (Albert H. Cox, 1967; Gilbert, 1986). Other important provisions of DIDMCA included provisions that required all depository institutions to be subject to uniform reserve requirements set by the Federal Reserve and to have access to the Federal Reserve’s discount window\textsuperscript{38}; provisions that authorized all depository institutions to offer the functional equivalent of checking accounts, including accounts that effectively function as interest-paying demand accounts\textsuperscript{39}; provisions which expanded the permissible activities of savings and loan associations and mutual savings banks\textsuperscript{40}; and provisions that exempted important categories of loans (e.g., mortgages, business and agricultural

\textsuperscript{38} Reserves refer to the legally required percentage of its deposits that a bank must hold either as a deposit at its district Federal Reserve or in the form of cash in its vaults. Reserves are used as a policy tool to affect the money supply and to ensure that banks have sufficient liquid assets to meet depositor withdrawals. Higher reserve requirements reduce the ability of banks to extend loans (by limiting their access to such funds), thereby reducing the total deposits (i.e. money supply) in the banking system through the process of multiple deposit creation inherent in a fractional reserve banking system. Prior to the enactment of DIDMCA member banks (i.e., banks that belonged to the Federal Reserve system) were subject to the reserve requirements set by the Federal Reserve, while nonmember banks (i.e., banks chartered under state law that did not choose to become members of the Federal Reserve System) were subject to the reserve requirements set by their home state, which were generally less onerous than those set by the Federal Reserve. Credit Unions were completely exempt from Reserve requirements, while the reserve requirements of savings and loans and of mutual savings banks differed from those of commercial banks (S. K. Cooper & Fraser, 1986; Goldberg & Rose, 1976).

\textsuperscript{39} Prior to the enactment of DIDMCA, savings and loan associations were not allowed to offer accounts on which checks could be written. Among other instruments, DIDMCA authorized all depository institutions to offer negotiable order of withdrawal (NOW) accounts. NOW accounts are interest-bearing savings accounts against which checks can be written, subject to certain limitations (S. K. Cooper & Fraser, 1986; Federal Deposit Insurance Corporation., 1997).

\textsuperscript{40} DIDMCA permitted savings and loan associations to issue credit cards and to enter consumer lending (traditionally S&Ls were restricted to mortgage lending) and permitted mutual savings banks (an important type of institution under the state laws of certain northeastern states) to make business loans and accept demand deposits (S. K. Cooper & Fraser, 1986).
loans) from interest rate restrictions set by state usury laws (S. K. Cooper & Fraser, 1986; Federal Deposit Insurance Corporation., 1997; McNeill, 1980). Together, these additional provisions effectively erased many of the historic regulatory differences between different types of depository institutions.

The Garn St-Germain Act of 1982 extended the powers granted to banks and thrifts under DIDMCA. Specifically, the Garn St-Germain Act authorized banks and thrifts to offer money market deposit accounts which carried no regulation Q interest rate ceilings and no reserve requirements enabling them to compete directly with money market funds (Berger, Kashyap, & Scalise, 1995, p. 179; Federal Deposit Insurance Corporation., 1997, p. 94). In addition, the Garn St-Germain Act further expanded the lending powers of thrifts, most significantly by allowing them to invest up to five percent of their assets in commercial loans and removed restrictions on real estate lending faced by national banks (Federal Deposit Insurance Corporation., 1997, pp. 10, 94). Finally, a central provision of the Act provided temporary regulatory capital relief to many thrifts, allowing them to remain technically solvent by receiving so-called “net worth certificates” from their regulator the Federal Home Loan Bank Board (FHLBB) (Federal Deposit Insurance Corporation., 1997, p. 10). My discussion below focuses only on the passage of the wider-reaching DIDMCA.

I argue that passage of DIDMCA was driven policymakers’ reactions to events which caused them to believe that continued adherence to the existing regulatory status
quo would significantly harm their ability to realize their general policy objectives of economic growth and stability by jeopardizing the stability of the financial system and hindering the effectiveness of monetary policy. Partly as a consequence of these events, policymakers and policy experts adjusted their cognitive frameworks in a process of adaptive learning. Internally consistent and plausible theoretical arguments were elaborated challenging the previous theoretical arguments upon which the desirability of existing Depression-era restrictions on interest rates was founded. While the financial industry lobbied intensively for many of the regulatory changes which became law under DIDMCA, policymakers generally had strong reasons to believe that their support of these regulatory changes served broader goals of public policy. The fact that the financial industry lobbied for and benefited from many of these changes does not, therefore, imply that policymakers simply sold regulatory policy changes in return for financial contributions – there is ample evidence that policymakers would have made these choices even without the incentive of financial contributions. Lobbying efforts, in particular the efforts of competing segments of the financial industry to capture veto points and influence regulatory change to their advantage, do however help to explain the content of the particular policy bargains which policymakers had to accept in order to enable passage of the overall changes which they believed to be necessary.

A series of economic and market developments in the starting in the late 1960s and continuing in 1970s created pressures on the financial system which threatened
broader economic management. Inflationary pressures began to emerge in the mid and late 1960s following the expansion in government spending with Lyndon Johnson’s New Society programs and the escalation of the war in Vietnam, with inflation rates increasing dramatically following the oil crisis of 1973 and reaching an unprecedented peak in 1979 and 1980 (at 11.4 and 13.5 percent respectively) following the second oil shock of 1979 (Shull, 2005). Facing rapidly increasing domestic prices and massive balance of payments deficits, the Nixon Administration was forced in August 1971 to abandon the convertibility of the dollar into gold, which was soon followed by the agreement of the major industrial nations to abandon the Bretton Woods system of fixed exchange rates and to allow their currencies to float against one another. Not only did interest rates rise as inflation increased, but interest rates became substantially more volatile in the 1970s as a consequence of floating exchange rates, changing inflation expectations, and varying Federal Reserve anti-inflationary actions (Federal Deposit Insurance Corporation, 1997, p. 4). In response to the growing perception that the existing monetary policies of the Federal Reserve had failed to control inflation or address rising unemployment (the famous “stagflation” of the 1970s), newly-appointed Federal Reserve Chairman Paul Volker moved to decisively break the cycle of inflationary expectations that he and other monetarist economists saw as the cause of stagflation (Shull, 2005, pp. 131-142). In October 1979 the FOMC under Volker’s leadership announced that it would explicitly target slower growth of the money supply
(a departure from past Federal Reserve practice), signaling that the Federal Reserve was ready to accept significantly higher interest rates and interest rate volatility as the necessary price of success. Interest rates surged upwards, with the prime rate (the average short-term interest rate charged by banks to their best corporate customers) peaking at 20 percent in 1981 and the average rate on Aaa corporate bonds peaking at 15 percent (Shull, 2005, pp. 131-142).

Rapidly rising and volatile inflation and interest rates had a number of adverse consequences for commercial banks and, to an even greater extent, for savings and loans associations and mutual savings banks (“thrifts”, together with savings and loan associations) given the lesser diversification and greater average maturity of their assets.41 First, both commercial banks and thrifts experienced disintermediation42 as the

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41 Savings and Loan Associations (“thrifts”) are typically mutual companies owned by their depositors (but may be stock companies) and are chartered either under federal or state law in a regulatory framework that emerged separately from that of commercial banks. Savings and loans were created to pool the savings of members and allocate housing loans between members, with the result that the large majority of their assets were invested in real estate lending. Mutual savings banks emerged as important institutions in a number of states in the northeast in the nineteenth century, and were often organized by wealthy philanthropic sponsors who organized and provided seed capital to these institutions as a means for wage laborers to safely hold savings (in passbook savings accounts) since such small depositors were frequently shut out of the commercial banking system. Mutual savings banks were generally restricted by state charters to invest in what were considered safe assets, including mortgage loans (originated by other entities), government securities and high-grade corporate securities. As of 1975, mortgage loans comprised 82 percent of the assets of S&Ls, approximately two-thirds of the assets of mutual banks, and 14 percent of the assets of commercial banks (Federal Deposit Insurance Corporation., 1997, pp. 211-214). See Appendix B for more detail on the regulatory structure of these institutions.

42 “Disintermediation” is defined as the excess of withdrawals over deposits to the interest-bearing accounts of a depository institution. Disintermediation occurs when the rates on competing savings instruments such as short-term treasury securities or money market funds offer a higher return (Federal Deposit Insurance Corporation., 1997, p. 92).
low interest rate ceilings set by the Federal Reserve\textsuperscript{43} led depositors to withdraw deposits to seek higher-yielding investments in government securities, capital market instruments (e.g. stocks and bonds), and – somewhat later – in money market funds which emerged for the first time in the 1970s.\textsuperscript{44} As Robinson (1972, p. 770) noted:

> The major threat of disintermediation is no longer the possible move of funds from savings intermediaries to commercial banks; it is from all savings intermediaries – including the savings departments of commercial banks – to open market forms of debt instrument. Investors of moderate wealth have relearned the very easy art of bond buying. Closed-end bond funds have sprung up and if the pioneers succeed, others will follow.

Disintermediation reduced the funds which depository institutions had available to lend and was held, in particular, by many contemporaries to be responsible for a decline in the availability of mortgage lending in the late 1960s and early 1970s (Federal Deposit Insurance Corporation., 1997, p. 217; Robinson, 1972, p. 771). Second, a large percentage of depository institutions’ assets were in the form of long-term fixed interest rate loans – particularly in the case of thrifts which were required to hold the large majority of their assets in mortgage loans which have considerably longer average maturities than

\textsuperscript{43} The Federal Reserve did not adjust Regulation Q ceilings upwards with rising interest rates as it viewed Regulatory Q as a monetary policy and regulatory instrument to constrain the growth of credit (Gilbert, 1986; Robinson, 1972, pp. 766-767).

\textsuperscript{44} Thrifts initially had no deposit interest rate ceilings. Congress, however, extended Regulation Q deposit rate ceilings to thrifts in 1966 in an early response to disintermediation. The rationale for extending deposit interest rate ceilings to thrifts was that it would help to reduce the cost of their liabilities and that it would prevent costly deposit interest rate wars between thrifts as they sought to prevent deposit outflows in an inflationary environment. The deposit interest rate ceiling was initially set 75 to 100 basis points higher than that set for commercial banks to enable thrifts, which were not allowed to offer checking accounts, to successfully compete against banks in attracting deposits. (A. CQ, 1975, pp. 214-217; Federal Deposit Insurance Corporation., 1997). A “basis point” is one-one-hundredth of a percent and is a frequently used measure in banking and finance.
commercial or consumer loans. Since many of these loans were originated in a lower interest rate environment and since the interest rates on many of the liabilities of banks and thrifts adjusted rapidly to inflation, many depository institutions saw their cost of funds begin to rise above the yield on their interest-earning assets (Federal Deposit Insurance Corporation, 1997, pp. 3-9, 168-169, 217, 221-225). Third, as market interest rates rose, member commercial banks faced increasing opportunity costs on the portion of their deposits which they had to hold as reserves in the form of vault cash or non-interest deposits with their district Federal Reserve Bank (and hence which were unavailable for lending). As a result, an increasing number of commercial banks changed their charters and to left the Federal Reserve system (becoming “nonmember” state-charted banks) in order to benefit from lower reserve requirements under the laws

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45 Only a fraction of a banks’ (or thrifts’) book of loans will mature (“run off”) during a given time period and be replaced by new loans, with the rate at which the existing book of loans is replaced by new loans at prevailing interest rates slower the longer the average maturity of the banks’ loan portfolio. As a result, the overall yield on a banks’ interest-earning assets (loans plus bonds held by the bank) will adjust toward the current market rate of interest more slowly the longer the average maturity (or more precisely the mathematical “duration”) of the banks’ loan portfolio. Moreover, although banks and thrifts could sell low-yielding loans to other investors, they would (and often did) experience significant capital losses since the price of a fixed interest rate asset (e.g. a loan or bond) will decline as the prevailing market rate of interest increases, with the price decline greater the longer the maturity of the asset. Although deposits were subject to ceilings on interest rates, the interest rates on other liabilities (e.g., subordinated debt, federal funds purchased, funds raised through “repo” transactions) of banks and thrifts did adjust quickly to new market rates. An important example was that of money market certificates, first authorized by federal regulators in 1978, which allowed commercial banks and thrifts to raise funds by issuing 26-week maturity certificates with a variable interest rate linked to the 26-week Treasury bill rate in minimum denominations of $10,000. These became a particularly important source of funding for thrifts, accounting for almost 30 percent of deposits at thrifts by end 1979 (S. K. Cooper & Fraser, 1986, pp. 110, 114-115). See Rose (1999) and Hull (2009) for general discussions of the asset-liability management and hedging techniques used by banks to manage interest rate risk, which is inherent to the core business of banking which involves accepting short-term liabilities (deposits) and making longer-term loans. See Appendix A for a general overview of commercial bank structure and risks.

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of many states (Federal Deposit Insurance Corporation., 1997, p. 92). The increasing number of such withdrawals from the Federal Reserve System greatly concerned the Federal Reserve, which feared that its ability to implement monetary policy would decline as fewer institutions were subject to its reserve requirements or had access to the discount window (Federal Deposit Insurance Corporation., 1997, p. 92). These problems with the health of the banking and thrift sectors and the management of monetary policy increased throughout the 1970s and became acute with the spike in interest rates that began in 1979, with the specific provisions of DIDMCA a direct effort to address these unforeseen problems.

Before examining the specific details of the passage of DIDMCA, it is useful to digress briefly to consider briefly the closely related but separate thrift and banking crises that emerged in the 1980s after the passage of DIDMCA in 1980 in order to understand their connection to the trends and changes discussed above and because these subsequent crises affected later debates about financial regulatory reform. The beginning of the savings and loan crisis of the 1980s was a direct outgrowth of the trends discussed above: numerous savings and loan institutions (and mutual savings banks) became insolvent during the first three years of the 1980s as rising interest rates led to deposit outflows (disintermediation) and as savings and loans experienced asset-liability mismatches in which their cost of funding rose above the yield on their interest-earning
assets (Federal Deposit Insurance Corporation., 1997, pp. 167-188, 211-234).\(^{46}\) Failures of thrifts continued throughout the 1980s and peaked at the end of the decade. The peak in thrift failures toward the end of the decade reflected several interrelated factors: lax regulation and supervision by the Federal Home Loan Bank Board (the “FHLBB”) (the regulator of federal savings and loan associations), which allowed many essentially insolvent but liquid thrifts to continue in operation for many years rather than recognizing the explicit costs of “intervening” and closing such institutions (what is termed “regulatory forbearance”) and which authorized the chartering of many new thrifts during the decade by inexperienced and even criminal management teams; increased risk-taking by thrifts, many of which were insolvent and which took risky “one-way” bets to recover losses by rapidly expanding lending without proper risk assessment or experience in new areas that had been authorized by DIDMCA; and increased interest rates on deposits as the abolition of deposit ceilings under DIDMCA was phased in and as often financially troubled institutions engaged in deposit interest rate competition to attract and retain deposits (Federal Deposit Insurance Corporation., 1997, pp. 167-188).

\(^{46}\) Although DIDMCA was meant to address the roots of these problems by removing interest rate ceilings and by allowing thrifts to diversify their asset portfolios, many of these changes came too late as DIDMCA phased in changes to deposit interest rate ceilings over a six year period and as, even with new authority to make non-mortgage loans, thrifts could not restructure the composition of their loan portfolios quickly enough (Federal Deposit Insurance Corporation., 1997, p. 219).
The bank crisis started somewhat later and was more quickly resolved than the savings and loan crisis. Commercial bank failures peaked in the mid-1980s, with over 1,600 federally-insured banks failing over the period 1980-1994, greatly exceeding failures in any period up to that point since the Depression (Federal Deposit Insurance Corporation, 1997, p. 3). Although many commercial banks came under strong pressure from the increases in interest rates and inflation in the 1970s, the reasons for the bank failures in the 1980s were somewhat more indirect.47 First, increased foreign competition and a variety of technological innovations and market changes put commercial banks under increasing competitive pressure. Commercial banks lost many of their best corporate borrowers as large corporations were increasingly able to efficiently raise capital directly by issuing commercial paper48, bonds (including “junk” bonds which emerged during the 1980s), and equity.49 At the same time, commercial banks faced increased competition for deposits from money market funds and from

47 The discussion in this paragraph draws upon Federal Deposit Insurance Corporation (1997) and Berger, Kashyap, & Scalise (1995) and Calomoris (2002).
48 Commercial paper are very short-term (usually 2 to 270 days in maturity) unsecured borrowings issued directly by large corporations to commercial paper dealers or in direct placements with institutional investors. Large corporations use the commercial paper market to fund short-term working capital needs (e.g., the payroll cycle). Money market mutual funds are among the most important investors in the commercial paper market. Although the commercial paper market has existed for many years, the use of commercial paper accelerated greatly in the 1980s, increasing from an amount equal to 7 percent of bank commercial and industrial loans in 1980 to 19 percent in 1990 (Federal Deposit Insurance Corporation, 1997, p. 5).
49 Calomoris (2002) cites a variety of studies to support the argument that the costs of raising capital directly began to fall starting in the 1960s, accelerating dramatically in the 1980s as a result of technological developments and the rapid rise of institutional investors (pension funds and mutual funds) whose information gathering abilities reduced the information asymmetries between corporations and external suppliers of capital.
mutual funds. Second, banks faced increasing competitive pressures from the deregulation of the thrift industry, with many thrifts extending lending at an often reckless pace as a result of the loose regulatory supervision and in reckless one-way bets to recover solvency as described in the previous paragraph. Third, and in large part as a result of these competitive pressures, commercial banks expanded lending in higher-yielding but riskier categories of lending to offset their loss of profits – including lending in commercial real estate and (via syndicated lending arranged by large banks) loans to developing countries. Fourth, commercial banks in certain regions faced losses on loans to industries which suffered from regional economic crises, including lending to the agricultural and energy sectors in the southwest and on commercial real estate, defense, and technology firms in the northeast. Fifth, the removal of deposit interest rate ceilings and increased competition from thrifts and money market funds raised the costs of deposit borrowings. As I discuss further below, the tremendous direct fiscal and general economic costs associated with the banking and the thrifts crises of the 1980s

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50 Bank deposits as a share of the total U.S. household assets held in investments and intermediaries declined from a peak of 24 percent in 1975 to 10 percent in 1999 (Calomiris, 2002, p. 299)
51 Mexico’s default in 1982 triggered the LDC debt crisis of the 1980s, with many U.S. banks suffering substantial losses as a result (some large U.S. banks became technically insolvent but continued operation as a result of regulatory forbearance by the Federal Reserve). The Mexican default itself was closely related to the rapid increase in U.S. interest rates which began in 1979 and which contributed to a reversal of capital flows back towards the U.S.. Largely in an effort to contain damage to U.S. banks, Paul Volker strong-armed U.S. and foreign banks into agreeing to a moratorium on debt payments and pushed the U.S. Treasury to fund a large rescue plan for Mexico (Federal Deposit Insurance Corporation., 1997, pp. 191-210; Shull, 2005, pp. 149-152).
helped to fuel policymakers’ interest in further regulatory changes in a process of adaptive learning.

The push for the regulatory changes that eventually became law in DIDMCA began with the Nixon Administration, which was sympathetic to emerging intellectual criticisms of government regulation and which saw connections between broader economic problems of risking unemployment, increasing prices and interest rates and problems in the financial sector (Robinson, 1972). Specific financial sector problems in 1969 and 1970 included a declining stock market, the bankruptcy of the Penn-Central railroad company in 1970 which was the largest U.S. bankruptcy to date and disrupted the commercial paper market, a contraction of lending for residential and commercial real estate and construction, and a rapid slowing in the growth of deposits at savings and loans and mutual savings banks (Robinson, 1972). Reacting to these developments, in 1970 the administration established the President’s Commission on Financial Structure and Regulation (better known as the “Hunt Commission” after its chairman) with a broad mandate to investigate the performance and regulation of the financial sector.

The Hunt Commission published its report in December 1971. The key recommendations of the Hunt Commission included: (i) removing deposit interest rate ceilings; (ii) allowing thrifts to offer transactions (i.e. checking-equivalent) accounts; (iii) increasing the range of lending and investment activities authorized to depository
institutions; (iv) uniform federal income taxation of all depository institutions; (v) the creation of a two new regulators to take over regulation and supervision of depository institutions from the existing federal and state regulators, respectively; (vi) creation of a single deposit insurance agency for all depository institutions; (vii) making federal reserve membership mandatory for all depository institutions and imposing uniform reserve requirements; and (viii) encouraging states to permit statewide branching (S. K. Cooper & Fraser, 1986, pp. 110-112). After studying the Hunt Commission Report, in 1973 the Nixon administration in submitted a proposed Financial Institutions Act, which incorporated the commission’s recommendations regarding depository institutions but omitted the commissions proposals regarding the reorganization of regulatory agencies (A. CQ, 1975). The administration’s proposal became the basis for legislation passed by the Senate in 1975 but which failed that year in the House as I discuss below.

The Hunt Commission Report clearly reflected the influence of academic arguments that first began to emerge during the 1960s explicitly challenging the economic justification for Depression-era financial regulatory controls and which I discuss in greater detail above, although it was criticized by sympathetic contemporary economists for failing to refer to those theoretical arguments more explicitly (Benston, 1972). Most generally, the report clearly endorsed the theoretical view that “free” and competitive financial markets would result in the optimally efficient allocation of capital and would encourage the growth of savings in the financial system – a clear departure
from many of the arguments offered in support of increased regulations during the debates of the 1930s. Benston (1972, p. 985) cites the following paragraph from the report as most representative of the philosophy of the report:

The commission’s objective, then, is to move as far as possible toward freedom of financial markets and equip all institutions with the powers necessary to compete in such markets. Once these powers and services have been authorized, and a suitable time allowed for implementation, each institution will be free to determine its own course. The public will be better served by such competition. Markets will work more efficiently in the allocation of funds and total savings will expand to meet private and public needs.

These ideas reflect the general influence of the Arrow-Debreu theorem’s expectation that competitive markets (including financial markets) will result in the optimally efficient allocation of resources; the efficient market hypothesis’ dismissal of the possibility of “speculation” in financial markets with its associated dangers that had so preoccupied policymakers in the 1930s; and the belief that deposit interest rate controls will result in disintermediation and will discourage savings. As noted by Robinson (1972, pp. 771-772), a key motivation for the creation of the Hunt Commission was concern with declining flow of funds available for mortgage lending and a central argument of the report was that deposit interest rate controls were responsible a decline in deposits in savings institutions and resulting decline in mortgage lending.

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52 Benston (1972), Saving (1972), and Robinson (1972) all refer in their discussions of the Hunt Commission Report to the academic consensus that had emerged that deposit interest rate controls would result in disintermediation that would discourage savings. The theoretical belief that such interest rate controls would result in disintermediation formed part of the more general theory of the effects of “financial repression” introduced by McKinnon (1973) and Shaw (1973) that I discuss above.
In addition to these general influences, the report also reflected the influence of specific academic arguments which challenged older arguments by policymakers and academics that had linked the banking sector instability of the Great Depression to excessive competition among banks, and in particular excessive deposit interest rate competition to attract depositors.\textsuperscript{53} Saving (1972) offers a sympathetic review of the Hunt Commission report in which he approvingly cites the way in which the report reflects the influence of (what were at the time) newer economic arguments that challenged older arguments justifying regulation.\textsuperscript{54} He details specifically how these newer arguments rebuffed earlier views that deposit competition was linked to banking sector instability. Citing Friedman and Schwartz’s (1971) influential monetarist reinterpretation of U.S. economic history (originally published in 1963), Saving (1972, pp. 899-900) argues that the banking crisis of 1930-1933 was caused not by a deterioration of the quality of bank lending driven by excessive competition between banks as understood by older arguments, but rather by Federal Reserve monetary

\textsuperscript{53} For discussion of these older arguments and the policy debates surrounding passage of the 1933 Banking Act which introduced deposit interest rate ceilings see Cox (1967) and Chapter 4 above.

\textsuperscript{54} In language that clearly reflects the influence of more general theoretical arguments about the socially beneficial results of market competition and which echoes the regulatory capture arguments of Chicago school economist Stigler (1971), Saving (1972, p. 897) explains, “There seems to be mounting empirical evidence that the net effect of regulation has been to create and sustain monopoly positions rather than protect the consumer or financial system.” Discussing the Hunt report generally, he explains “The recommendations contained in the report would very probably represent, if enacted, the greatest movement toward the deregulation of an industry since the formation of the republic. If there is one resounding theme of the report, it is that while competition may not be perfect it is much better than the best human regulators can do. The commission seemed to recognize that many of the failings of the financial system that have been laid on the shoulders of competition were, as current evidence points out, actually the result of malfunctions of the regulators” (p. 898).
policy. Citing Benston (1964), Saving (1972, p. 900) also argues that the empirical evidence suggests that banks that paid the highest rates on deposits actually failed least frequently, implying that any deterioration that occurred in bank lending portfolios was not caused by deposit interest rate competition that drove banks to invest in risky assets. Cooper and Fraser (1986, p. 115) argue explicitly in their study of banking deregulation in the early 1980s that such academic arguments were influential in shaping policymakers opinion in ways that made passage of DIDMCA possible:

More fundamentally, however, passage of DIDMCA was facilitated by the reinterpretation that was made by academics and others of the economic and financial collapse of the 1930s. For many years, it had been thought that the distress conditions in the economy of the 1930s generally reflected the inability of monetary policy to counter an economic decline, while the banking collapse of that period was attributed to excess competition. More recent research, however, suggests that the economic conditions of the period had been accentuated (if not caused) by incorrectly applied monetary policy and that excessive competition was not associated with the failure of individual financial institutions. As a result, legislation that improved the functioning of monetary policy became more important, and there appeared to be little objection from a social perspective to greater competition among depository institutions.

Shull (2005, pp. 146-149) notes further that calls to remove responsibility for the regulation and supervision of banks from the Federal Reserve were directly linked to the arguments of monetarist economists in the 1970s and early 1980s that monetary policy should be guided by simple monetary growth rules which removed any justification for
the Federal Reserve to be involved in (what they regarded to be intrusive) bank
regulation.\footnote{He notes additionally that the Federal Reserve took such challenges seriously, publishing a “White Paper” in 1984 that argued explicitly that monetary policy affected the conditions of banks in various ways that made it imperative that the Federal Reserve continue to exercise authority over the regulation of banks.}

Although as noted above, the Nixon administration introduced legislation in 1973 reflecting the Hunt Commission’s recommendations, Congress did not act on the proposals until they were reintroduced by the Ford administration in 1975. The reasons for the congressional delay are straightforward – the emergence of the Watergate scandal which came to light in mid-1973 and which exploded into a full-blown constitutional crisis culminating in Nixon’s historic resignation on August 8, 1974.

Congress took up the legislative proposal introduced by the Ford administration in 1975, which was, except for some minor modifications, identical to that offered by the Nixon administration in 1973. The proposed legislation included provisions to abolish interest rate ceilings on time and savings deposits and to expand the powers of thrifts, while excluding the regulatory agency reorganization proposed by the Hunt Commission (A. CQ, 1975). The Senate Banking, Housing and Urban Affairs Committee, chaired by Senator William Proxmire (D-Wisconsin), approved the legislation by unanimous vote on October 2 with a number of changes, most of which the administration concurred in. These included a provision which preserved the existing differential in the ceiling on deposit interest rates between thrifts and banks (see

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above) during five and a half year phase in period for the removal of interest rate controls prescribed by the legislation and a provision which allowed interest on demand deposits (checking accounts) in addition to time and savings deposits (A. CQ, 1975). All eight democrats on the committee issued a statement calling on the federal regulatory agencies to ensure that the changes did not result in a reduction of mortgage credit and stating that they would oppose efforts to repeal the deposit interest rate differential favoring thrifts unless this were proven not to reduce mortgage credit. The full Senate voted 79-14 in favor of the bill on December 11 (A. CQ, 1975). By contrast to the progress in the Senate, the House Banking, Currency and Housing Committee delayed legislative action while it completed hearings for a large scale study of financial sector issues. The House committee study, titled Financial Institutions and the Nation’s Economy (or the “FINE” study) was completed in December 1975 and echoed the major recommendations of the Hunt Commission (S. K. Cooper & Fraser, 1986, p. 112).

Hester (1977) reviewed the extensive FINE hearings and interviewed representatives lobbying on behalf of different interests, providing an overview of the pattern of support and opposition by different interest groups to different elements of reform. Hester’s review suggests that interest group support and opposition to the reform proposals reflected a mixture of the defense of fairly easily identifiable economic interests; differences in cognitive frameworks in which different groups interpreted the likely effects of reform differently; and the tactical effort of different interest groups to
stake out bargaining positions to extract relative gains in the legislative process.

Hester’s findings are broadly consistent with argument I make above that interest
groups will seek to capture veto points in order to exert bargaining influence over
regulatory outcome but do not generally set the overall policy agenda on financial
regulatory issues that are instrumentally important to the broader policy objectives of
the political executive.

With respect to the proposed elimination of Regulation Q deposit interest rate
ceilings, Hester found strong opposition from representatives of savings and loan
associations, mutual savings banks, some commercial banks, builders, realtors, and
labor groups, but found strong support from consumer groups and academic witnesses.
Most thrifts and many (but not all) commercial banks appeared to fear that they would
loose income if forced to engage in interest rate competition for depositors, although
representatives of savings and loans focused their efforts on maintaining interest rate
differentials versus banks. Labor groups opposed removal of Regulation Q ceilings
arguing, contrary to the position of many academic witnesses and of the Hunt and FINE
reports, that deposit interest rate competition would reduce the flow of funds into
mortgage lending.\textsuperscript{56} Hester (p. 657) interpreted the opposition of organized labor to the

\textsuperscript{56} Lane Kirkland, the Secretary-Treasury of the AFL-CIO, had been a member of the earlier Hunt
Commission and was the lone commission member who dissented from the commission’s findings. His
dissent rested upon similar arguments as well as the argument the reform proposals favored the financial
industry and not the general public (Hester, 1977, pp. 654-655).
removal Regulation Q ceilings as reflective of adherence to a misguided cognitive framework, rather than upon an identifiable benefit to union members:

The position of organized labor appears to rest on the rather implausible and primitive economic argument that an interest rate ceiling on time and savings deposits will help to keep all interest rates down. For various reasons organized labor has long advocated having low interest rates.

The proposal in the Hunt and FINE reports to broaden the types of lending which thrifts could make were strongly and predictably supported by representatives of thrifts, but were opposed by builders and realtors who argued that the specialization of thrifts in real estate lending was beneficial for home ownership (p. 657). The proposal in the Hunt and FINE reports to consolidate financial sector regulation in a new body was opposed by most commercial banks and thrifts, who argued that competition among regulatory agencies encouraged innovation (p. 660). A specific proposal to bring the U.S. offices of foreign banks under the proposed new regulatory agency’s control was opposed by larger internationally active U.S. banks which feared retaliation by foreign regulators (p. 661).

Legislative movement on the regulatory reform proposals originally made by the Hunt commission stalled again in 1976 after House leaders tried to bundle additional measures into the bill; with legislative movement on these reforms side-tracked entirely in 1977 and 1978 as other financial sector issues temporarily took legislative priority.

57 As I discuss below, competition between regulators does appear have been an important factor in the gradual regulatory dismantling of distinctions between commercial banking and securities firms that preceded the formal repeal of remaining Glass-Steagall restrictions by the 1999 Gramm-Leach-Bliley Act.
House Banking Committee Chair Henry Reuss (D - Wisconsin) together with Representative Fernand St. Germain (D – Rhode Island), introduced comprehensive financial reform legislation in 1976 that was similar to the legislation passed by the Senate in 1975 but which included additional provisions consolidating federal banking regulation under a new single regulatory commission (a proposal left out of the 1975 legislation); imposing federal regulation on the U.S. offices of foreign banks and on the international operations of U.S. banks; and, in response growing discontent in Congress with the Federal Reserve’s ability to response to the nation’s economic difficulties, subjected the Federal Reserve Board to closer oversight by the Congress and President (CQ, 1977a, 1977b). The omnibus legislative proposal attracted the combined opposition of the Ford administration, the American Bankers Association, the AFL-CIO, the National Association of Homebuilders and other groups, forcing the House committee to split the measure into separate legislative proposals and stalling legislative progress on reform on Regulation Q and the broadening of thrift powers (CQ, 1977a, 1977b).

Legislative attention focused in 1977 and 1978 on abuses by bank management and directors, following revelations of misconduct by President Carter’s Office of Management and Budget director Bert Lance when he was a bank president, resulting in wide-ranging legislation in 1978 prohibiting a wide variety transactions by banks “insiders” and expanding the powers of bank regulators take actions against bank officers and directors engaged in “unsound” or illegal banking practices (CQ, 1981b).
Congress refocused attention on broader banking regulatory reform in 1979. In 1979 a federal appeals court had ruled that bank and thrift regulators had gone beyond the scope of existing law in permitting various new products that allowed financial institutions to pay interest on what were in effect checking deposits and which became increasingly popular among bank customers58. The court ruled that financial institutions must cease to offer such products by January 1, 1980 unless Congress specifically authorized such products before that date (CQ, 1981a, 1981b). The court decision coincided with the completion of a review of Regulation Q by a Carter administration task force. Following the completion of the task force’s work, President Carter on May 22 urged Congress to push “comprehensive financial reform legislation”; specifically calling for the abolition of Regulation Q restriction on savings deposits, permission for interest-paying checking accounts and expansion in the authorized lending activities of federally chartered savings institutions (CQ, 1981a).

In response to these pressures, the House passed legislation in September 1979 by a 367 to 39 vote authorizing the new deposit products and services that the court ruling had prohibited and authorizing NOW accounts on a nationwide basis (CQ, 1981a, 1981b). The Senate passed legislation in October which included the new product

58 These products included Negotiable Order of Withdrawal accounts (“NOW” accounts) authorized for thrifts in New York and in New England; “share draft accounts” authorized to credit unions starting in 1974; automatic teller machine withdrawals from savings accounts for savings banks; and permissions in 1975 and 1978 for customers to transfer funds by telephone and electronically from interest-bearing savings to non-interest checking accounts, allowing customers to keep lower balances in non-interest bearing checking accounts.
permissions granted by the House bill, but which went further by enacting a phased abolition of Regulation Q restrictions and by broadening the lending powers of savings and thrift institutions. The Carter administration backed the Senate bill, but conference proceedings stalled with Congress passing only stopgap legislation in 1979 that authorized continuation for another 90 days of the checking services prohibited by the court ruling. Several major points had stalled the conference proceedings. These included reluctance of House conferees to support the full Regulation Q abolition; provisions in the Senate bill to reduce the minimum denomination of money market certificates from $10,000 to $1,000, which many savings and loans and their House supporters feared would draw savings away from savings accounts at these institutions; and differences between the House and Senate regarding whether the Federal Reserve should be authorized to establish reserve requirements on NOW accounts. Specifically, the Senate Banking Committee had supported allowing the Federal Reserve to extend reserve requirements to NOW accounts (although this provision was removed on the Senate floor), whereas the House bill had instead included reductions in bank reserve requirements in an effort to induce banks to remain within the Federal Reserve system.

The delay in conference proceedings allowed time for hearings in early 1980 on concerns regarding the growing departure of banks from the Federal Reserve System (CQ, 1981b). Increasing numbers of banks were withdrawing from the Federal Reserve System by choosing to become state-charted “nonmember” banks, which enabled them
to benefit from generally lower reserve requirements under state law. In the high interest rate environment of the late 1970s, many banks found the opportunity costs of having to tie up funds in non-interest generating reserves with the Federal Reserve to outweigh the benefits of Federal Reserve membership, including access to the discount window. In testimony before the Senate Banking Committee in February 1980, Federal Reserve Chairman Volker argued strongly that the departure of banks from the Federal Reserve was threatening the ability of the Federal Reserve to control tighten the money supply and to control inflation and that broader reserve requirements were necessary.

Following these hearings, House and Senate conferees quickly resolved remaining legislative differences in a conference held on March 5 (CQ, 1981a, 1981b). The conferees agreed to drop the reduction in reserve requirements included in the House bill and instead agreed to extend the reserve requirements of the Federal Reserve to the checking-type accounts of all depository institutions, while eliminating existing reserve requirements on savings deposits and personal time deposits. In addition, the conferees agreed to drop the controversial provision in the Senate bill that would have reduced the denomination of money market certificates. The House adopted the conference report by a 380 to 13 vote on March 27, with the Senate passing the bill by voice vote on March 28. The result was the passage of the wide-ranging Depository Institutions Deregulation and Monetary Control Act of 1980 described in greater detail at the beginning of this section, which abolished one of the key Depression era
restrictions on the activities of financial institutions by providing for the phased removal
of controls over deposit interest rates.

6.1.2.2 Removal of Geographic Restrictions on Commercial Banks: The Reigle-Neal
Interstate Banking and Branching Efficiency Act of 1994

The Reigle-Neal Interstate Banking and Branching Efficiency Act of 1994 had
contained two main provisions (CQ, 1997c; Federal Deposit Insurance Corporation.
Division of Research and Statistics., 1997, pp. 129-135). First, the legislation allowed
“adequately capitalized” and “adequately managed” bank holding companies to acquire
banks in any state after September 29, 1995, repealing the provisions of the Douglas
Amendment (see below). Acquisitions were prohibited if they resulted in a single
institution controlling more than 10 percent of deposits in the United States or 30 percent
of deposits in a given state, although state governments could waive the state deposit
concentration limits. Acquiring banks were also required to demonstrate adherence to
the Community Reinvestment Act of 1977 (discussed in the following section below).
Second, the Act allowed adequately capitalized and managed banks to merge with
banks in another state beginning June 1, 1997, subject to the same deposit concentration
restrictions. States were allowed to “opt out” of interstate branching by passing explicit
laws before June 1, 1997 and also to “opt in” and permit interstate branching by passing
explicit laws by the same date. Banks were only allowed to open new branches in a state
without purchasing an existing bank in the state (i.e., “de novo” branches) if the state
enacted legislation to permit such “de novo” branching.
The McFadden Act of 1927 had confirmed state restrictions on interstate branching by allowing national banks to branch only within their home city and only in states that allowed branching. The Banking Act of 1933 expanded this restriction slightly to allow national banks to branch to the same extent as allowed by state law for state-chartered banks (see Chapter 5 above). No bank that was a member of the Federal Reserve system was allowed to branch across state lines (Federal Deposit Insurance Corporation. Division of Research and Statistics., 1997, p. 130). The Douglas Amendment to the Bank Holding Company Act of 1956 prohibited a bank holding company from acquiring a bank in a different state unless this was specifically authorized by state law.

Although state legislatures had long fought to protect state banks from competition with out of state banks, state restrictions on branching and interstate acquisitions fell away rapidly during the 1980s. States permitting statewide branching increased from 20 in 1977 to 33 by 1990, while the number of states prohibiting branching entirely (i.e. “unit banking” states) fell from 12 to 3 (Federal Deposit Insurance Corporation. Division of Research and Statistics., 1997, p. 130). The number of states permitting at least some acquisitions by out of state bank holding companies increased from 28 in 1986 to 46. In many cases states entered into regional reciprocity agreements allowing equal treatment to acquirers in the participating states; although by 1990 two thirds of all states permitted acquisitions from bank holding companies in any
Increasingly permissive state law reflected a variety of technological and market developments that either made protection of local banks increasingly less relevant (e.g., direct cross-border lending) or which increased the opportunity costs to state banks that faced restrictions on their ability to operate across state lines (Kane, 1996).

To a significant degree, therefore, the Reigle-Neal Act simply ratified changes that were already occurring at the state level. Moreover, it is reasonable to conclude that the eventual removal of interstate banking restrictions by Reigle-Neal after many years of lobbying by larger banks represented a shift in the relative size and importance of interests favoring and opposing these changes: smaller state banks became less economically relevant, borrowers in states increasingly saw opportunity costs to and few benefits to restrictions, and many state banks themselves saw opportunity costs (Kane, 1996). At the same time, however, it is equally important to note that these trends and the arguments made by academic experts and policymakers offered good reasons for policymakers to believe that the broader public interest was increasingly badly-served by the continuation of such restrictions. Consistent with the argument that I offer, therefore, policymakers had strong grounds to support such policies on the basis of their broader policy goals such as economic growth even without positive financial inducements to do so. What changed was that the ability of reform opponents to capture policy veto points declined over time. I discuss the detailed political process surrounding the passage of the Reigle-Nagle Act in the following section, in the context
of the overlapping debates surrounding the repeal of the Glass-Steagall separations between banking and non-banking financial services.

6.1.3.3 De-segmentation of Commercial Banking, Insurance and Securities Firms: The Gramm-Leach-Bliley Act of 1999

The Gramm-Leach Bliley Act of 1999 (“GLB”) was the most important and consequential financial regulatory change since the Great Depression. The GLB Act swept away barriers between the affiliation of firms engaged banking, insurance, and securities activities and repealed or overrode major sections of the Glass-Steagall Act of 1933, the Bank Holding Company Act of 1956, and state law. Although, as I discuss below, regulators had proactively and progressively stretched the boundaries of existing law and had pushed back many of these restrictions in the previous years, the GLB Act went further and gave definitive legal basis to changes that were already occurring.

The GLB Act is a complex piece of legislation with a number of different significant provisions.\(^59\) The Act authorized the creation of a new type of holding company, the “financial holding company”, which was permitted to own subsidiaries which engage in “financial” and related activities, including commercial banking, insurance, the sponsoring and distribution of mutual funds, and underwriting and dealing in securities\(^60\). Similar powers were extended to thrift holding companies\(^61\). In

\(^{59}\) My summary of the provisions of the Gramm-Leach-Bliley Act draws upon Wells and Jackson (1999) and Barth, Brumlaugh and Wilcox (2000).

\(^{60}\) The Act requires each of these activities to be conducted in separate subsidiaries of the holding company, with certain exceptions.
addition, the subsidiaries of commercial banks (“financial subsidiaries”) were permitted to engage in additional non-banking activities, but were prohibited from engaging in insurance underwriting or real estate investment. The Act designates the Federal Reserve as the umbrella supervisor for financial holding companies that own a bank subsidiary, with overall responsibility for supervising the risk of the consolidated entity. Responsibility for the regulation and supervision of the subsidiaries of financial holding companies, however, are based on what the Act terms “functional regulation” with the existing federal and state regulators retaining responsibilities over subsidiaries within each functional area.62 Other provisions of the Act were of lesser importance to the structural evolution of the financial system but were important to the political negotiations that surrounded the passage of the Act. The most important of these were provisions which clarified the application of the Community Reinvestment Act of 1977 to banks of different sizes and provisions dealing with consumer privacy.

Legislative proposals, regulator actions, and policy debates over what eventually became the Gramm-Leach-Bliley Act in 1999 spanned a roughly two decade period. Although the details of this process were complex, it is possible to make several observations about the overall process. Most generally, the GLB was a response to

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61 The Act also allowed existing “unitary” thrift holding companies, which held a single thrift subsidiary, to continue to commercial companies engaged in non-financial business, but prevented future such mixing of banking and commerce under thrift holding companies that did not already have such powers.

62 Under the Act the primary supervisor for national banks remains the OCC, the Federal Reserve for state member banks, the SEC for securities subsidiaries, and state insurance regulators for insurance subsidiaries.
major long range changes in the structure of the financial services industry brought
about by technological and market changes that opened new possibilities and generated
new competitive pressures. As would be predicted by interest group and regulatory
capture approaches, many large financial firms – particularly large commercial banks –
lobbied congress and the regulators to ease existing restrictions to enable them to
respond to these opportunities and challenges. Moreover, although changes in the
position of different groups occurred over time, the patterns of support and opposition
to different proposals by different segments of the financial services industry were in
many respects predictable in terms of the defense of existing protective barriers,
attempts to enter new markets, or as responses to competitive challenges. Consistent
with the theoretical framework that I offer, however, these groups sought to capture
veto points in the policy process in order to block changes they saw as detrimental to
their interests or to extract concessions in bargaining over regulatory outcomes.

It is also clear, however, that the cognitive frameworks of many key
policymakers evolved over time, as new theoretical understandings of the consequences
of financial regulatory choices became widespread among academic and policy experts
and as changes in financial markets seemed to justify the belief that existing regulations
were “outdated” and that the failure to “modernize” the U.S. financial system would
harm national competitiveness and growth. Policymakers could plausibly believe that
they were acting in the public interest in supporting the regulatory changes embodied in
GLB and that these regulatory changes were important to the realization of broader policy objectives. Successive presidential administrations, important congressional leaders, and regulators pushed for regulatory change and articulated clear and coherent arguments in favor of regulatory change. Although policymakers’ specific policy positions changed over time and important differences of opinion existed, in general most key policy leaders clearly took a stance in favor of removing regulatory barriers between different financial activities – actively seeking ways to promote such change by forging compromises among competing interests rather than passively responding to the demands of the most powerful lobbies. Indeed, as the following discussion makes clear, well-financed and well-organized sets of interests often opposed key reforms - making it difficult to ascertain with certitude which set of interests had greater lobbying “power”. Moreover, as I discuss below, shifts in the policy positions taken by key policymakers, in particular the Federal Reserve and key congressional leaders, were important tipping points in moving regulatory change forward and plausibly reflected the changes in the genuine intellectual commitments held by these policy leaders.

A number of important technological changes, product innovations and market changes transformed the structure of the financial services industry over the period from roughly 1980 to 1999 and generated pressures for further regulatory change. In

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63 These changes were complex and have important subtleties which go beyond the summary presented here. For more comprehensive discussions of these developments see Berger, Kashyap, and Scalsie (1995), Reinicke (1995), and Calomorios (2002). My summary draws upon these sources.
particular, these changes placed strong competitive pressures on commercial banks and generated opportunities for and pressures to find alternative sources of income for which commercial banks sought regulatory approval. During this period the commercial banking industry saw tremendous consolidation, with the number of FDIC insured commercial banks declining from 14,421 in 1980 to 8,563 in 1999, mostly as a result of the failure of smaller banks or their merger with larger financial institutions. The assets of the banking industry as a whole grew moderately during this period in real terms, but commercial banks lost a significant share of the total financial services market to other financial institutions, reflecting massive growth rates in the financial services offered by other financial institutions.\textsuperscript{64} In terms of the theoretical arguments that I consider in this chapter, this suggests at least superficially that the relative market power and hence presumably the relative lobbying muscle of bank competitors grew during this period – implying that they should have been in a stronger, not a weaker position to resist demands for regulatory change from commercial banks that would enable banks to compete in their markets.

\textsuperscript{64} Berger, Kashyap, and Scalise (1995, p. 74) report that commercial banks' share of the total credit market debt of individuals, businesses and governments fell from 25.8 percent in 1979 to 17.0 percent in 1994. Total credit market debt (loans, bonds, and all other forms of debt in formal financial markets) increased over this period from $8.27 trillion to $17.14 trillion, while total commercial bank assets (closely related to, but not identical to bank holdings of credit market debt) increased from $3.26 trillion to $4.02 trillion. Calomorris (2002, p. 209) offers alternative measures: over the period from 1980 to 1999 the share of total household wealth held in the form of deposits decreased from 25 to 12 percent, while the percentages held as investments in mutual funds increased from 1 to 9 percent and that held in pension fund reserves increased from 15 to 28 percent. These authors offer a variety of other measures which point in the same direction.
Commercial banks faced increased competition on both the liability side of their balance sheet (affecting the cost at which they could raise funds to lend or invest) and on the asset side (generating competition on their sources of income) as a result of various developments. First, commercial banks faced increased competition from other banks and thrifts as a result of the removal of deposit interest rate ceilings and other restrictions in the DIDMCA of 1980 and the removal of interstate banking restrictions culminating in the Reigle-Neal Act of 1994 – both of which helped to open up previously protected banking markets. Second, a wide variety of technological changes and product innovations allowed non-bank financial institutions to compete for bank customers and blurred the distinctions between bank and non-bank financial products. Among the most important of these were the rapid growth in mutual funds and money market funds which competed directly with deposits and which drove up banks’ interest expenses; the massive rise of direct borrowing on capital markets (including growth in the issuance of equity, bonds, and commercial paper) which, in particular, led to the loss of traditional lending business to large corporate borrowers\(^65\); the related rapid rise of asset-backed securitization which enabled corporations to raise funds in

\(^{65}\) Calomiris (2002) explains the massive rapid growth of direct capital market borrowing during this period as driven by improvements in communications technology and, more importantly, the rise of institutional investors (mutual funds and pension funds) which intermediated between small individuals as savers and corporations as users of capital, reducing information asymmetries and thus the cost to corporations of accessing such markets. As Calomiris also notes, changes in communications technology enabled the physical separation of borrowers and lenders as indicated by the growing average physical distance between U.S. small businesses borrowers their bank and nonblank lenders.
new ways and which enabled new intermediaries to compete directly with banks as lenders; and the rise of derivatives which enabled larger corporate clients to manage their cash flows and diversify risks in new ways. Third, falling communications costs enabled foreign banks to dramatically increase their share of the U.S. loan market via direct cross-border (“offshore”) lending. A final competitive development of broad concern to policymakers was the deregulation of foreign financial markets, most importantly London’s “big bang” in 1986 and the Japanese deregulation beginning in 1984, which appeared to threaten the loss of important financial sector business to foreign markets.

Securitization refers to the process by which a corporation (including both financial and non-financial corporations) sell assets from their balance sheets to other entities (e.g., conduits, special purpose vehicles, or financial companies), which in turn raises funds by issuing debt securities backed by the cash flows from these assets. This process enables corporations to raise funds by effectively transforming their various assets into capital market securities. I use the term “securitization” in this more precise sense, rather than to refer to the generally increased importance of securities markets as the term is sometimes used. Asset-backed securitization emerged in the 1980s with home equity loans, but exploded during the 1990s in new areas such as the securitization of credit card receivables, automobile loans, and small business loans. In particular this allowed finance companies (e.g., automobile finance companies and credit card companies) to compete for bank lending business by making loans directly to customers which they financed by the ongoing issuance of asset-backed securities to various institutional investors.

Berger, Kashyap, and Scalise (1995, p. 77) note that foreign banks more than doubled their share of lending to U.S. corporate businesses during this period, reaching 48 percent of the total. In part, however, this appears to have reflected the substitution of cross-border loans to the U.S. subsidiaries of foreign corporations for loans that were previously borrowed by the foreign corporate headquarters from the same banks.

The risk was that foreign companies would find it relatively more advantageous to list their shares (or equivalently “global depository receipts”) and issue securities on foreign markets such as the London Stock exchange; to conduct derivatives, foreign exchange, and other transactions on foreign markets; to place their assets with fund managers headquartered in foreign jurisdictions; and to engage foreign investment banks for advisory services (e.g., mergers and acquisitions). These posed competitive challenges to U.S. banks, securities firms, and securities exchanges. Financial services are an important component of U.S. service exports and generate substantial foreign exchange earnings and tax revenues.
Despite these challenges, the banking industry as a whole saw its profitability increase during this period (measured by return on equity “ROE” and return on assets “ROA”), reflecting the successful adaptation of surviving banks which dramatically changed the structure of their business, increasingly departing from the “traditional” business of banking of accepting deposits and making loans. First, banks increasingly developed and relied upon “non-core” (i.e., non-deposit) capital market sources of funding to replace deposits – including the issuance of longer-term debt securities, the issuance of bank commercial paper, deposit products that resembled capital market instruments (e.g., brokered deposits and large-denomination certificates of deposits sold to institutional investors such as money market funds and money market demand accounts issued to retail depositors), and the use of “repo” transactions. Second, banks increasingly found new sources of revenue to replace their traditional reliance on interest income from loans. These included revenues from trading activities and from a wide-variety of fee-generating products and services, including derivatives, fees for arranging and managing securitization activities (either securitizations on behalf of clients or involving their own assets), and fees for loan commitments and cash

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69 A “repo” transaction refers to a sale (or purchase) with agreement to repurchase (resell). A bank with a large portfolio of treasury (or other) securities can raise short-term funds (usually overnight) in this way by selling its securities to another institution and agreeing to repurchase them a short-time later.

70 In a securitization transaction a bank will typically earn a management fee for managing the cash flows and assets of the special purpose entity created to purchase the assets from the bank (or its client) and to issue securities backed by the assets’ cash flows.
management services to corporations. Third, and closely related to these developments, banks increasingly transformed to an “originate-to-distribute” business model in which banks focused on earning fees by originating loans to customers and then packaging and selling the loans via securitization rather than holding the loans to maturity on their balance sheet. As we shall see further below in the next section, the explosion of these trends during the 2000s and other related developments exposed banks to new risks which became qualitatively different as the scale of these activities increased.

As early as the 1960s, large commercial banks tried to circumvent the restrictions imposed by Glass Steagall Act of 1933 and the Bank Holding Company Act of 1956 on bank activities, although these efforts were rebuffed by the administration, Congress and regulators. Large banks sought to exploit a loophole in the Bank Holding Company Act of 1956 by creating one-bank holding companies (“OHBCs”) which

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71 Derivatives (many for corporate clients) were a particularly important growth area for non-interest income. Many of these activities fell within traditionally-permitted banking activities (e.g., permission to underwrite and trade U.S. government securities and general obligation municipal bonds) or were not restricted because they were not historically important (e.g., derivatives). As I discuss below, other new activities by banks, however, represented extensions that regulators permitted and in which, in many cases, tested the boundaries of existing law. As Calomiris (2002, p. 298) explains that, as of the end of the 1990s, “banks have become not so much competitors to securities markets (as they were sometimes seen in the 1980s) but rather a primary means of accessing securities markets (whether in the form of derivatives transactions, securitizations of assets, or asset management).”

72 Banks saw two benefits from securitizing their own assets (e.g., mortgages, credit card receivables, small business loans, etc.). First and most importantly, banks faced lower capital requirements for assets transferred off-balance sheet than for loans held to maturity on their balance sheets. Second, securitization effectively offered banks access to capital markets as a way to fund their lending business, enabling them to expand the volume of lending without raising additional deposits.

73 This paragraph draws on Reinicke (1995, pp. 30-31)
diversified into non-banking areas such as real estate, insurance, and even manufacturing and commerce.\textsuperscript{74} These efforts met with dire warnings from the Federal Reserve and the Nixon Administration, pointing to the experience of the Depression as an example of the risks that could ensue if bank activities were not restricted and warning of the emergence of potentially dangerous concentrations of economic power. Congress responded, with House Banking Committee Chair Wright Patman sponsoring legislation that became the 1970 Amendments to the Bank Holding Company Act of 1956 and which closed this loophole. Similarly, actions by the Comptroller of the Currency James J. Saxon in the 1960s to permit national banks to engage in a range of new activities were strongly opposed by other regulators and were reversed by the courts. The three Federal bank regulators (the Fed, OCC, and FDIC), however, began to become more concerned about the competitive position of banks in the late 1970s, with the Federal Reserve supporting limited lifting of activity restrictions – ruling in 1980 that commercial banks could compete with commercial banks to sell commercial paper and announcing that it supported authorizing banks to underwrite municipal revenue bonds (Reinicke, 1995, p. 60).\textsuperscript{75}

\textsuperscript{74} The Glass-Steagall Act of 1933 prohibited bank holding companies ("BHCs") from affiliating with securities firms but otherwise did not restrict the activities of BHCs. The Bank Holding Company Act of 1956 prohibited bank holding companies from engaging in most non-bank activities, thereby preventing BHCs from entering activities such as insurance, real estate, or commerce. The 1956 Act, however, defined a bank holding company as an entity which held multiple banks. By creating a holding company that owned a single bank, large banks could circumvent these activity restrictions.

\textsuperscript{75} The Federal Reserve Board ruled that commercial paper was not a "security" under the terms of the Glass-Steagall Act. An federal court overruled the Federal Reserve's decision in 1981, but this decision was
The climate for major financial regulatory change appeared to become much more favorable with the election in 1980 of Ronald Reagan and the return of the Senate to Republican control after nearly three decades of Democratic Party control. Although the Nixon, Ford, and Carter administrations had pushed various deregulatory measures, particularly in transportation, Reagan made reduction of government involvement in the economy the centerpiece of his domestic policy agenda, blaming the economic woes of the 1970s and upon excessive government involvement in the economy and surrounding himself with cabinet members who offered strong advocacy and coherent economic arguments for major tax cuts, spending cuts, and deregulation that challenged the foundations of the postwar Keynesian welfare and regulatory state. Reagan’s Secretary of the Treasury Donald Regan announced his support for reconsideration of Glass-Steagall activity restrictions during his first appearance before Congress, stating that “Glass-Steagall definitely should be revisited…I am not saying it is outmoded, but I certainly think it needs an updating” (Reinicke, 1995, p. 61). In the Senate, the new Republican Chairman of the Senate Banking Committee Jake Garn (R-UT) held hearings and, with administration support, introduced legislation in 1981 to partially remove the activity restrictions imposed by Glass-Steagall, with the legislation, among other things, reversed in appeal in 1982, and sustained in 1987 after a further court challenge by the security industry lobby the Securities Industry Association (“SIA”) (Reinicke, 1995, pp. 63, 66, 102). Municipal revenue bonds are bonds issued by a municipality but backed by the revenues from a specific project such as a sports stadium or port. They are generally considered more risky than general obligation (“GO”) bonds which are backed by the full taxing authority of the municipality.
authorizing commercial banks to underwrite municipal revenue bonds and operate, manage and distribute mutual funds (Reinicke, 1995, p. 61). During the hearings for the Garn bill, the administration introduced its own legislative proposal, which differed from the Garn proposal in that it required banks to create separately capitalized affiliates within a bank holding company structure in order to undertake these risky activities and keep them legally separate from FDIC-insured commercial banks, with the SEC responsible for the regulation of affiliates that engaged in securities-related activities (Reinicke, 1995, p. 62).

Garn’s bill and a broader successor proposal by the administration in 1982, however, ran into substantial opposition from a variety of sources. Smaller commercial banks were especially unenthusiastic about the requirements in the administration proposal, to which Garn acquiesced, that banks undertake the expense of establishing separate affiliates under a holding company structure in order to engage in such activities (Reinicke, 1995, p. 62). The Federal Reserve initially shared these objections given its fears of regulatory intrusion by the SEC, but was willing to compromise provided it maintain sole regulatory authority over bank holding companies (“BHCs”) (p. 64). The securities industry lobbied strongly against the proposed intrusion of banks into even these limited securities activities, with the powerful support of Senator Alfonse D’Amato (R-NY), the Chair of the Subcommittee on Securities who had strong ties to Wall Street. The Chairman of the House Banking Committee, Representative
Ferdinand St. Germain (D-RI), strongly opposed extending the securities powers of banks, arguing for greater safeguards for workers, consumers and small businesses and on various occasions expressing concerns about the risks of allowing banks to undertake such activities (Busch, 2009, p. 60; Reinicke, 1995, pp. 62, 76). Given the more pressing need to address weaknesses in the thrift industry which St. Germain supported, Garn scaled back his legislative goals and negotiated with St. Germain to pass the more modest expansions of bank and thrift powers and measures to alleviate thrift insolvency contained in the Garn-St. Germain Act of 1982 (see description above) (Reinicke, 1995, p. 65). Efforts to advance similar legislation stalled again in 1983 against similar opposition.

Given the difficulties encountered in advancing legislation to remove Glass-Steagall activity restrictions on commercial banks, banks increasingly sought to win concessions directly from the different federal and state regulators (Busch, 2009, pp. 59-60; Reinicke, 1995, pp. 63-67). The OCC and FDIC in particular became increasingly favorable toward efforts to remove activity restrictions, following a number of Reagan administration appointments the upper levels of these organizations76, with the Federal Reserve generally remaining more cautious but willing to support more limited liberalization of activity restrictions (Busch, 2009, p. 60). Differences between the

76 In addition, the Comptroller is an ex officio member of the five member board of the FDIC and so has some direct influence on the decisions of the FDIC. See Appendix A on the structure of federal banking regulation.
regulators reflected both differences in the cognitive frameworks and philosophical commitments of senior officials as well as differences in institutional interests. This included both narrow institutional interests – as the heads of different regulators sought to protect their turf – as well as institutional interests understood more broadly, as the heads of regulatory agencies fought on behalf of the policy objectives and responsibilities with which their respective agencies were charged by law. In defending and promoting their institutional missions, senior regulatory officials, therefore, fought for what they believed to be the public interest, as they understood this though the vantage point of their institutional responsibilities and the cognitive frameworks through which they understood relationships between policy choices and outcomes.

With institutional responsibility for the management of monetary policy and for the overall stability of the financial system and economy, the Federal Reserve frequently took a more cautious stance in considering expanded powers for banks that might increase the riskiness of bank activities and threaten system stability. In 1982 Federal Reserve Bank of Minnesota President Gerald Corrigan outlined the rationale for a cautious approach toward expanded bank powers in what many considered to the official statement of Federal Reserve views given Corrigan’s close ties to Fed Chairman Paul Volker (Reinicke, 1995, pp. 69-70).77 Corrigan argued that banks occupied a central

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77 Corrigan’s argument was contained in the 1982 Annual Report of the Federal Reserve Bank of Minneapolis. Corrigan later served as President of the Federal Reserve Bank of New York (FRBNY) from
and special position within the overall economy, which justified the privileges of deposit insurance and the right to borrow at below market interest rates from the Federal Reserve. As a consequence of this central position and these privileges, however, banks should be restrained from engaging in excessively risky activities. Moreover, Corrigan argued for the separation of banks from other financial and nonfinancial firms given the role of banks as the conduit for monetary policy and as a backup source of liquidity for other institutions. The FDIC was less concerned with general financial system stability and monetary policy issues, and therefore less concerned with expansions in bank activities. In contrast, the FDIC focused on its ability to conduct its core mission of insuring banks, arguing for increased supervisory powers but reduced regulatory responsibilities (Reinicke, 1995, pp. 69-70). As the sole chartering authority and primary regulator of national banks, but with no responsibilities for monetary policy or bank failures, the OCC generally favored expanding the powers of national banks in order to increase their commercial viability and competitiveness (Reinicke, 1985 to 1993. His successors as President of the FRBNY where William McDonough (1993-2003), Timothy Geithner (2003-2009), and William C. Dudley (appointed 2009).

Deposit insurance and the broader implicit government guarantee of major banks enables them to borrow money from depositors and obtain other funds at lower cost than they would otherwise be able to do. The incentive which this creates for banks to take risks with “other peoples’ money” is the “moral hazard” problem that many have argued is one of the justifications traditionally offered for the extensive regulation and supervisory oversight of banks (Dewatripont & Tirole, 1994).

The FDIC advanced a proposal at this time to consolidate all other regulators into a single agency with regulatory responsibility organized along functional lines within this agency. The FDIC would remain as an independent agency with the sole responsibility for bank supervision but no responsibilities for regulation (Reinicke, 1995, pp. 69-70).
1995, p. 70). State bank regulators had similar incentives to consider the competitive position of institutions chartered in their respective states.

Banks sought to exploit differences between regulators by lobbying more sympathetic regulators for favorable regulatory interpretations. In addition, many commercial banks switched their organizational form and charters to obtain more favorable regulatory treatment, posing challenges to those regulators which saw their influence and control diminish as a result (Busch, 2009, p. 60). In fact, recognizing the extent of policy differences between regulators, the Treasury in 1983 proposed a moratorium on the issuance of new regulations by the banking agencies to allow for legislative resolution of policy issues, with the moratorium supported by the Federal Reserve but opposed by the OCC and FDIC and failing in Congress (Reinicke, 1995, pp. 70-71). With legislative action at an impasse, Comptroller of the Currency C.T. Connor (1981-1985) used a loophole in the Bank Holding Company Act Amendments of 1970 and began in 1982 to allow financial and non-financial companies (e.g., Sears) to obtain

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80 Dos Santos (1996) describes the pattern of banks changing their organizational form and charter, engaging in product innovation, and regulatory agencies responses as the “regulatory dialectic”. Both the OCC and the FDIC are funded by fees levied on the banks that they regulate and so loose operating revenues when banks leave their jurisdiction (Busch, 2009, p. 52). The Federal Reserve earns substantially more than its operating costs from “seignorage” revenues (the power to purchase interest-earning treasury securities by the costless issuance of currency or credits to the deposits of commercial banks held with the Federal Reserve), with the Fed transferring its surplus earnings to the Treasury. The Federal Reserve’s ability to conduct monetary policy declines, however, when banks choose to exist the Federal Reserve system.

81 The Securities Industry Association (“SIA”) supported the call for a moratorium, hoping it would slow expansion of bank powers. The American Bankers Association (“ABA”), which represented both large and small banks, opposed the moratorium, while the Independent Bankers Association of American (“IBAA”), which mostly represented smaller commercial banks, supported the moratorium (Reinicke, 1995, p. 71)
national bank charters for “non-bank” subsidiaries (Federal Deposit Insurance Corporation., 1997, p. 98; Reinicke, 1995, p. 67). The Federal Reserve strongly opposed the Comptroller’s actions and urged Congressional action to close the loophole in the BHC Act, with Congress in 1987 eventually passing legislation. Commercial banks also lobbied state legislatures to liberalize activity restrictions, with South Dakota in 1983 passing a bill that authorized banks chartered in the state to own insurance companies provided that the insurance companies operated only outside the borders of the state (Busch, 2009, p. 60). Meanwhile, Bank of America (the nation’s largest bank) announced in 1981 that it had reached agreement to purchase Charles Schwab (the nation’s largest discount broker), with the Federal Reserve approving the acquisition in 1983 after a lengthy hearings and public debates (Reinicke, 1995, pp. 63, 66-67).

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82 The 1970 Amendments to the Bank Holding Company Act defined a “bank” as an entity that accepted demand deposits and which engaged in commercial lending. A bank which engaged in only one of these activities was therefore not a “bank” under the BHC Act and, therefore, was not subject to Federal Reserve regulation (Federal Deposit Insurance Corporation., 1997, p. 98).

83 The Competitive Equality Banking Act of 1987 focused primarily upon recapitalizing the insurance fund for savings and loans but also closed the loophole in the BHC Act. The Act contained grandfathering provisions under which existing “non-bank” banks were allowed to continue in operation without converting to become bank holding companies, but limited the rate at which such entities were allowed to grow their assets (Federal Deposit Insurance Corporation., 1997, pp. 10, 98).

84 A discount broker executes purchases and sales on behalf of retail clients for their own accounts. Such brokerage activities are considerably less risky than underwriting the issuance of securities. In an underwriting transaction the underwriter (depending upon the type of underwriting commitment made – whether “firm commitment” or “best efforts”) typically purchases the entire securities issue from the issuer at a discount from the expected selling price, hoping to place it with buyers who make non-binding offers to purchase a portion of the issue at a specified price during the marketing of the transaction. If an underwriting transaction fails, the underwriter may acquire a large “inventory” of unsold securities whose market value has declined.
In 1982, in a more serious challenge to Glass-Steagall restrictions, the FDIC permitted state non-member banks85 to open securities subsidiaries with powers to issue, underwrite and sell any type of security (including in 1983 corporate securities); arguing that Glass-Steagall restrictions did not apply to insured state-chartered banks (Reinicke, 1995, pp. 65-66). The Federal Reserve strongly opposed the actions of the FDIC, with Federal Reserve Board Chairman Volker particularly opposed to the FDIC’s 1983 announcement that it would allow banks to underwrite corporate securities (Reinicke, 1995, p. 71). The FDIC’s action was also strongly challenged by the Securities Industry Association which lobbied Congress to reverse the action and filed a lawsuit against the FDIC (Reinicke, 1995, p. 66). In addition, many in Congress were angered by the FDIC’s action which Representative Timothy Wirth labeled an attempt to usurp legislative powers (Reinicke, 1995, p. 72).

In an effort to react to growing concerns in Congress regarding deregulation and to forestall what appeared to be growing pressure in Congress for a legislative moratorium on new regulatory actions by the regulatory agencies, Treasury Secretary Regan introduced a revised administrative legislative proposal in July 1983 (Reinicke, 1995, pp. 72-73). Like the 1982 administration proposal, the new proposal offered broad

85 These are banks chartered under state law and which choose not to become members of the Federal Reserve system, but which choose to participate in federal deposit insurance and are hence subject to FDIC regulation and supervision. Participation in federal deposit insurance is mandatory for members of the Federal Reserve System (national banks and state-chartered member banks) and optional for state non-member banks. See Appendix A for detail on the structure of federal regulatory responsibilities during the period from roughly 1933 through 2009.
increases in the powers of banks and thrifts. Regan specifically sought to obtain the Federal Reserve’s support for the legislation by revising the administration’s previous proposal, which the Fed had opposed, to address Federal Reserve concerns. Volker supported the new Treasury proposal which removed provisions that had reducing the Fed’s regulatory powers; removed the provision permitting banks to underwrite corporate securities; and included language to close the loophole in the BHC Act that allowed the creation of “non-bank” banks. The administration’s legislative bargaining efforts were complicated, however, by the SEC’s stance that it would require commercial banks to submit their securities activities to SEC jurisdiction, provoking the American Banker’s Association to challenge the legal basis for the SEC’s jurisdictional claim. Moreover, within the Senate Banking Committee Republican Senator Heinz (R-PA) expressed concerns regarding the risks of concentrating financial power in a small number of institutions. Together with Senator D’Amato (R-NY), Heinz ensured that only much weaker version of the Garn-Treasury proposal stripping out most securities powers for banks left the committee, with full Senate approving the weakened bill in September 1984 by a vote of 89-5 (Reinicke, 1995, p. 77). Action in the House remained

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86 The proposed bill allowed bank and thrift holding companies and their subsidiaries to deal in and underwrite revenue bonds issued by the U.S. government or municipalities; to sponsor, manage, advise and control investment companies and mutual funds and to underwrite their securities; to engage in securities brokerage activities; to conduct insurance underwriting and brokerage; and to participate in real estate development and brokerage (Reinicke, 1995, p. 88).
stalled, however, with the continued opposition of House Banking Committee Chairman St. Germain (D-RI).

Several factors converged over the course of 1984 through 1986 that made the legislative climate significantly less hospitable for changes to Glass-Steagall, stalling legislative movement. First, the Continental Illinois National Bank in Chicago, one of the largest regional banks in the country, failed in May 1984, requiring a large federal rescue. The failure, which coincided with a growing wave of failures in commercial banks in the mid-1980s (see above), reduced the appetite of many in Congress for further liberalization of bank powers (Busch, 2009, pp. 60-61; Reinicke, 1995, pp. 75-76).

Reinicke (1995, p. 76) quotes St. Germain’s reaction, “[W]hen we are asked to endorse the movement of banks into fields even riskier than conventional banking, this type of incident does strongly suggest the need for careful analysis and caution.” In addition, the 1986 elections saw the Democrats regain control of the Senate with a solid 55-45 majority, with a host of fresh new faces appearing in the Senate such as John McCain of Arizona (R-AZ), Harry Reid (D-NV), and Richard Shelby of Alabama (then a Democrat and years later a strong opponent of Obama Administration financial regulatory reform efforts as the ranking Republican member of the Senate Banking Committee). The new Democratic Chairman of the Senate Banking Committee (D-WI) had, over the course of his long previous membership on the Committee, favored tougher consumer protections for bank customers, had favored continued restrictions on the mixing of banking and
commerce and on interstate banking, and was wary of an increasing concentration of power in the large “money center” banks (Reinicke, 1995, p. 84). Shortly after the election he declared: “We’ve got to do everything we can to maintain the banking system we have. I think it’s worked very well” (Reinicke, 1995, p. 84).

Shifts in the position of several key policymakers occurred over the course of 1986 and 1987, however, that helped to shift the longer-term momentum in favor of repeal of Glass-Steagall activity restrictions. These shifts appeared to represent the sincere reactions of these policymakers to their perception of an increasingly urgent competitive threat to the U.S. banking system and to their perception that financial sector reform was important to broader national competitiveness, as they adaptively updated their cognitive frameworks in the face of new information.

The proximate cause for the increased concern with the competitive position of the U.S. banking system was the wide-scale deregulation and reform of United Kingdom financial market that occurred with the “Big Bang” of 1986 pushed by the Thatcher government against the opposition of many of the traditional “City” interests in London. The reforms included measures to abolish outmoded practices and increase the competitiveness of the London Stock Exchange (LSE)\(^\text{87}\); the permission for banks to purchase members firms of the LSE (previously prohibited); and the opening of the

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\(^{87}\) Including the abolition of the traditional segmentation of stock market trading and brokerage activities between “jobbers” and “brokers”, abolition of fixed commissions on stock market trades, and the move to electronic screen-based trading.
London financial market to foreign firms, which rapidly acquired many British securities firms (Cassis & Collier, 2006, p. 246; Poser, 1991). These reforms increased the threat that London would attract business away from New York’s financial markets and a number of large U.S. commercial and investment banks moved quickly to purchase or establish securities affiliates in London. Longer term pressure came from the growing market share of large Japanese and European banks in the U.S. corporate lending market (see discussion above) and as the ranking of major U.S. banks in international size comparisons fell dramatically during the 1980s. Major U.S. banks complained that they could not compete effectively against foreign banks which operated without the activity restrictions that U.S. banks faced, enabling them to diversify their revenue sources and to offer a wider array of financial services to corporate clients – particularly as larger corporations increasingly turned to the issuance of securities in lieu of traditional bank borrowings.

The increasing urgency of the perceived international competitive threats to the U.S. banking system occurred against the backdrop of growing concerns and debates in academic and policy circles regarding the apparent “industrial decline” of the United States, particularly in the face of the rising export success of Japanese manufactures

88 The U.K.’s abolition of capital controls in 1979 was an important earlier deregulation as it enabled financial firms based in London to invest in foreign-currency denominated assets (e.g., shares of foreign companies) and eased restrictions for foreign firms to issue Sterling-denominated securities in London.
In the Spring of 1986 the Senate Banking committee held hearings on the internationalization of financial markets during which the chairman of J.P. Morgan offered detailed testimony outlining the competitive threat to U.S. banks and linking the competitive strength of the U.S. financial sector to overall U.S. industrial competitiveness (Reinicke, 1995, pp. 94-95). Treasury Undersecretary Gould offered similar arguments in early 1987, and the debate over repeal of Glass-Steagall activity restrictions increasingly became framed in terms of its effects on overall national industrial competitiveness rather than the domestic competitiveness of the banking sector versus other parts of the financial services industry (Reinicke, 1995, pp. 96-98).

As the new President of the Federal Reserve Bank of New York, Gerald Corrigan reversed his earlier opposition to the repeal of Glass-Steagall separations and argued in 1986 in a New York Times article for the need to change U.S regulations (Reinicke, 1995, p. 93):

Money is now truly international in character, operating in enormous size, around the clock and around the world...[I]t is now increasingly evident that the distinction between commercial and investment banking is also being eroded...What is needed is a broad-based and progressive overhaul of our Federal banking and related statues...

Corrigan faced the threat that a number of large commercial banks (specifically including J.P. Morgan, Chase Manhattan, Citicorp, and Bankers Trust) would abandon

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89 A number of widely read books at the time raised concerns about the broader industrial challenges that the U.S. faced. Examples include Johnson (1982), Kennedy (1987), and Prestowitz (1988). American industrial decline was specifically linked to shortcomings in the U.S. financial system by Porter (1992).

90 The quote is cited in Reinicke (Reinicke, 1995). For the original article see Corrigan (1986).
their bank charters altogether in order to pursue more profitable securities business, as well as a FRBNY staff study pointing to the urgency of competitive threats (Reinicke, 1995, p. 93). Similar general comments were made by Board Chairman Volker at the time. In a response to these concerns and in a historic challenge to Glass-Steagall restrictions and to Congress, in mid-1987 the Federal Reserve Board by a 3-2 vote approved applications by Citigroup, Bankers Trust, and J.P. Morgan to form separate subsidiaries authorized to underwrite a variety of securities on a nationwide basis including commercial paper, mortgage-backed securities and municipal revenue bonds (Reinicke, 1995, p. 103). The ruling required that the securities activities of the affiliates represent no more than 5 percent of the total gross revenues of the consolidated firms

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91 The banks sought the ability to compete against securities firms that operated as "broker-dealers" without the restrictions or benefits of commercial bank charters (such as the ability to accept demand deposits). These firms earned revenues from their securities underwriting and brokerage activities; proprietary trading of securities (i.e., trading for their own account rather than for the accounts of customers); and advisory fees for mergers and acquisitions and similar activities. These firms were highly profitable but historically smaller in size than the largest commercial banks which had access to deposit funding to grow large balance sheets. The five largest independent (i.e. non-bank) broker dealers, with the lion’s share of the total market, at the end of 1998 were (in descending order) Goldman Sachs, Morgan Stanley, Merrill Lynch, Lehman Brothers, and Bear Stearns. During the 1998-1999 financial crisis Lehman Brothers and Bear Stearns failed; Merrill Lynch was sold to Bank of America in sale forced by regulators to prevent its apparently impending collapse; and Goldman Sachs and Morgan Stanley were forced to convert to bank holding company charters (giving them access to the discount window of the Federal Reserve) as a condition for Federal Reserve support during the crisis.

92 The ruling relied upon an questionable and novel interpretation of section 20 of the Glass-Steagall Act, which banned affiliation between commercial banks and firms engaged “principally” in securities underwriting, which had traditionally been understood as an absolute ban (Busch, 2009, p. 63).
and that their respective domestic market shares be limited to 5 percent of the domestic underwriting market.93

A politically important shift occurred when in the summer of 1987 Senate Banking Committee Chairman William Proxmire (D-WI) reversed his long-standing opposition to changes in Glass-Steagall (Busch, 2009, p. 63). Proxmire held hearings on the effects of the globalization of finance, during which he argued that while Glass-Steagall had helped to stabilize the U.S. banking sector in an earlier era, the Act had come to have the opposite effect by encouraging U.S. banks to establish securities affiliates in less regulated markets and by undermining the competitive position of U.S. banks by less regulated foreign rivals (Busch, 2009, p. 63; Reinicke, 1995, pp. 98-99, 106). Reinicke (1995, pp. 98-99) cites an interview with Proxmire’s former staff director who argued that a key reason for Proxmire’s shift in position was his growing belief that regulatory reform was necessary to enable the U.S. banking sector to respond to globalization. The interpretation that Proxmire’s shift reflected a sincere shift in beliefs rather than the effect of financial contributions by lobbyists is further bolstered by the fact that Proxmire had decided not to seek reelection and to retire when his term expired at the end of 1989. Sentiment began to shift more generally within both the Senate and House at this time, with House Banking Committee Chairman St. Germain reluctantly

93 Volker cast one of the two dissenting votes based on his objection to the fact that the ruling allowed the firms to exempt their underwriting of government securities from the 5 percent calculations. His stance was intended to slow the growth of these new securities activities but not to prevent them entirely (Reinicke, 1995, p. 103).
responding to pressure from other committee members and holding hearings in fall 1987 similar to those in the Senate (Reinicke, 1995, p. 102). Proxmire, meanwhile, introduced a bill on November 20, 1987 co-sponsored with Senate Minority Leader Jake Garn to repeal significant sections of Glass-Steagall.

The shift with the greatest long-term impact on the repeal of Glass-Steagall and for future financial regulatory reforms occurred at leadership of the Federal Reserve. In July 1987, Volker announced his resignation as Chairman of the Federal Reserve Board of Governors and was succeeded in August by Alan Greenspan. As evidenced by his statements and actions both before and after assuming the position of Federal Reserve Chairman, Greenspan approached regulatory policy questions with a cognitive framework that differed significantly from that of his predecessor, placing a much higher degree of faith in the benefits of financial deregulation. Greenspan fervently and apparently quite sincerely believed that sweeping deregulation of the financial sector was essential to enabling the American economy to grow and respond to new technological opportunities; that new financial product innovations (e.g. derivatives) would bring significant benefits to the wider economy; and that the discipline of competitive markets could to a significant extent replace the role of regulatory oversight in constraining risk-taking by financial firms.94 Greenspan’s strongly laissez-faire

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94 See above for a discussion of the broader academic and policy arguments that helped to inform this viewpoint.
economic philosophy owed much to his close association and long friendship with the author Ayn Rand, an intellectual debt which he discusses at length in his memoirs (Greenspan, 2007). Greenspan pushed for rapid deregulation from the outset of his term as Federal Reserve Governor, describing himself as a “strong deregulator” and calling for the complete repeal of Glass-Steagall during his first congressional testimony, positions which he maintained in repeated testimony throughout the debate over Glass-Steagall reforms in subsequent years (Reinicke, 1995, pp. 104-105).

It appeared that legislation repealing significant parts of Glass-Steagall might make its way through Congress in 1988 (CQ, 1989). The Proxmire-Garn bill reported out of committee and approved by a vote of 94-2 by the full Senate on March 30. The bill allowed banks to underwrite and distribute a wide variety of securities through separate affiliates under a common bank holding company and permitted banks to sell mutual funds95. The bill, however, prohibited banks from underwriting or selling insurance products in concession to the strong resistance by Senate Banking Committee member Chris Dodd (D-CT) who favored expanded powers but defended insurance interests in his state. Consumer lobbies won provisions requiring increased disclosures on loan terms, with the bill also containing provisions to ensure the Federal Reserve consider a bank’s compliance record with regard to the Community Reinvestment Act of 1997

95 The bill permitted the underwriting and sale of corporate bonds, but not corporate equities. The bill, however, provided that an expedited vote would occur on this power no later than April 1, 1991.
(“CRA”) in its approval of applications to acquire or establish securities affiliates. Slightly different versions of a similar bill were drafted by the House Banking, Energy and Commerce, and Judiciary committees respectively. Principally due to jurisdictional conflicts between these committees, rather than substantive differences, no bill was voted on the House floor.

Prospects for movement on reform of Glass-Steagall dimmed again in 1989. In the wake of the 1988 elections and the retirement of Proxmire. Donald Reigle (D-MI), who had a record of defending security industry views in previous reform battles, took over from Proxmire as Senate Banking Committee Chairman, while Henry Gonzales (D-TX), a frequent critic of the Federal Reserve and skeptic of the merits of Glass-Steagall Reform, took over as Chair of the House Banking Committee (Reinicke, 1995, p. 113). In addition, Congressional attention increasingly focused on efforts to resolve the costly ongoing crisis in the thrift industry. The Financial Institutions Reform, Recovery and Enforcement Act (“FIRREA”) was passed at the end of the year, authorizing a substantial budget allocation to pay for the resolution of failed thrifts; abolishing and replacing the FHLBB with the Office of Thrift Supervision (OTS) (a Treasury department) as the regulatory of thrifts, and placing certain new restrictions on thrift powers (Busch, 96 The CRA prohibited banks from engaging in the practice of “redlining” by which many banks historically denied credit to residents of poor or minority neighborhoods and required that banks actively demonstrate efforts to extend credit in such neighborhoods. CRA compliance was a central issue for many in Congress, particularly within the Democratic Party.
Frustrated and angered at legislative difficulties with reform, outgoing Senator Proxmire had in October of 1988 openly called for the regulatory agencies to take the initiative and push reform forward outside the legislature (Reinicke, 1995, p. 110). The Federal Reserve responded, first by approving in January 1989 applications by four major banks to underwrite corporate debt in addition to the other securities within the 5 percent limit earlier approved by the Fed, but deferring for one year a decision on equity underwriting (Reinicke, 1995, p. 114). In September 1989 the Fed went further, raising the limit on underwriting activities from 5 percent to 10 percent (Busch, 2009, p. 64; Reinicke, 1995, p. 114).

International competitive issues once again became important to the domestic regulatory reform debate in as the 1992 date for the creation of a single European market (including financial services) approached. European banks, especially British banks, complained that while the United Kingdom and other countries had liberalized their financial markets and allowed American banks to compete in a wide range of activities, Glass-Steagall continued to prevent many European banks from engaging in those same activities within the United States. Fears grew that the European Community would impose “reciprocity” requirements, permitting American firms operating in Europe to engage only in those activities which in which European firms could engage within the
Fear of EU pressures for reciprocity generated considerable concern within congress and prompted the Securities Industry Association (SIA) in December 1989 to completely reverse its position and to come out in favor of permission for bank holding companies to engage in securities activities.

Further legislative movement did not occur until 1991, following the anticipated release of the Bush Administration blueprint for financial system reform (nick-named the “Brady Plan” after the Treasury Secretary) in February 1991 (United States. Dept. of the Treasury., 1991). The administration sought to bundle proposals for sweeping reform of financial regulation with urgent measures to recapitalize the deposit insurance fund of the FDIC which was severely strained as a result of the expense of responding to the mid-1980s banking crisis. The Brady plan included proposals for a reform of deposit insurance, including limits on coverage and premiums based on the riskiness of a bank’s activities; mandatory early intervention measures by supervisors for banks which fell below certain specified capital levels; a consolidation of the structure of bank regulation97; authorization of interstate banking; and, most importantly, a sweeping set

97 The report criticized the inefficiencies of the complex structure of federal regulation that had emerged, stating that “No one creating a regulatory system today from scratch would design the current structure” (pg. 67). The plan envisioned the consolidation of depository institution regulation in two federal agencies. A new Federal Banking Agency (“FBA”) would be established within the Treasury, responsible for the regulation and supervision of all national banks and national bank holding companies. The FBA would absorb the existing responsibilities of the OCC and the Office of Thrift Supervision. The Federal Reserve would be responsible for the regulation of state banks and bank holding companies, but loose authority over
of additional powers for commercial banks (United States. Dept. of the Treasury., 1991). The new banking powers went beyond anything previously proposed. The Brady plan called for the abolition of all Glass-Steagall restrictions, allowing the creation of financial services holding companies authorized to conduct commercial banking, securities activities, and insurance underwriting in separately capitalized affiliates. In addition, the plan would allow non-financial companies to own financial services holding companies.

The sweeping nature of the Administration’s proposal, however, ensured that an even wider set of groups emerged to challenge the portions that threatened their interests (CQ, 1992; Reinicke, 1995, pp. 120-126). The plan was attacked by small banks, which feared the interstate banking provisions; state agricultural groups, which feared that agricultural lending would suffer if smaller community banks were placed under competitive pressure; consumer groups, which feared higher consumer fees; and sections of the securities industry*. In addition, the proposed regulatory changes provoked sharp criticism from the different federal regulators who sought to defend their respective turf. Bills similar to the Administration’s proposal were reported out of the Senate and House Banking Committees, but provisions expanding bank powers were traded away in successive negotiations in the effort to ensure passage of the more

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* Some securities firms continued to oppose repeal of Glass-Steagall restrictions, while others sought to adapt by pursuing profitable affiliations with commercial banks.
urgent measures to recapitalize the FDIC bank insurance fund (CQ, 1992). House
Energy and Commerce Committee Chairman John D. Dingle (D-MI) led opposition
against bank expansion measures, while no single legislator took a leading role as the
overall advocate of broader reform. The result was that Congress passed a significantly
less sweeping piece of legislation, the Federal Deposit Insurance Corporation Act of 1991
(FCICA). The main provisions of the FDICA provided for recapitalization of the FDIC
bank deposit insurance fund; mandatory requirements that regulators take various types
of “prompt corrective actions” when the capital ratios of banks and thrifts fell below
certain levels and that bank supervisors conduct examinations at least annually;
restrictions on the activities of state banks; and risk-based premiums on deposit
insurance (Federal Deposit Insurance Corporation. Division of Research and Statistics.,
1997).

The legislative appetite for further efforts at Glass-Steagall reforms abated
somewhat over the course of 1993 to 1996 given the absence of major financial crises
such as those that had forced legislative action in the 1980s; the absence of major new
foreign competitive challenges; and the fact that regulators had already taken initiatives
to expand bank powers (CQ, 1997a). In addition, the Federal Reserve in 1991 had
authorized foreign banks to underwrite securities in the United States directly through
their subsidiaries without having to establish bank holding companies as required of
U.S. banks, thereby easing concerns about EU reciprocity retaliation (CQ, 2002a).
The Clinton Administration took office in 1993, with the Democrats retaining control of both the House and the Senate. While supportive of financial regulatory reform, the new Clinton Administration took a generally cautious approach. The administration did propose a major consolidation of the structure of federal banking regulation which Treasury Secretary Lloyd Bentsen announced in November 1993. The proposal called for the creation of a single Federal Banking Commission ("FBC") to assume regulatory and supervisory functions of the Federal Reserve, FDIC, Office of the Comptroller of the Currency (OCC), and the Office of Thrift Supervision (OTS) (CQ, 1997e). The new FBC would be governed by a five person board, including three presidentially appointed members with four year terms (including a chair whose term coincided with that of the U.S. President) plus the Secretary of the Treasury and a member of the Federal Reserve Board (CQ, 1997e). Legislation based on the Administration’s plan was introduced in the Senate by Donald Riegle and in the House by Henry B. Gonzales. The proposal, however, failed in 1994 after Federal Reserve Chairman Greenspan lobbied in Congress against the bill and negotiated with the Treasury to withdraw the plan, arguing that a single national regulator was likely to be inflexible and to stifle necessary financial innovation (CQ, 1995b). State banks and many national banks had opposed the legislation, expressing similar concerns.

Congress did, however, finally pass legislation to remove restrictions on interstate banking and branching, with the passage of the Reigle-Neal Interstate Banking
and Branching Efficiency Act of 1994 following its previous failure to do so in 1991 (CQ, 1995a, 1997c). A bill in the House was sponsored by Stephen Neal (D-NC), Chairman of the House Banking Subcommittee on Financial Institutions and long an advocate of interstate banking which would benefit North Carolina’s large NationsBank Corporation.99 Similar legislation was introduced in the Senate by Senate Banking Committee Chariman Donald W. Reigle (D-MI). Although large banks had long lobbied for such legislation, the bill faced strong opposition from smaller banks and from lobbies representing insurance agents, who feared that large national banks would become insurance sales competitors and insisted that any such legislation explicitly ban bank insurance sales. Senator Christopher Dodd (D-Conn), long a strong insurance industry advocate, had held up the legislation. Dodd, however, also favored interstate banking and reversed his position, allowing the Senate Banking Committee to approve Reigle’s bill unanimously. Support for the legislation was strong in Congress, with both the House and Senate passing bills on expedited voice votes and with differences between the House and Senate versions easily resolved in conference proceedings and enabling final passage of the historic legislation. For discussion of the specifics of the legislation and for further background see the previous section.

The 1994 mid-term elections saw the Republicans sweep to control in the House under the charismatic and combative leadership of the populist “anti-government” Speaker Newt Gingrich, with the Republicans also regaining control of the Senate with a narrow 52 to 48 majority. Reflecting the new anti-regulatory spirit in the House, the new Republican Chair of the House Banking Committee Jim Leach (R-Iowa) introduced legislation in early 1995 proposing a sweeping repeal of Glass-Steagall restrictions (CQ, 1997a). Like earlier proposals, the bill called for the creation of financial holding companies whose subsidiaries could undertake the full range of banking and securities activities (CQ, 1997b). The repeal of Glass-Steagall provisions was paired with other legislation intended to give banks “regulatory relief” from various disclosure and filing requirements under the banking legislation of recent years (CQ, 1997b). Senate Banking Committee Chairman Alfonse D’Amato (R-NY), a long opponent of expanded bank powers and security industry advocate, took no action to advance legislation in the Senate (CQ, 1997b). Leach’s legislation drew strong opposition in the House from a number of sources. At the urging of Gingrich who responded to insurance company lobbies, Leach had included a provision which prohibited the OCC from granting expanded powers to banks to enter insurance activities as the OCC had started to do and (see below). As a result, commercial bank lobbies turned against the bill (CQ, 1996, 1997b). Leach’s companion “regulatory relief” bill also drew fire from consumer groups and from many democrats for its attempt to exempt most banks from the requirements

Parallel to these legislative developments, regulators actions and court decisions continued to expand the powers of commercial banks (CQ, 2002a). In 1986 the OCC had ruled that national banks could sell insurance nationwide, drawing upon a questionable interpretation of a provision in the Bank Act of 1916. The OCC’s action was upheld by federal court in 1993 and in 1996 by the Supreme Court in the major Barnet Bank v. Nelson case, which also prohibited state’s from barring such insurance sales. Also in 1996 the Federal Reserve increased the percentage of gross revenues that bank subsidiaries could earn from securities activities from 10 to 25 percent. In addition, the Federal Reserve eased “firewall” restrictions that had limited the ability of bank directors, officers and employees to serve on security affiliate boards, thereby paving the way for a series of major acquisitions of securities firms by commercial banks.

Congress made another effort to pass legislation changing Glass-Steagall restrictions over the course of 1997-1998 (CQ, 2002a). In June 1997 the Treasury Secretary Robert Rubin introduced the Administration proposal for financial reform,

100 The provision allowed national banks located in towns of 5,000 or fewer inhabitants to sell insurance, thus offering access to insurance products to rural and small town residents who might not otherwise have access. The OCC argued that the provision also permitted banks based in such towns to sell insurance anywhere outside the small town.
reversing the Administration’s previously more passive stance. The proposal allowed commercial banks to engage in the full range of securities and insurance activities, either by creating subsidiaries directly held by the commercial bank (so-called “universal banking”) or by establishing holding companies under which a commercial bank could be affiliated with other types of financial firms. The Treasury initially proposed allowing bank holding companies to earn a limited share of revenues from commercial (i.e., non-financial) activities, but reversed this position after opposition from consumer groups, labor unions, and small banks which argued that the mixing of banking and commerce would lead to dangerous concentrations of financial power. House Banking and Financial Services Committee Chair Jim Leach (R-Iowa) introduced legislation similar to that proposed by the administration. The House legislation was opposed by many banks which had increasingly gained the ability to engage in insurance and securities activities and now feared that the legislation might benefit securities and insurance competitors more. After contentious fights on a variety of issues, and particularly provisions relating to the mixing of banking and commerce, the bill (HR-10) passed in May 1998 in by a narrow and almost completely partisan 214 to 213 vote and only after speaker Gingrich placed strong pressure on waivering Republicans.

Greenspan strongly supported the House bill, testifying that financial modernization was essential to national prosperity and arguing that further evolution of financial markets was inevitable, albeit likely to be less efficient, even without
Congressional action (Greenspan, 1998). In particular, he supported the House bill’s rejection the Treasury proposal that banks be allowed the option to establish directly-owned securities and insurance subsidiaries, requiring instead that these be conducted under a holding company structure. The Treasury proposal would have removed such activities from Federal Reserve regulatory jurisdiction (with the Federal Reserve regulating bank holding companies, while the OCC has primary responsibility for national banks)\textsuperscript{101}. It seems plausible that Greenspan’s opposition also rested upon the sincere belief, as the Treasury had previously argued in its 1991 proposal, that separating securities and insurance activities into separate legal entities under a holding company (rather than as subsidiaries of a commercial bank) would protect commercial banks (and hence depositors and the FDIC) from the risks undertaken by such entities.

As Greenspan argued in his testimony:

\begin{quote}
There is, however, one fundamental principle embodied in H.R. 10 upon which there is disagreement between the Federal Reserve and the current Treasury Department, although there is agreement among the Federal Reserve and many in the affected industries as well as earlier Treasury Departments. That is the considered decision of the House to use the holding company structure, and not the universal bank, as the appropriate structure to allow the new securities and insurance affiliations. That decision, which is fundamental to the way in which the financial services industry will develop, is critical because it provides better
\end{quote}

\textsuperscript{101} Mayer (2001, p. 50) argues that the Treasury’s position under Rubin appears to have reflected both the effort to enhance the regulatory turf of the Treasury as well as the expectation that the organizationally simpler universal banking model would be significantly more efficient “from a national economic policy point of view”. Mayer (p. 47) suggests that the disagreement between the Federal Reserve and the Treasury on this issue was the critical issue stalling legislative progress in 1998, with Senators dividing loyalties as Greenspan and Rubin testified against one-another’s proposals in the Senate. Mayer later himself testified before Congress in 1999 in support of the Federal Reserve’s regulatory position.
protection for our banking and financial system without damaging the national or state bank charters or limiting in any way the benefits of financial modernization. Importantly, that decision also prevents the spread of the safety net and the accompanying moral hazard to the securities and insurance industries and assures a level playing field within the financial services industry and thus full, open and fair competition as we enter the next century. The other route toward universal banking for national banks will, in our view, lead to a weakening of the competitive strength of our financial services industry as independent securities, insurance and other financial services providers operate at a disadvantage to those owned by banks. It is for these reasons that the Federal Reserve, SEC and many state functional regulators and many in the affected industries support the holding company framework and have opposed the universal bank approach.

As the financial crisis of 2008-2009 demonstrated, however, commercial banks were indeed subject to considerable risks from their activities of their securities affiliates even though the holding company framework favored by Greenspan was adopted. Even more importantly, as I discuss below, the Federal Reserve was forced during the crisis to extend massive guarantees to the liabilities of entities that were not commercial banks (e.g., all money market funds in the U.S.) in order to prevent what appeared to be an incipient run on the vast new “shadow banking system” that emerged in subsequent years and to stave off a total collapse of the U.S. financial system.102 The emergence of this new source of systemic risk and the resultant responsibilities which it forced upon the Federal Reserve seem to have been completely unanticipated at this time.

In the Senate, Banking Chairman Alfonse D’Amato (R-NY) reluctantly agreed to move similar legislation (CQ, 2002a). After The legislation stalled and was eventually

102 See Acharya, Philippon, Richardson, and Roubini (2009) for a detailed discussion.
pulled from the floor Senate in the Fall of 1998, mainly as a result of the concerted efforts of Senator Phil Gramm (R-TX), who insisted that the legislation contain an amendment which would prevent the application of the Community Reinvestment Act of 1977 ("CRA") to financial conglomerates created under the act. Gramm argued that the CRA represented a form of "organized extortion" by which the government forced banks to lend to risky low-income borrowers.

Three developments in late 1998 and early 1999 were, however, to important implications for the final success in 1999 of legislative efforts to repeal Glass-Steagall restrictions. First, in April 1998 Citicorp (a bank holding company) and Travelers Insurance company announced that they had reached an agreement to merge to create a huge new integrated financial services company Citigroup. The Federal Reserve approved the merger in September of 1998, in effect throwing down a gauntlet to Congress. Second, Treasury Secretary Robert Rubin resigned, accepting a post as a senior advisor to the new Citigroup, and was replaced by Larry Summers. Third, the election of 1998 saw Senator D'Amato loose his seat, with Gramm assuming the Chairmanship of the Senate Banking Committee.

In early 1999, Leach (R-IA) once again introduced legislation in the House, determined to score a historic victory before his term as House Banking Chair expired, while Gramm (R-TX) introduced legislation in the Senate (CQ, 2002b; Mayer, 2001). The battles were similar to those played out in 1997-1998. Gramm’s committee passed an
amendment sponsored by Senator Shelby (R-AL) exempting banks smaller than $100 million in assets from the provisions of the CRA, promotion strong opposition from community groups, Democratic Senators, and the Administration. The committee approved the Gramm bill on a purely partisan 11-9 vote. Debate on the Senate floor concentrated mainly on the CRA provisions and a Republican split over the Fed and Treasury proposals almost derailed the bill. Shelby introduced an amendment supporting the Treasury position, arguing that the Treasury proposal allowed more flexibility and greater efficiency. Shelby’s position was favored by most Democrats and many larger banks, but opposed by many smaller banks. Gramm, however, staunchly supported the Federal Reserve’s insistence on a holding company structure and defeated Shelby’s amendment. Gramm’s bill passed the Senate on May 6 in a 54-44 partisan vote, with only Ernest Hollings (D-SC) crossing party lines.

Leach moved his legislative proposal through the House Banking and Financial Services Committee, with Leach’s bill including CRA requirements as well as some consumer privacy protections and attracting substantial bipartisan support with a 51-8 committee vote. Thomas Bliley (R-VA) pushed similar legislation through the House Commerce Committee, with the main difference that Bliley’s bill adopted the Treasury’s proposal to allow banks to directly own financial services subsidiaries whereas the Leach bill sided with the Fed’s position in requiring a holding company structure (CQ, 2002b). The committees reconciled their proposals and legislation advanced to the floor
containing Bliley’s language on bank financial subsidiaries. The legislation passed in the house with strong bipartisan support by a 343 to 86 majority, with key democrats such as Richard Gephardt (D-MO) and David Bonior (D-MI) who had voted against the 1998 legislation switching to support the bill given its inclusion of CRA and privacy provisions.

Although conference proceedings were lengthy and contentious, House and Senate negotiators were eventually able to reach compromises on the major points separating the House and Senate legislation (CQ, 2002b). Conferees agreed to prohibit new affiliations between commercial firms and thrifts as in the House bill, but permitted existing affiliations between thrifts and commercial firms to continue. Unable to bridge differences between the Senate and House bills regarding the issue of regulatory structure, the conferees asked the Federal Reserve and Treasury directly negotiate a compromise. As Greenspan records in his memoirs (Greenspan, 2007), he and Treasury Secretary Larry Summers resolved their differences in a direct one-on-one private meeting. The result was a compromise in which the Federal Reserve was designated as the umbrella supervisor for new “financial holding companies” created by the legislation, with “functional” regulation of the subsidiaries of financial holding companies, but with the subsidiaries of commercial banks (“financial subsidiaries”) allowed to engage in additional nonblank activities, with the exception of insurance underwriting and real estate development. The conferees agreed also to broaden
privacy protections to include “opt out” provisions when Senator Shelby announced his support of such broader provisions. The remaining difficult issue concerned the Community Reinvestment Act provisions, with Gramm finally compromising and agreeing to language supported by the House negotiators and the White House when it became clear that failure to compromise could derail passage of the legislation. With these compromises embedded, the final conference report passed the Senate with a 90 to 8 majority and the House by a 362 to 57 majority on November 4, with President Clinton signing the Gramm-Leach-Bliley Act into law on November 12, 1999.

6.1.2.4 Keeping OTC Derivatives Deregulated and More Flexible Regulatory Capital Rules: The Commodities Futures Modernization Act of 2000 and the Basel II Accord of 2004

A further set of financial regulatory changes following the Gramm-Leach-Bliley Act had important consequences in shaping the evolution of the financial sector in ways that contributed to the specific vulnerabilities of the financial system that made the 2008-2009 financial crisis possible. These included the passage of the Commodities Futures Modernization Act of 2000; the adoption of the new Basel II guidelines for capital adequacy; and the decision by SEC to change its net capital rule for certain large broker dealers. Specialized financial sector bureaucratic actors exercised significant influence over these regulatory policy decisions; with these regulatory decisions clearly reflecting the influence of cognitive frameworks which pointed to the potential utility of market
monitoring and to the expectation that deregulated financial markets would tend toward socially optimal equilibria.

The Commodities Futures Modernization Act of 2000 (the “CFMA”) resolved potential legal ambiguities regarding the regulation of most types of over-the-counter derivatives (“OTC” derivatives) (including interest rate swaps, credit default swaps, and other similar instruments) such that transactions in such instruments between “sophisticated counterparties” would remain largely unregulated and traded in over the counter markets rather than on organized exchanges (CQ 2002c; see President’s Working Group 1999 for detailed background). The Commodities Exchange Act of 1936 (“CEA”) had required that all futures and options contracts on agricultural products be traded on organized regulated exchanges (e.g., the Chicago Mercantile Exchange); with the Commodities Futures Trading Commission Act of 1974 creating the Commodities Futures Trading Commission (“CFTC”) to regulate futures and options markets and broadening the scope of the CEA to cover “all other goods and articles, except onions, and all services, rights, and interests in which contracts for future delivery are presently or in the future dealt in” (PWG 1999, p. 7). The functional similarity between futures contracts and OTC derivatives based on swaps raised legal ambiguities, potentially threatening the legal validity of OTC contracts worth trillions of dollars. The stakes

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103 The Act contained an important exemption (the “Treasury Amendment”) that excluded futures and options on foreign currencies and government securities.
were raised when CFTC head Brooksley Born began to push in 1997 for the regulation of
OTC derivatives by the CFTC arguing that their systemic risk merited their functional
regulation by the CFTC and the requirement that they be traded on organized exchanges
(Smith 2010, pp. 145-152). Born’s initiative was firmly opposed by Federal Reserve
Chairman Greenspan, Treasury Secretary Rubin, Assistant Treasury Secretary Summers,
and SEC Chairman Arthur Levit (ibid). The President’s Working Group on Financial
Markets, which consisted of most of these officials, issued a report in November 1999
arguing that the legal uncertainties of existing regulation threatened the competitiveness
of U.S. financial markets and urging specific regulatory changes to explicitly exempt
OTC derivatives from the provisions of the CEA (PWG 1999). Greenspan testified in
support of the PWG Report’s proposals, arguing that the market for such products
involved sophisticated counterparties who could monitor and police one another
(Greenspan 2000). Congress passed the CFMA in 2000 which followed the
recommendations of the PWG in exempting OTC derivatives from regulation by under
the CEA. As I discuss below, various observers have argued that the fact that credit
derivatives and similar instruments were not traded on organized exchanges as a
significant factor contributing to financial system vulnerabilities that contributed to the
2008-2009 crisis; with the Dodd-Frank Act of 2010 seeking to address such perceived
shortcomings by requiring that such derivatives be traded on organized exchanges and be
subject to explicit SEC regulation.
A second important regulatory change in the past decade has been the adoption of the Basel II capital accord by the major industrial countries. As discussed in greater detail above, the Basel II guidelines sought to replace relatively simple and rigid rules of the Basel I framework with capital adequacy rules that required the use of internal mathematical models of risk by large firms and the introduction of various features meant to encourage the use of market-based inputs in measuring risks. As I discuss above, these changes were motivated by the belief that “market monitoring” mechanisms could be effective in measuring and constraining risk-taking by financial firms. The important point to note is that the negotiation of Basel II was led by the Federal Reserve, which represented the U.S. regulators on the Basel Committee for Banking Supervision and which exercised considerable discretion in pushing for and negotiating these new rules. Although the Basel II accord was signed in 2004, implementation in the U.S. did not begin until 2008 due to disagreements among U.S. regulators regarding the specific implementation rules for the accord (Herring 2007). The Basel II capital adequacy framework has been sharply criticized by knowledgeable observers on a number of different grounds following the 2008-2009 crisis: for placing too much faith in internal mathematical risk models that extrapolated from relatively short data series (and thus understated the true degree of risk of many financial products); for relying upon rating agency ratings that have had questionable objectivity (and hence allowing banks to receive AAA risk weightings for assets that were
substantially more risky); for ignoring liquidity risk; and for generally placing too much faith in market monitoring (Turner 2009; Acharya and Robinson 2009; Hull 2009; GAO 2009). While the delay in U.S. implementation meant that U.S. banks were not directly affected before the crisis, U.S. financial institutions were exposed to greater counterparty risk as a result of European implementation of Basel II. As I discuss below, these criticisms have led to efforts to overhaul capital adequacy guidelines to produce a set of Basel III guidelines.

A final important regulatory action was the decision by the SEC in 2004 to relax the SECs net capital rule by allowing very large broker-dealers to substitute internal risk models in place of the simple net capital rule adopted in 1975 (Labaton 2008). The change was motivated by the threat of greater regulation of foreign operations of U.S. investment banks by the European Union (U.S. broker-dealers consented to other regulatory changes in return for the new capital rule) and the faith of the SEC leadership in such internal risk models. The new rule has been criticized in the wake of the 2008-2009 crisis for allowing a significant increase in the leverage of large broker-dealers, contributing to financial system fragility.

6.2 Paradigm Lost? Regulatory Responses to the 2008-2009 Financial Crisis

On July 21, 2010 President Obama signed into law what many commentators labeled the most sweeping financial regulatory reform since the Great Depression. The signing capped nearly two years of debate regarding the appropriate regulatory
response to a financial crisis that emerged with the collapse of several hundred U.S. non-bank mortgage lenders in mid-2007, and which exploded into a world-wide financial crisis in mid-2008 which the official review of the United Kingdom’s Financial Services Authority described as “arguably the greatest crisis in the history of finance capitalism” (Turner 2009; Acharya and Richardson 2009, pp. 7-12).\textsuperscript{104} The reform legislation passed narrowly and after a tortuous legislative process, with the Senate approving the conference bill titled the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act”) on July 16 by a partisan 60-40 vote with only three Republican senators voting in favor of the legislation (Appelbaum, Binyamen and Hirshzenhorn, 2010).\textsuperscript{105}

The Dodd-Frank Act of 2010 partially reverses aspects of the financial deregulation that had occurred over the previous two decades, changes the structure of U.S. financial regulatory agencies, and expands the authority of regulators significantly and in completely new directions. The central purpose of the legislation is to address

\textsuperscript{104} For a detailed timeline of crisis events and policy actions see Federal Reserve Bank of St. Louis (2010a). For a detailed timeline of the progress and eventual passage of financial reform legislation see Federal Reserve Bank of St. Louis (2010b).

\textsuperscript{105} The House passed reform legislation (H.R. 4173) on December 11, 2009 introduced by House Financial Services Chairman Barney Frank (D-MA) by a narrow partisan vote of 223-202. The Senate eventually passed H.R. 4173 with amendments on May 20, 2010 by a narrow 59-39 partisan vote (after invoking cloture against a Republican filibuster the day before by a 60-40 vote), clearing the way for conference proceedings. Senate Banking Committee Chairman Senator Christopher Dodd (D-CT) had earlier introduced a Senate version of financial reform legislation. Conferees agreed on June 25, 2010 to the text final legislation to be called the Dodd-Frank Wall Street Reform and Consumer Protection Act (or simply the Dodd-Frank Act) if passed into law, with an emergency conference session passing an amendment on June 29, 2010. The House of Representatives passed the legislation by 239-192 vote on June 30, 2010. The Senate passed the Dodd-Frank Wall Street Reform and Consumer Protection Act on July 15, 2010, sending the bill to the President. See Federal Reserve Bank of St. Louis (2010b) for a detailed legislative timeline.
the previously unforeseen risks of a systemic capital-markets centered crisis revealed by the 2008-2009 crisis and extends regulatory authority in unprecedented directions to address these new risks. The legislation extends federal regulation for the first time to the vast “shadow banking system” that has emerged over the past decade; extends regulation for the first time over the huge OTC derivatives market that has emerged in parallel; explicitly charges regulators for the first time with the official regulatory objective of mitigating systemic risk and maintaining financial system stability; gives regulators unprecedented authority to impose restrictions on financial firms deemed to pose systemic risk in order to prevent the emergence of financial firms that are “too big to fail”; and imposes new activity restrictions, capital and liquidity requirements intended, in particular, to reduce the risks associated with capital-markets activities.

The specific provisions of the Act can be grouped into provisions which, for the first time, explicitly charges regulators with identifying and preventing systemic risk; provisions which alter the regulation of financial institutions and structure of financial regulatory agencies; provisions which introduce significant new regulation of the “shadow banking system” and capital market activities including securitization business, derivatives trading, and hedge and private equity funds; and provisions designed to address concerns concerning consumer protection and the mortgage
The provisions meant to address systemic risk include the following. The Act creates a new Federal Financial Stability Oversight Counsel (FFSOC) and changes the official mandate of the Federal Reserve to include the maintenance of financial system stability. The FFSOC has the responsibility to monitor systemic financial risk (through the new Office of Financial Research “OFR”) and to take actions to mitigate the emergence of systemic risk. The FFSOC has the authority to make recommendations to the Federal Reserve to impose increasingly strict rules for capital, leverage, liquidity, and risk management as financial companies grow in size and complexity in order to mitigate the problem of “too big to fail”; the authority, upon a 2/3 vote, to authorize the Federal Reserve to assume regulatory responsibility over a non-bank financial institution if the failure of that institution might pose a systemic risk; and the authority, upon a 2/3 vote, to require a large complex company to divest certain of its holdings if it is deemed that the company poses a grave threat to the financial stability of the United States. In addition, the Act creates an “orderly liquidation mechanism” by which the FDIC (with agreement of the Treasury and the Federal Reserve) can put a failing systemically important financial company into a liquidation process, with the

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106 My summary of this legislation follows that of United States Senate Committee on Banking, Housing, and Urban Affairs (2010); Sweet (July 21, 2010); and Skaden, Arps, Meagher & Flom LLP & Affiliates (2010).

107 The FFSOC is chaired by the Treasury Secretary and is composed of 10 voting members (including the Treasury Secretary, the heads of the Federal Reserve Board, SEC, CFTC, OCC, FDIC, Federal Housing Finance Agency (FHFA), National Credit Union Administration (NCUA), the newly-created Bureau of Consumer Financial Protection, and an independent representative with insurance expertise appointed by the President and confirmed by the Senate) and 5 non-voting members (including the heads of the newly-created Federal Insurance Office (FIO) and the Office of Financial Research (OFR), a state insurance commissioner, a state banking commissioner, and a state securities commissioner).
requirement that shareholders and unsecured creditors bear all losses and that culpable managers and directors of the firm be removed.\textsuperscript{108} Finally, in attempt to prevent the moral hazard of associated with the anticipation of bailouts of firms that become “too big to fail”, the Act changes the emergency lending powers of the Federal Reserve under Section 13(3) of the Federal Reserve Act so that the Federal Reserve is prohibited from extending emergency lending to specific institutions and is only allowed to extend emergency lending with the approval of the Treasury Secretary and in the form a broad-based facility available to many firms.

Among the major provisions changing the regulation of financial institutions and the structure of federal financial regulatory agencies are the following. As noted above, the FFSOC can vote to authorize the Federal Reserve to take over regulation and supervision of a non-banking financial institution deemed to pose a potential systemic risk. The Act also implements the so-called “Volcker Rule” by requiring regulators to issue rules prohibiting banks, bank holding companies or their affiliates (or non-banks regulated by the Federal Reserve) from engaging in proprietary trading and from investing in, sponsoring, or having certain other relationships with hedge funds or private equity funds.\textsuperscript{109} As noted above, the Act authorizes the FFSOC to recommend

\textsuperscript{108} Large complex organizations are required to periodically file “funeral plans” to assist with their orderly liquidation in the event that this becomes necessary.

\textsuperscript{109} The Act includes a \textit{de minimus} exemption to allow investments of up to 3\% of Tier I capital in funds that require the investment advisor to have its own “skin in the game” by participating in the investments of the fund.
new rules on capital adequacy, leverage, liquidity and risk management to the Federal Reserve designed especially to limit the growth on large complex firms that pose systemic risk. In addition, the Act extends Federal Reserve authority to regulate systemically-important organizations engaged in payment, clearing, and settlements activities. In addition, the Act for the first time creates a federal office focused on insurance, with the creation of the Federal Insurance Office (FIO) inside the Treasury to monitor systemic risks associated with insurance activities and to represent the U.S. on insurance-related issues in international forums. The Act changes the process by which the presidents of individual Federal Reserve Banks are elected, eliminating the right of Class A directors (who represent district banks) from participating in such votes (see Appendix A). The Act also abolishes the Office of Thrift Supervision (OTC), transferring these responsibilities to the Office of the Comptroller of the Currency (OCC).

In addition to the related provisions described above, the Act contains a series of provisions that extend regulation in new directions with the specific intent of containing risks associated with the new “shadow banking system” and various capital market activities. The Act requires for the first time that hedge funds and private equity advisors register with the SEC as investment advisors and disclose information regarding their activities. The Act abolishes the exemption of over-the-counter (“OTC”) derivatives from regulation, extending authority to regulate such instruments to the SEC and CFTC. In addition, the Act explicitly requires that derivatives that can be cleared be
traded on exchanges and be subject to central clearing and other safeguards, rather than traded over the counter with bilateral clearing. The Act attempts to ensure that companies that securitize their assets retain some “skin in the game”, by requiring the distributor of asset-backed securities to retain at least 5 percent of the credit risk and by requiring increased disclosures regarding the underlying assets. The Act also contains provisions to address perceived problems with the rating agencies, including the establishment of an Office of Credit Ratings within the SEC to monitor rating agencies, conflict of interest rules, liability of rating agencies for “knowing or reckless failure to conduct a reasonable investigation of the facts or to obtain analysis from an independent source”, and eliminates many statutory and regulatory requirements that require the use of credit ratings (see my discussion of market monitoring above) in an effort to encourage investors to perform their own analysis of credit risks.

Finally, the Act contains provisions designed to address concerns regarding consumer protection and the marketing of mortgages that arose during the recent crisis. The Act creates a new Consumer Financial Protection Bureau (CFPB) within the Federal Reserve, led by an independent director appointed by the President and subject to Senate confirmation, with an independent budget, and independent authority to write and enforce rules relating to consumer protection. In addition, the Act contains various provisions designed to ensure greater disclosure in marketing of mortgage products and to prevent unfair or irresponsible lending practices.
In parallel to these legislative changes, the regulatory agency representatives of participating countries have been meeting under the auspices of the Committee on Banking Supervision of the Bank for International Settlements (BIS) in Switzerland to negotiate a new set of capital adequacy and risk management standards for banks, with new “Basel III” rules expected to be published in December 2010 to replace the existing “Basel II” framework discussed above (Onoran, Clark, and Heavan 2010). Leaders of the G-20 urged a new round of Basel guidelines in statements following G-20 meetings in April and September of 2009, with the U.S. Federal Reserve representing the U.S. in these discussions and Treasury Secretary Geithner showing an active interest in the proceedings. Although the details of the meetings are kept secret, the new guidelines will reportedly continue to rely upon internal risk models by banks, but will impose significant restrictions on how such models are calculated; will narrow the definition of what can be counted as capital; may impose new liquidity requirements; and may supplement complex capital requirements with a second simplified capital constraint that is also binding.

This shift in the objectives, scope and intellectual rationale underlying financial regulation is significant enough to merit description as the emergence of a new regulatory paradigm that I label the “systemic risk paradigm”. This regulatory shift marks a decisive shift away from both the practices and premises of the “market-incentive” regulatory paradigm that emerged over the period 1980-2000 and which I
discuss above. First, the new paradigm explicitly mandates that regulators consider systemic risk rather than just the safety and soundness of individual financial institutions, and marks a shift toward explicit recognition of the need to consider the interrelated character of financial risk rather than just the risks of individual firms in isolation. Second, new paradigm broadens the focus of prudential regulation considerably beyond the traditional focus upon the risks of the commercial banking system to focus on other financial institutions and capital markets. Specifically, the new regulatory regime explicitly recognizes the new systemic risks posed by the emergence of the “shadow banking system” and of the rapid growth of derivatives (including credit default swaps) and seeks to explicitly mitigate these risks. Third, as I discuss in greater detail below, a central and explicit premise of the new regulatory paradigm is that markets, and in financial markets in particular, do not automatically tend toward socially beneficial equilibria or efficiency, but instead are capable of exhibiting irrational pricing and bubble-like behavior and of exhibiting volatility that is harmful to the broader economy. Fourth, and related to the previous point, the new regulatory paradigm is much more skeptical that “market monitoring” mechanisms are sufficient to restrain risk-taking by firms and to ensure optimal corporate governance. While recognizing the complexity of the new financial world and thus rejecting the adequacy

\[\text{110} \text{ In the wake of the crisis, prominent academic researchers advocated precisely this need for a shift from the focus on the risks of individual institutions viewed in isolation and toward a focus on systemic risks (Acharya, Philippon, Richardson, and Roubini 2009).} \]
of previous point-in-time rule-based financial regulation, the new paradigm also explicitly rejects the sufficiency of market monitoring and seeks to address risks by requiring that regulators exercise broad new discretionary judgments regarding the riskiness of firm behavior in many dimensions.

This pattern of financial regulatory response that has occurred in the wake of the 2008-2009 financial crisis strongly supports the theoretical arguments that I make in this dissertation. First, the timing of the regulatory changes and the available evidence points squarely to the conclusion that the political executive drove the agenda for financial regulatory reform in response to “events” that caused it to perceive that the existing regulatory financial regulatory status quo was flawed and posed a threat to its ability to realize its broader policy objectives. The financial crisis entered its most dramatic phase in the months preceding the November 2008 presidential election, with the failure or emergency sale of a series of the largest U.S. financial institutions occurring in September (with Fannie Mae and Freddie Mac placed in receivership, the bankruptcy of Lehman Brothers, the emergency sale of Merrill Lynch, and special Federal Reserve liquidity support for AIG – the world’s largest insurance company). The unfolding of the crisis vividly demonstrated the reality of risks from the growing complexity of financial markets and activities that various commentators had warned about in previous years (e.g., Warren Buffet’s widely remarked warnings regarding the dangers of the growth of new derivatives markets), but which had previously been dismissed as
exaggerated or merely hypothetical risks. Risks were shown to be interconnected in
ways not previously appreciated even by academic and policy experts who had
previously taken such risks seriously, with for example weakening of firms in one
financial sector triggering liquidity crises in other financial sectors and with the
supposedly small net exposures of many firms to derivatives revealed to be huge as the
potential failure of counterparties threatened chain reactions across the financial sector.
The crisis dominated media headlines and brought the spotlight to previously arcane
areas of finance and financial regulation that had received little attention from the public
or non-specialist policymakers. Academic economists, domestic and international
regulators, financial industry leaders, and other policy experts warned of the risk of a
second Great Depression as the global financial system appeared on the verge of near
total collapse and as real economic activity began to decline precipitously.\footnote{In a widely-cited commentary, Eichengreen and O’Rourke (2009) presented graphical comparisons of key economic variables during the 2008-2009 crisis and the Great Depression. The initial rates of global decline in real economic activity including world industrial activity, world trade, and world equity markets were dramatically greater during the first year of the 2008-2009 crisis than the comparable series for the first year of the Great Depression.}
The Obama administration entered office in March 2009 with the serious threat that its entire
policy agenda would be subverted by widespread collapse in economic activity. The
Obama administration did indeed respond in a manner consistent with the arguments
that I present – with the Treasury Department releasing a blueprint for extensive
financial sector reform on June 17, 2009 and subsequent specific legislative proposals

\footnote{In a widely-cited commentary, Eichengreen and O’Rourke (2009) presented graphical comparisons of key economic variables during the 2008-2009 crisis and the Great Depression. The initial rates of global decline in real economic activity including world industrial activity, world trade, and world equity markets were dramatically greater during the first year of the 2008-2009 crisis than the comparable series for the first year of the Great Depression.}
that served as the basis for the legislation introduced by Congressional leaders in the House and the Senate which eventually became the Dodd-Frank Act (United States Department of the Treasury 2009).

Second, the available evidence point clearly to the conclusion that key political leaders, regulators, and policy experts shifted their cognitive frameworks in a process of adaptive learning in response to the events of the crisis and that the cognitive frameworks of policymakers were key to the regulatory policy decisions that they made. In particular, the cognitive frameworks of key policymakers determined their causal understanding of the origins of the crisis and the means which policy makers chose to reach their policy objective – their causal beliefs determined the specific regulatory policy changes that they chose among potential alternatives in order to obtain their objective of restoring economic stability and economic growth. I discuss further below the details of a growing (but not universal) consensus of new causal understandings (i.e. a new cognitive framework) that began to emerge as the crisis unfolded. The critical point, as I discuss in detail below, it is that the Obama administration had potential alternative courses of action available to it. The administration’s choice of regulatory policy response depended upon its causal understanding of the origins of the crisis and its causal understanding of the likely effects of alternative courses of action.

Finally, the available information simply does not support alternative explanations of the regulatory change that has occurred in the wake of the 2008-2009
crisis, such as those that would explain regulatory change in terms of interest-group demands or broad partisan preferences. It is certainly true that interest groups – and especially representatives of the financial sector – actively lobbied to shape the legislative outcome. Consistent with the veto player argument that I present, such interest groups were able to block or modify some regulatory changes which they opposed – for example, large banks successfully won the *de minimus* exemption from the Volcker rule that I describe above and successfully resisted a proposal by Arkansas senator Blanche Lincoln (D-AR) that would have required banks to spin off their derivatives activities into separately capitalized affiliates (Appelbaum 2010; Dennis 2010; New York Times 2010; Wyatt and Herszenhorn 2010). There is, however, simply no evidence that the impetus for regulatory change came from any coalition of interest groups (e.g., labor groups, consumer groups, firms from different sectors, etc.) who mobilized and lobbied to push for the regulatory changes that occurred. Moreover, while it is a fair characterization that many in the Democratic Party were and are more ideologically predisposed to view government regulatory interventions favorably, there is simply no evidence that the Democratic Party or even significant subsections of the Democratic party had articulated a financial regulatory vision similar to what emerged or had made regulatory change of the nature of the Dodd-Frank Act a partisan priority at any point before the crisis exploded. For the most part, financial regulatory issues were simply not an important part of political debate in the years preceding the crisis.
and, moreover, many leading Democratic politicians worked to promote financial liberalization efforts over the period 1980-1990 (e.g., the Carter and Clinton administrations).

In order to clarify further how the cognitive framework which political leaders held affected their understanding of the problems with the regulatory status quo and their choice of means by which to respond to those perceived problems in order to restore stable and sustained economic growth I proceed as follows. In the following section, I describe the features of the 2008-2009 financial crisis that distinguish it from previous financial crises. I conclude, in section 6.2.2, by discussing the key elements of the new cognitive framework that have begun to emerge among many in the expert policy community and explain how the new causal understandings embedded in this cognitive framework shaped policymakers' expectations regarding the likely consequences (i.e., the expected utility) of alternative policy choices.

6.2.1 The Crisis of 2008-2009: Origins and Defining Characteristics

The financial crisis of 2008-2009 differed from previous financial crises not just by its severity and global scale but also by the mechanisms that underlay it. These mechanisms related to the transformation in the structure in the financial system and financial markets that had occurred over the prior decade – most notably the rise of the vast “shadow banking system” and huge growth in new unregulated derivatives
instruments.\textsuperscript{112} These structural transformations ensured that the collapse of a huge but traditional asset bubble (primarily consisting of a bubble in the prices of residential and commercial real estate) resulted in an incipient “run” on the short-term liabilities of all types of financial institutions (and even on the commercial paper of non-financial corporations) resembling traditional runs on commercial banks that had not occurred in the United States since the advent of deposit insurance in 1933. This emerging run on the short-term liabilities of financial institutions threatened the complete collapse of financial intermediation\textsuperscript{113} with likely catastrophic consequences for the real economy.

The first of the major structural transformation in finance that occurred during this period was the rapid growth of securitization activity and the accompanying growth of the “shadow banking system”. Asset securitization refers to the process by which financial institutions or other companies sell a portfolio of assets (mortgages, other types of loans, bonds, or other receivables) that they previously held on their own balance sheet to a new entity (typically a special purpose vehicle or “conduit” - a shell

\textsuperscript{112} The brief account that I offer here draws upon the excellent detailed discussion offered by the contributors to Acharya and Richardson, editors (2009); by Adrian and Shin (2009); and by Turner (2009). Smith (2010) offers detail on the new financial products and changes in market practices and the ways in which these transformed risk-taking by financial institutions. For less technical accounts that point to the same basic mechanisms see Stiglitz (2010) and Krugman (2009).

\textsuperscript{113} By financial intermediation I refer to the process by which financial institutions aggregate the savings of households and firms and match these with borrowers and investors. Financial institutions provide key economic benefits through their intermediation function including (i) the transformation of maturities (enabling savers access to short-term funds at the same time that they enable borrowers and investors to access capital on a long-term basis); (ii) diversification of risk (enabling small savers to benefit from risk diversification); and (iii) overcoming information asymmetries between small savers and borrowers by the monitoring of borrowers. See Dewatripont and Tirole (1994) and Mishkin (2001) for general discussions of these issues.
corporation set up for this purpose) which (i) allocates ("structures") the rights to the cash flows on the underlying assets (e.g., interest and principal payments) into "tranches" and then (ii) sells different tranches of new securities backed by these different cash flow rights to investors in the capital markets. The growth of securitization has increasingly enabled commercial banks over the fifteen years to transform to an "originate-to-distribute" business model in which they originate loans for securitization, but do not hold such loans to maturity on their balance sheet, receiving instead fee income as the "servicer" for the special purpose entity (SPV). Similarly, securitization has enabled the rapid rise of consumer finance and "captive finance" companies of various types (non-bank mortgage lenders, credit card companies, and captive financing arms of automobile and consumer durable companies) which are able, without having access to deposits as a source of funds, to use securitization to raise funds in the capital market in order to extend credit to consumers. The critical point is that the growth securitization has increasingly enabled financial intermediaries (some

114 By structuring the rights to cash flows and creating different securities backed by different tranches of cash flows, the different tranches of securities issued by the special purpose vehicle (SPV) could have different riskiness (depending upon the seniority of their cash flow claims), enabling the SPV to sell different types of securities to investors whose risk appetite differed (e.g., a pension fund versus a hedge fund). The senior tranches of such asset-backed securities were often perceived to have significantly lower risk than the overall pool of assets due to the structuring of cash flow rights (which enabled them to receive AAA credit ratings). Structured financings often included various forms of "credit enhancement" for senior or intermediate tranches including insurance provided by the specialized "monoline" bond insurance companies which themselves carried triple AAA credit ratings.

115 This offers two main benefits to commercial banks. First, commercial banks are thereby effectively able to expand their lending beyond what their deposit base might otherwise enable by accessing the capital market as a source of funding (i.e., through the sale of the securities issued by the SPV). Second, securitization (as long as sales met definitions of "non-recourse") has enabled banks to lower capital requirements under existing capital adequacy guidelines (Basel II limited but did not eliminate such benefits).
types of which did not previously exist) to draw upon the capital market as a source of funds rather than upon the traditional deposits of commercial banks.

Securitization is not new; it began in the 1980s. What has changed is the scale of securitization activity and the use of securitization activity. The scale of securitization activity has accelerated dramatically, with the dollar value of home mortgages held by securitization pools surpassing that held by commercial banks in 1990, and by 2008 more than double that held by commercial banks (Adrian and Shin 2009). In addition, whereas, previously, banks that securitized assets genuinely sought to transfer risk away from their balance sheet, increasingly securitization has not involved the genuine transfer of risk – both because even supposedly non-recourse sales have created reputational obligations (or formal liquidity support obligations) that have meant that banks and other entities that securitized assets retained substantial de facto responsibility for the assets that they securitized (Smith 2010, Acharya and Richardson 2009) and because banks have purchased securitized assets from one another or other institutions so that they remain exposed to the same risks as before (Adrian and Shin 2009).

The “shadow banking system” refers the wide set of financial intermediaries that rely upon short-term financing in the capital market to raise funds for lending and

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116 Because many securities received AAA ratings, banks held less capital against them than against the same loans held on balance sheet. The AAA ratings that the senior tranches of asset backed securities received have come in for substantial criticism in the wake of the financial crisis as the assumptions underlying the models under which such risk assessments were made have been sharply criticized (Turner 2009; Smith 2010).
investment activities – in other words, entities that perform an intermediation function similar to that played by traditional banks but which raise funds by issuing mainly short-term securities in capital markets instead of raising deposits. This includes the special purpose vehicles (SPVs) and bank conduits used in securitization, and the financial intermediaries that rely either partly or entirely on securitization via such SPVs as a means to fund their lending activities, including commercial banks, non-bank mortgage lenders, credit card companies, and other types of consumer finance companies. In addition, the term is applied to other types of financial institutions that fund themselves mainly by issuing securities or via capital market activities. This includes broker-dealers, with fund themselves by collateralized borrowings (including repo transactions) and by net open short sale positions, as well as hedge-funds and similar entities that funded themselves by similar transactions (including total return swaps) (Adrian and Shin 2009; Turner 2009; Smith 2010). As Adrian and Shin 2009 note, the total assets of the “shadow banking system” were by 2007 substantially larger that the total combined assets of commercial banks and other depository institutions. The critical point is that the shadow banking system depends upon the willingness of the capital market to fund their activities by continuously purchasing the securities that these entities issue (or to rollover collateralized borrowings such as repo transactions at broker-dealers or total return swaps by hedge funds). Unlike commercial banks, whose deposits are backed by government guarantee and whose leverage and risk-taking is
constrained by strict prudential regulation, the shadow banking system has no
guarantee on its liabilities or external regulation to contain risk-taking. As a
consequence, financial intermediation via the shadow banking system – which had
grown larger than intermediation through commercial banks and other depository
institutions by 2007 – was especially vulnerable to a loss of confidence and the potential
of a “run” on liabilities in which capital market participants would be unwilling to
rollover these short-term liabilities.

The second major structural change that has changed the systemic risk of the
financial system has been the massive growth in new financial derivatives, especially
including credit default swaps. According to data gathered by the International
Swaps and Derivatives Association, the total notional value of credit derivatives
outstanding globally increased from $632 billion at the end of the first half of 2001 to
$65,173 billion (i.e., $65 trillion) by the end of 2007, before declining in the wake of the
financial crisis to approximately $30.4 trillion by the end of 2009 (ISDA 2010). This
compares to total U.S. GDP of approximately $14.3 trillion in 2009. As a result of the
Commodities Futures Modernization Act of 2000, such over-the-counter OTC

117 A credit default swap is a bilateral contract involving a “protection buyer” who agrees to pay periodic
premiums to a “protection seller” who agrees to pay make a payoff to the protection buyer in the event that
some other asset (a loan or bond) (the “reference asset”) goes into default as that is defined by the terms of
the credit default swap contract (based on a standardized contract format – the ISDA master agreement).
Economically, a credit default swap is equivalent to a bet between two counterparties on an unrelated
outcome. Credit default swaps can be used both to hedge risks (by allowing the holder of a risk to enter into
an offsetting position) or as a means to gain exposure to potentially profitable risks (i.e., to gain income by
writing protection against default risks that are seen as unlikely). See Hull (2010) for greater detail.
derivatives remained outside formal regulation. As a consequence, there was little disclosure about trading in such derivatives, making it difficult for counterparties to assess each other’s risk exposure. Second, because such instruments were traded and settled bilaterally in the over-the-counter market, the financial failure of a protection seller counterparty meant that the protection buyer counterparty would lose the protection which it expected to receive under the contract\textsuperscript{118} – which in turn might increase its riskiness as a counterparty to other counterparties creating a potential chain reaction of counterparty defaults. Given the enormous scale of the OTC derivatives market, the lack of transparency and disclosure which institutions possessed regarding their counterparties, and the lack of centralized settlement and clearing to reduce the risk of counterparty default\textsuperscript{119}; the growth of OTC derivatives added an enormous level of uncertainty to the financial system and increased the likelihood of “runs” of the type described above since the capital market participants who supplied short-term funds to the shadow banking system – which included the broker-dealers, hedge funds, and

\begin{footnotesize}
\begin{enumerate}
\item Technically credit default swap contracts required protection sellers to post collateral to trust accounts as the likelihood of default risk increased. During the crisis many protection sellers were unable to post such collateral or suffered runs because their capital market investors anticipated that they would be forced to post substantial collateral for their obligations.
\item A main requirement of the Dodd-Frank Act of 2010 is to require that financial derivatives such as credit default swaps are traded and settled on organized centralized exchanges rather than in the over-the-counter market. Centralized exchanges bring substantially greater reporting and disclosure requirements and great ability to monitor counterparties. Second, all trades clear centrally on an exchange with the exchange standing as a guarantor to all trades. Effectively all parties post collateral to a central fund at the exchange rather than bilaterally, with the entire central fund of the exchange (backed by external insurance) available to meet any single counterparty default. Together these features substantially (but not entirely) reduce the risk of a chain reaction of counterparty defaults or the generalized loss of confidence in counterparties.
\end{enumerate}
\end{footnotesize}
“synthetic” CDOs\textsuperscript{120}, and commercial banks which participated in the credit derivates market – had little information to assess the level of risk exposure such institutions to credit derivatives (or the chain of counterparty risk).

The new systemic risks generated by these structural changes were borne out in the 2008-2009 crisis. The unfolding of the crisis had a clear sequence.\textsuperscript{121} First, as Acharya, Philippon, Richardson and Roubini (1999, p. 12) note, there is “almost universal agreement that the fundamental cause of the crisis was the combination of a credit boom and housing bubble”. Housing prices peaked in 2006 and then declined by roughly 23 percent by the first quarter of 2008. As Acharya, Philippon, Richardson, and Roubini (1999) note, because housing is a highly-leveraged investment and the main asset of most households, the destruction of wealth associated with this collapse had an enormous impact, with approximately 30 to 40 percent of mortgages having negative equity as of 2008 and leaving a large fraction of American households with negative net worth. As housing prices began to decline, the first phase of the crisis began with the failure of several hundred nonbank mortgage lenders in early 2007, followed by the collapse of large nonbank mortgage lenders including Countrywide later in the year.

\textsuperscript{120} A synthetic CDO is an asset backed security in which, rather than purchasing actual loans or bonds, the special purpose vehicle sells default protection via credit default swaps in order to receive cash flows with risk characteristics similar to the underlying asset. Synthetic CDOs exploded in the late 2000s. Both synthetic and non-synthetic CDOs differ from simpler asset backed securities such as mortgage backed securities in that they typically involve resecuritizations in which tranches from other asset backed securities are purchased and repackaged again into new tranches of securities – making risk even more opaque.

\textsuperscript{121} I draw upon Acharya, Philippon, Richardson, and Roubini (2009) in describing the phases of the crisis. I draw the dates of specific events from Federal Reserve Bank of St. Louis (2010a).
The second phase of the crisis began later in 2007 and extended into 2008 as capital market investors lost confidence in the special purpose vehicles and CDOs used in securitization. Such entities were increasingly unable to roll over asset-backed commercial paper upon which they relied for short-term funding; with many sponsoring financial institutions forced to take such entities back onto their balance sheets or to extend emergency liquidity support. A third phase of the crisis began with the collapse of the major U.S. broker dealers in September 2008 as doubts regarding the solvency of these firms caused them to become unable to rollover their repo and other capital market financing. This collapse occurred despite a series of emergency liquidity programs offered by the Federal Reserve which allowed nonbank financial institutions to use an increasingly wide set of assets (including mortgage backed securities) as assets in order borrow funds from the Federal Reserve. At the same time...

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122 In addition, the two largest monoline bond insurers AMBAC and MBIA saw their credit rating downgraded from AAA to AA in June 2008 given concerns regarding their ability to meet mounting claims. Since the AAA rating on senior tranches of many asset-backed securities depended upon the “credit enhancement” provided by the AAA bond insurance provided by these entities, this further weakened investor confidence in the asset-backed securities market.

123 On March 14, 2008 the Federal Reserve provided financing support to facilitate the purchase of Bear Stearns by JPMorgan Chase to prevent a disorderly collapse of the former; on September 7 the huge government sponsored financial enterprises (GSEs) Fannie Mae and Freddie Mac were placed in government receivership; on September 15 Bank of America announced its intention to purchase Merrill Lynch & Co. in a transaction encouraged by regulators; also on September 15 Lehman Brother’s declared bankruptcy in what many regarded as the largest single shock of the crisis; and on September 21, Goldman Sachs and Morgan Stanley, the last two of the major independent broker-dealers, converted to bank holding company charters under regulatory pressure in order to achieve access to expanded Federal Reserve liquidity support and thus subjecting themselves to prudential regulation by the Federal Reserve.

124 These included the Term Auction Facility (TAF) announced December 12, 2007; the Term Securities Lending Facility (TSLF) announced March 11, 2008; and the Primary Dealer Credit Facility (PDCF) announced on March 16, 2008.
time, the Federal Reserve extended emergency liquidity support to the world’s largest insurance company AIG on September 16, 2008 after the insurer experienced a liquidity crisis.\footnote{AIG was an extensive participant in the credit default swap market, earning substantial income as a protection seller. In return for its liquidity support, AIG issued a stock warrant to the Federal Reserve for 79.9% of the equity of AIG, effectively nationalizing the company.} A fourth phase of the crisis began shortly afterwards, with the beginning of a run on money market mutual funds as individual and institutional investors began to fear that such funds had invested in toxic assets and might not be able to meet their withdrawals, forcing the Federal Reserve to extend a blanket guarantee of all money market mutual funds on September 29, 2008.\footnote{The triggering event was when the Reserve Primary Money Fund “broke the buck”, with the net asset value of its shares falling below $1 per share, primarily due to losses on its holdings of commercial paper and medium-term notes issued by Lehman Brothers.}

Contemporaneous with these events, many hedge funds experienced massive investor withdrawals and funding difficulties, forcing them to engage in fire sales of a wide range of assets (further depressing market prices for mortgage backed securities and similar assets) and/or suspend investor redemptions. In addition, a number of large depository institutions failed, with the OTC closing the thrift Washington Mutual on September 25, which in turn provoked large scale institutional deposit withdrawals and a share price plunge of the bank Wachovia Corporation, with Wells Fargo announcing a takeover of the failing institution on September 29. Interbank lending markets continued to freeze up and bank shares plummeted as rumors circulated that other large banks were on the verge of collapse or were suffering deposit withdrawals. These
events led to the Congressional passage on October 6, 2008 of the $700 billion Troubled Asset Relief Program (TARP) designed to prevent collapse of the commercial banking system, with the program authorizing the Treasury to purchase bad assets from failing banks and to inject capital into failing banks through the purchase of preferred shares.

In short, the 2008-2009 crisis was a new type of financial crisis in which a new type of “run” on the liabilities of a newly-emergent “shadow banking system” threatened to disrupt financial intermediation throughout the economy, with potentially disastrous results for the real economy.

6.2.2 The Centrality of Cognitive Frameworks to the Choice of Policy Response

A clearly identifiable new cognitive framework has begun to emerge in the wake of the 2008-2009 financial crisis among many academic and policy experts, representing a widely-shared but not universal consensus that has emerged as a result of adaptive learning in response to the crisis. This emerging cognitive framework includes a coherent and new set of causal understandings about the general functioning of financial markets; causal understandings of the origins of 2008-2009 financial crisis and a closely-related and updated set of understandings about the structure of risks within the financial system; and new understandings of the causal effects of financial regulatory policy that imply the desirability of a new set of regulatory of regulatory approaches that I describe above as the “systemic risk paradigm”. I describe the main elements of this new cognitive framework and contrast it with alternative understandings in order
to show how the causal understandings of policymakers affected their beliefs about the likely consequences associated with different regulatory policy alternatives and hence the effectiveness of different regulatory policies as instrumental means to the objective of restoring stable economic growth.

At a basic and fundamental level, there is an emerging consensus of belief among many economists and policy experts that certain of the core theoretical beliefs about the functioning of financial markets held by economists and policy experts during the 1980s through the 2000s and underlying the “market-incentive” paradigm are simply wrong. Most centrally, there is an increasing attack upon the basic theoretical tenants of the efficient markets hypothesis (EMH) and the related belief that financial markets necessarily tend toward socially-optimal equilibria. Although many of the specific theoretical arguments challenging the EMH predate significantly the 2008-2009 crisis (and are discussed above in detail in section 6.1.1), the crisis has greatly increased interest in and the perceived credibility of theoretical challenges to the EMH and its policy implications within the economics profession, among policy experts and even the broader educated public. This shift in consensus casual understanding represents adaptive learning reflecting in part the “rational” updating of beliefs in response to new “information” provided by the 2008-2009 crisis as well as the cognitive tendency to attach special importance to recent or especially vivid events in subjective assessments of the probability of different outcomes.
Challenges to the EMH have been raised in the wake of the crisis by a host of academic and policy economists, senior regulatory officials, financial industry experts, financial journalists, and other commentators in both specialized publications directed at expert audiences as well as publications aimed at a broader educated audience (Cooper 2008; Acharya and Richardson eds. 2009; Akerlof and Shiller 2009; Fox 2009; Krugman 2009; Skidelsky 2009; Turner 2009; Smith 2010; and Stiglitz 2010). These authors have variously drawn upon new and older arguments which offer (i) rational choice based accounts of why financial markets can exhibit significant and persistent deviations from prices justified by fundamental economic analysis, including arguments about the consequences of imperfect and asymmetric information, limits on the possibility of arbitrage, heterogeneous beliefs, and “extrinsic” uncertainty and “sunspot equilibria” (Stiglitz 2010; Stiglitz & Weiss 1981; Grossman & Stiglitz 1980; Barlevy 2007; Brunnermeier 2008; Lo 2008; Shell 2008); (ii) critiques drawn from behavioral economics which point to individual cognitive biases (e.g., overconfidence, overreacton, loss aversion, hyperbolic discounting, psychological accounting, regret, etc.) or the potential for collectively irrational “herd behavior” (e.g., fads, etc.) as the source of departures from the expectations of the EMH (Volcker 2010; Stiglitz 2010; Airley 2010; Akerlof and Shiller 2009; Skidelsky 2009; Fox 2009; Turner 2009; Lo 2008; Camerer, Lowenstein and Rabin eds. 2004; Shleifer 2000); or (iii) arguments that financial markets are better understood as “complex adaptive systems” (the properties of which can be studied by
agent-based modeling) in which the assumptions of “ergodicity” and of a tendency toward stable “equilibrium” outcomes of standard economics are replaced in favor of assumptions of non-ergodicity and of evolutionary adaptation drawn from physics and biology, respectively (Smith 2010; Lo 2008, 2004). These critiques of theoretical belief in market efficiency have included critiques of the implications of the EMH, including the assumptions that asset bubbles are not possible; that market prices correctly reflect available information and are good indicative guides to policy; and that the reliance on “market monitoring” mechanisms are likely to be effective in constraining risk-taking by financial institutions.

The official review of the crisis and of its regulatory implications produced by Lord Turner for the financial markets regulator of the United Kingdom (the Financial Services Authority or “FSA”) is illustrative of many of these critiques and of the new cognitive framework which is emerging among policy experts:

The predominant assumption behind financial market regulation – in the US, the UK and increasingly around the world – has been that financial markets are capable of being both efficient and rational and that a key goal of financial market regulation is to remove the impediments which might produce inefficient and illiquid markets. A large body of theoretical and empirical work has been

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127 Prominent physicists have joined recently with sympathetic economists to advocate a theoretical and methodological approach that treats financial markets as complex systems using tools from physics (with the approach labeled “Econophysics”) and which criticizes standard methodological approaches within economics, including the assumption of a tendency of markets toward equilibria outcomes; corresponding unscientific faith in the efficiency of markets; and the lack of attention to network and systemic properties of markets that can produce wide swings in market behavior and system dynamics that are not well handled by existing economic methodologies. These criticisms are exemplified by a May 2010 “open letter” to George Soros by leading proponents of econophysics (Helbing 2010). See also Gabaix et al (2003) for a prominent early exemplar of this approach.
devoted to proving that share prices in well regulated liquid markets, follow ‘random walks’, and that it is therefore impossible to make money on the basis of past patterns of price movement, with prices instead changing as new information becomes available and is assessed by a wide range of independently acting market participants. And the assumption has been that these independently acting market participants are in general rational in their assessments and that the overall level of prices as a result has a strong tendency towards a rational equilibrium. (Turner 2009, p. 39).

And further:

In the face of the worst financial crisis for a century, however, the assumptions of efficient market theory have been subject to increasingly effective criticism, drawing on both theoretical and empirical arguments. These criticisms include those that: Market efficiency does not imply market rationality…Individual rationality does not ensure collective rationality…Individual behavior is not entirely rational…Allocative efficiency benefits have limits…[and] Empirical evidence illustrates large scale herd effects and market overshoots. (Turner 2009, pp. 39-40).

And with respect to the implications of these new theoretical understandings for regulatory reliance upon market monitoring mechanisms:

The challenge to efficient market theory has consequences for the extent to which we can rely on market discipline rather than regulatory action to constrain risks. In the past, an important school of thought has argued that market discipline can play a key role in incentivizing banks to constrain capital and liquidity risks. The Basel II capital adequacy framework includes the assumption that improved disclosure under ‘Pillar 3” will play a significant role alongside regulation, in incentivizing appropriate behavior….But a strong case can be made that the events of the last five years have illustrated the inadequacy of market discipline: indeed, the suggest that in some ways market prices and market pressures may have produced harmful roles. (Turner 2009, p. 45).

In parallel to these shifts in more fundamental causal understandings regarding the operation of financial markets, a corresponding and closely-related set of challenges to the specific understandings that drove previous belief in the effectiveness of the...
elements of the “market-incentive” regulatory paradigm I describe have begun to
emerge and have led to new understandings regarding the specific set of financial
regulatory policies most likely ensure the realization of the goal of stable and robust
economic growth. These have included specific arguments about the need for a shift
toward a focus on systemic risk properties rather than the analysis of the risks of
individual financial institutions in isolation (Geithner 2008; Acharya and Richardson
d. 2009; Turner 2009; United States Department of the Treasury 2009); of the need to
extend regulation and supervision beyond the traditional focus on the risks of the
commercial banking system to the risks of other financial institutions and, specifically,
the new “shadow banking system” (Geithner 2008; Turner 2009; Acharya and
Richardson eds. 2009; United States Department of the Treasury 2009; Adrian and Shin
2009; Smith 2010); arguments pointing to the systemic risks associated with new
financial derivatives and of need to extend regulation over this market and to ensure
that such derivatives are traded and settled on centralized exchanges (Acharya and
Richardson eds. 2009; Turner 2009; Smith 2010); critiques of the limitation of market
monitoring mechanisms generally and of specific aspects of Basel II capital adequacy
rules that relied upon such features including Pillar III of Basel II, the over-reliance and
excessive faith put in the internal mathematical risk models of financial firms, and the
incorporation of rating agency ratings into capital adequacy assessments (United States
General Accounting Office 2009; Turner 2009; Acharya and Richardson eds. 2009; Steil
arguments criticizing excessive leverage and inadequate liquidity under existing regulatory guidelines, and in particular criticism of the leverage permitted to broker-dealers in particular under the revised “net capital” rule implemented by the SEC for certain large broker dealers in 2004 (Acharya and Richardson eds. 2009; Steil 2009; United States Department of the Treasury 2009; United States General Accounting Office 2009; Smith 2010); arguments regarding the risks inherent in the proprietary trading activities of institutions which have depository guarantees (Acharya and Richardson, eds. 2009; Obama 2010; Smith 2010; Volcker 2010); arguments for the need to ensure explicit risk retention and better disclosure in securitizations in order to incentivize issuers to monitor asset quality (Acharya and Richardson eds. 2009; United States Department of the Treasury 2009); arguments in favor more explicit regulatory interventions to address perceived corporate governance failures within financial firms which were seen as contributing the excessive risk-taking (Acharya and Richardson eds. 2009; Steil 2009; Stiglitz 2010; Smith 2010); and finally, arguments that more extensive regulatory oversight and supervision was necessary to contain the inevitable moral hazard risks associated with emergence of larger and more complex financial institutions central to the functioning of financial intermediation in the modern economy (Geithner 2008; United States Department of the Treasury 2009; Acharya and Richardson, eds. 2009). 128  Almost all of these specific concerns and arguments regarding the potential risks inherent in the new
proposals and the intellectual rationales offered for these proposals were adopted and articulated by the Dodd-Frank Act of 2010, pointing to the importance of the emergence of a coherent set of intellectual arguments regarding the best regulatory means to achieving the objective of economic stability and growth in the design of the regulatory solutions that actually emerged in the wake of the crisis. Together, these new financial regulatory changes and the theoretical beliefs which they embody comprise the “systemic risk” financial regulatory paradigm that I have described above.

But was this set of regulatory changes the only feasible response available to the political executive in order to obtain its presumed objective of maximizing the likelihood of a return to stable and sustained economic growth? In other words, did the choice of regulatory policy reflect simple necessity and the absence of feasible alternatives, or instead did the regulatory policies chosen reflect the belief of key policymakers that this set of regulatory changes represented the best means of obtaining their broader objectives, based upon their understanding of the likely consequences of available alternatives as they understood these consequences and their likelihood given the cognitive framework which they held? I argue that feasible policy alternatives did indeed exist. In particular, I argue that two clear and coherent alternative and competing sets of causal understandings regarding the origins of the crisis and the likely structural changes that were occurring in the financial system were noted by regulators and other commentators before the onset of the crisis (see e.g., Geithner 2006; Krozner 2007). Such concerns, however, were generally presented less forcefully and in a less coherent fashion than they were after the crisis.
consequences of regulatory policy choices (i.e., competing cognitive frameworks) were offered by sets of policy experts and political leaders. Moreover, the proponents of these alternative cognitive frameworks offered clear alternative policy prescriptions and causal arguments that such policy alternatives would be more likely to prevent future financial crises and to lead to stable and sustained economic growth. It is reasonable to believe, therefore, that had the political executive and key congressional leaders held alternative cognitive frameworks that they would have chosen alternative financial regulatory policies as a means of achieving the same set of objectives.

The first such alternative set of causal understandings and alternative policy prescriptions was offered by various more strongly “market skeptic” policy experts and political leaders (many, but not all of whom, are more broadly liberal/progressive in their policy orientation). I label this cognitive framework and set of policy stances the “market-skeptic regulatory-fallibility” framework. It is most properly understood as a variant of the cognitive framework underlying the “systemic risk” paradigm and overlaps considerably with its causal understandings and regulatory prescriptions. The “market-skeptic regulatory-fallibility” framework differs from the “systemic risk” framework on a few key points. First, its proponents are generally more skeptical about the economic benefits of the new financial products that have emerged in recent years or of the importance of large sophisticated financial firms to the competitive economic position of the United States. Second, the advocates of this view are generally skeptical
that the expansion of regulatory authority will be sufficient to contain new financial
risks and have argued for the inherent fallibility of regulators (emphasizing, for
example, that large financial firms have area able to pay substantially higher salaries
than government regulators and are therefore able to attract highly expert staff who are
able find ways around existing regulations and to outfox even the best-intentioned
regulators). As a consequence, the advocates of this view have favored outright activity
restrictions in many areas (e.g., derivatives and proprietary trading) rather than the
expansion of regulatory oversight which they view as ineffective. Third, and related to
the second point, the advocates of this view have argued that a central cause of the
recent financial crisis and an ongoing source of financial instability is the growth of
extremely large and complex financial firms that have become “too big to fail” as
demonstrated by a repeated pattern of bailouts (e.g., the federal response to the failure
of Long Term Capital Management as in 1998 well as the series of bailouts in the present
crisis). As they argued, this has generated an enormous moral hazard problem in which
shareholders and other external sources of funding have come to expect future bailouts,
therefore creating few incentives for them to monitor risk-taking by the management of
financial firms. Adherents to this cognitive framework have generally believed that
increased regulatory oversight of such institutions in unlikely to be sufficient to contain
such risks and have instead advocated the breakup existing large complex financial
firms and explicit steps to prevent the future emergence of “too big to fail” institutions.
Among the main proponents of this view are Stiglitz (2010); Krugman (2009); Volker (2010) and representative Barney Frank (D-MA), Chairman of the House Financial Services Committee, and Senator Russ Feingold (D-WI) who based his vote against the original Senate bill on the basis that it did not include provisions to break up existing large complex financial institutions.129

The policymaking process saw direct conflicts between advocates of the “systemic risk” view and those of the “market-skeptical regulatory-fallibility” perspectives. Based on interviews with White House officials, Washington Post reporters Cho and Appelbaum (2010) report that the Obama administration decision in January 2010 to announce its support for the Volcker proposal130 to prohibit banks from engaging in proprietary trading or from investing in hedge funds or private equity firms followed strong internal debate within the administration. Treasury Secretary Geithner and director of the National Economic Council Larry Summers had opposed the Volcker’s proposal, arguing that stricter capital requirements and regulatory oversight

129 For good discussions of the policies advocated by different regulators and presidential advisors and by key congressional leaders see Appelbaum (2010); Uchitelle (2010); and Cho and Appelbaum (2010).
130 Former Federal Reserve Chairman Paul Volcker offered this proposal in his capacity as head of the President’s Economic Recovery Advisory Board, a panel of academic and business experts established by the President in February 2009 in order to offer independent advice on issues of economic recovery and regulatory reform in the wake of the crisis. Volcker testified before Congress and gave a series of public speeches promoting these proposals and arguing for the need for strict activity restrictions before the White House announced its support. Volcker gained public support from certain prominent financial industry figures including former Citigroup Chairman John Reed; Mervyn King, Governor of the Bank of England; William Donaldson (former head of the SEC and a former prominent Wall Street banker); financier George Soros; and John Bogle (founder of the Vanguard funds) (Cho and Appelbaum 2010; Uchitelle 2010). See Volcker (2010) for an expression of Volcker’s views.
were preferable to outright activity banks as such bans would harm the competitiveness of the U.S. financial industry and would prevent legitimately beneficial activities, while Vice President Biden and certain other administration officials siding with Volcker in internal debates. Volcker has subsequently spoken out against the *de minimus* exemptions to the Volcker rule discussed above, with House Financial Services Committee Chairman Barney Frank stating that he shares Volcker’s view on these exemptions, but that they were compromises necessary to secure passage of the legislation (Uchitelle 2010). Similar conflicts occurred with Nobel prize winning economist Stiglitz testifying before congress that “I think it would be far better to break up these too-big-to-fail institutions and strongly restrict the activities in which they can be engaged than to try to control them”, while Senate Banking Committee Chairman Senator Christopher Dodd (D-CT) arguing that such efforts were misguided and would harm the competitive position of the U.S. financial industry and economy given that other countries were unlikely to break-up their large institutions or impose sweeping activity restrictions (Appelbaum 2010).

A second, more distinct set of alternative set of causal understandings and alternative policy prescriptions has been offered by prominent economists and policy experts who defend a more “market orthodox” framework. Although differing somewhat in their specific emphasis, advocates of these views have advanced several interconnected arguments. First, proponents of this view have argued strongly against
the notion that the financial crisis of 2008-2009 has presented a clear example of an “irrational” asset “bubble” that demonstrates the fallibility of markets and the potential for financial markets to behave ineffectively or to lead to socially non-optimal outcomes. In a recent interview with the New Yorker Magazine, University of Chicago economist Eugene Fama has strongly criticized this interpretation, arguing that the rapid rise and subsequent fall of housing and stock market prices are entirely explicable in terms of shifts in real economic activity, and thus represent an effect rather than a cause of the recent boom-bust business cycle.131 To the extent that asset prices, and particularly housing prices, rose levels that were “irrational” and that could not be justified by fundamental economic factors, this entirely reflected the political decision of the U.S. government under the Clinton administration to encourage the government sponsored entities (GSEs) Fannie Mae and Freddie Mac to promote a massive expansion of housing lending to low income borrowers who had no realistic chance of repaying their debts (Fama in Cassidy 2010; Mian and Sufi 2009; Mian, Atif, Amir Sufi and Francesco Trebbi May 2009). Second, as have proponents of the other cognitive frameworks described above, the proponents of this view have argued that the emergence of “too big to fail” institutions and the associated moral hazard played a central role in the current crisis and is an important source of risk to the financial system. However, the advocates of the

131 The interview is in Cassidy (2010). In the interview, Fama argues that “I don’t know what a credit bubble means. I don’t even know what a bubble means. These words have become popular. I don’t think they have any meaning.” Fama offers a sustained defense of the efficient markets hypothesis against behavioral critiques in Fama (1997).
“market-orthodox” framework have argued that the cause of the moral hazard lies squarely with government policies which have led shareholders and other investors in large complex financial firms to expect that they will always be bailed out rather than be allowed to fail and suffer losses, rather than the emergence of big institutions per se. The advocates of this view have argued that greater market discipline is the correct policy response, rather than efforts to break up or limit the emergence of large financial institutions. Specifically greater market discipline includes explicit and credible commitments that failed institutions and their creditors will not be bailed out in the future through mechanisms like “contingent capital” (e.g., convertible bonds with conversion triggered by certain events) and legal limitations on the ability of regulators to bailout failing firms; greater transparency and disclosure; and increases in capital requirements designed to incentivize shareholders to monitor management (Fama in Cassidy 2010; Rajan 2009; Stern 2009; Stern et al, 2004). Finally, advocates of this view have argued that government interventions in financial markets such as the expansion of regulation, steps to break up large financial firms and prevent the emergence of new large financial firms, and regulations that limit the activities of financial institutions is likely to be both ineffective in constraining risks and stifling to economic innovation and growth (Fama in Cassidy 2010; Mankiw 2010; Stern 2008; Fama and French 2009). The proper policy response to the crisis in this view can thus be summarized as steps to prevent the future artificial stimulation of mortgage lending through the GSEs or
otherwise; steps to credibly commit the government to not bailout failing financial firms in the future; strengthening of market monitoring; and otherwise allowing financial markets and financial firms to grow dynamically without complex new regulations, activity restrictions, or government efforts to break up or limit the size of financial firms.

My discussion has shown that clear and well-articulated regulatory policy alternatives were available to political executive and other key political leaders and that these alternatives reflected well-articulated causal beliefs regarding the functioning of markets and the likely consequences of regulatory interventions. Had the Obama administration and other key policymakers held these alternative causal beliefs it is likely that they would have perceived different regulatory policies to be more effective means to achieving the goal of preventing further financial crises, restoring confidence in the markets, and restoring stable and sustainable economic growth. In other words, different causal frameworks would have led to different policy choices given the same preferences over outcomes.
7. Conclusions, Comparative Perspectives and Implications for Future Research

I conclude by reviewing the overall conclusions of my research, by illustrating the applicability of my arguments to other contexts and policy domains, and by offering a few thoughts about the implications of my research for future research agendas within political science.

My research points to several major overall conclusions. First, I conclude that financial regulatory change is most likely to occur when exogenous events of different types cause heads of government to perceive that the existing regulatory status quo threatens their ability to realize broader policy objectives. This conclusion is more consistent with the timing and often abrupt character of major financial sector regulatory change in the U.S. and India than alternative explanations which focus upon demand-side changes from shifts in the preferences of interest groups in response to secular economic changes. Such explanations are more consistent with such regulatory changes as the introduction of the National Bank Act of 1864 following the financial system shocks of the Civil War; the passage of the Federal Reserve Act in 1913 following the Panic of 1907; the passage of the major financial regulatory changes in the wake of the Great Depression; financial deregulation over the course of 1980-2000 in response to changing market and competitive pressures; the passage of the Dodd-Frank Act of 2010 following the 2007-2008 financial crisis; and the initiation of financial sector
liberalization in India in 1991 following a major balance of payments crisis and an ongoing period of poor economic performance as I discuss below. Such a conclusion, moreover, is more consistent with the available record of policy debates surrounding the passage of major new financial regulations: as I have discussed extensively above, participants frequently articulated reasons for pursuing financial regulatory change that referenced the need to respond to events.

A second major conclusion of my research is that the evolving cognitive frameworks of political actors crucially shaped their financial regulatory choices by causing them to understand cause and effect relationships in specific ways that shape their expectations of the effects of regulatory policy choices. More specifically, had cognitive frameworks been different at different points in time it is likely that political leaders would have made different regulatory policy choices in response to the events that they faced than they in fact did (e.g., consider the Hoover administration’s response to the events of the Great Depression). In particular, the leaders of specialized financial policy bureaucracies have frequently influenced financial regulatory policy outcomes by supplying the cognitive frameworks through which other actors understand the consequences of the regulatory policy choices they face. The available record offers extensive evidence that the cognitive frameworks of key policymakers shaped how they understood the consequences of financial regulatory choices and the particular design of financial regulation. This is clearly illustrated, for example, by the design of financial
regulation following the Great Depression, with regulation reflecting particular concern with the dangers of “speculation”; with the design of financial regulatory changes in the period from 1980-2000, which clearly reflected belief in the efficiency and social optimality of market outcomes and the in the efficacy of market monitoring as a means of containing financial institution risk-taking; and in the design of regulatory changes in the wake of the 2008-2009 financial crisis, which clearly reflect a shift in understandings regarding the nature of financial system risk to include a greater focus on systemic risk, the recognition of the possibility of “runs” on the liabilities of nonbank financial institutions, and the risks of new financial products. My research therefore suggests the importance of understanding the evolution of the systems of causal beliefs that shape how political actors perceive the decision problems they face, rather than exclusively focusing on preferences or institutional constraints.

The third major conclusion of my research is that interest groups, and in particular the financial sector, are able to influence financial regulatory outcomes primarily by their ability to act as “veto players” which capture key decision-points in the policy process to block change which they oppose and thus to influence policy outcomes by narrowing the feasible set of policy choices available to political leaders. They do not, however, usually dictate the policy agenda as is often suggested by demand-side interest group or regulatory capture arguments. Moreover, political executives are frequently willing to take on important interest groups to advance
regulatory change that they see as important to their ability to realize broader policy objectives. This is clearly illustrated, for example, by the willingness and ability of the Roosevelt administration to push major regulatory change in the face of sustained interest group opposition and in the similar willingness of the Obama administration to push regulatory reform which it regarded as essential to the restoration of economic stability and growth against interest group opposition.

In the following sections I examine the broader applicability of my theoretical argument beyond the U.S. historical experience and beyond the financial regulatory policy domain. I argue that the theoretical approach and broad conclusions of this dissertation have wider applicability of general interest to political science.

**7.1 Comparative Perspectives: Financial Regulatory Reform in India**

Although the empirical focus of my dissertation has focused on the United States, many of the theoretical arguments that I investigate in this dissertation were inspired by research which I conducted in India during the summer of 1998. I spent approximately two and half months in India, primarily in New Delhi but with an extended trip to Mumbai, during which time I had the opportunity to interview a variety of senior policymakers and regulatory agency officials, senior political party officials, representatives of business organizations and business people, economists involved in policy discussions, political scientists, journalists, and representatives of international organizations involved in financial policy discussions. I also had the
opportunity to attend a presentation and discussion of the draft blueprint for financial
sector reform offered by the High Level Committee on Financial Sector Reforms
established by the Planning Commission of the Government of India under the
Chairmanship of Raghuram G. Rajan, which offered me the opportunity to observe first-
hand the arguments which representatives of different organizations involved in policy
discussions made for and against different aspects of the proposed reforms.

I illustrate the applicability of my theoretical arguments in a comparative context
by a brief discussion of the process of financial regulatory change in India over the
period from roughly 1991 through 2008. India’s political system, economic structure,
and society are of course very different from those of the United States. Politically, India
is a parliamentary democracy with a bicameral national parliament, a president who
serves as head of state and is selected under a complex formula by an electoral college
consisting of all members of the national parliament and state legislative bodies, and a
federal system of government.¹ The prime minister is responsible to the lower house of
parliament, the “Lok Sabha”, whose members are directly elected in single member
electoral districts allocated among India’s states on the basis of population. The upper

¹ See Hardgrave and Kochanek (2008) for a detailed description of India’s political system and political
history in the twentieth century. Guha (2007) and Chandra, Mukherjee and Mukherjee (2008) offer general
histories of post-independence India, while Wolpert (2008) offers the standard single volume history of
India from ancient to present times, with detailed treatment of the growth of the independence movement
in the early twentieth century.
house of parliament, the “Rajya Sabha” is elected indirectly by the state and territorial legislatures.

Although India was a one-party dominant state under the Congress party during the period 1947-1967, Congress party electoral dominance began to decline during the subsequent decade, during which Nehru’s daughter Indira Gandhi served continuously as prime minister, before losing power to the Janata coalition in 1977. Although Indira Gandhi returned as prime minister in 1980 and was succeeded by her son Rajiv in 1984 (prime minister 1984-1989) after her assassination, the electoral dominance of the Congress party continued to decline. The party system has become increasingly fractionalized from the 1980s into the 2000s, with no party able to form a majority government since the general election of 1984. Following the assassination of Rajiv Gandhi in 1991, the Congress party was able to form a minority government headed by Narasimha Rao (who served as prime minister from 1991 to 1996). After a series of unstable governments during the period 1996 to 1998, the increasingly ascendant Bharatiya Janata Party (BJP) was able to form a minority government under prime minister Atal Bihari Vajpayee (prime minister 1998-2004) with the support of an alliance of some 24 other parties (the National Democratic Alliance or NDA). Congress again regained power in 2004, forming a minority government under Manmohan Singh (prime minister 2004-present) under the United Progressive Alliance (UPA), which has included the Left Front, an alliance of leftist parties including India’s communist parties.
with strength especially in the States of West Bengal and Tripura; the Samajwadi Party (SP), a party drawing support primarily in Uttar Pradesh from the Yadav caste (one of several “other backward castes”); and Bahujan Samaj Party (BSP), a party representing low-caste Hindi’s and a bitter rival to the SP in Uttar Pradesh under the charismatic leadership of Mayawati, the four time chief minister of Uttar Pradesh (India’s most populous state with a population of almost 200 million).2 Congress gained electorally during the 2009 general election, with Singh again forming a minority government under the UPA alliance.

Beginning with Nehru (prime minister 1947-1964), India introduced a development model that, while preserving the core of a market economy, relied upon socialist-inspired five-year development plans and a strong role of the state in allocating resources and controlling economic activity in a strategy of import-substituting industrialization. These trends accelerated dramatically under Indira Gandhi’s first period of leadership (as prime minister from 1966-1977).3 By the 1980s a host of state interventions and restrictions on market activity were in place, including direct state ownership of firms in many industries; strict controls and limitations on foreign direct investment; high tariffs combined with export and import controls; strict capital and current account controls; a complex system of strict licensing and permit restrictions.

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2 Both the Left Alliance and the BSP withdrew their support from the Congress government in the summer of 2008. The Congress government surviving a resulting confidence motion.
3 For detailed discussion of the history of and details of Indian economic policy and the structure of the Indian economy since independence see Panagariya (2008).

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restricting new investments by existing firms or entry of new firms in many industries in the attempt to prevent the “diversion” of scarce investment capital into areas not deemed optimal by India’s planning agencies; a system of “reservations” in which large firms were prevented from entering into many traditional small-scale cottage industries including textiles and garments, shoes, toys, small electrical appliances, furniture, and simple plastic products; direct price controls on many outputs and permit requirements for the purchase certain types of inputs; output targets for many firms in critical industries; strict labor regulations that required express government authorization for almost all layoffs; strict limitations on the rights of individuals or firms to acquire blocks of land in urban areas; and extensive government subsidies on certain goods such as gasoline, fertilizers and food.

With respect to financial sector regulatory policy in particular, the path was equally interventionist during this period (Sen and Vaidya 1997, Saez 2004, Panagariya 2008). Indira Gandhi nationalized the 14 largest private banks in 1969, combining them with the already dominant State-Bank of India (India’s largest state-owned bank), and nationalized the insurance industry entirely in 1972. No new private banks were authorized to open until 1993, although existing foreign banks were allowed to continue their operations. As already mentioned, strict capital and current account controls were introduced. In addition, the government mandated high reserve requirements for banks, effectively requiring banks to invest a large proportion of their assets in
government securities; mandated high levels of lending to priority sectors (including most importantly the agricultural sector); and controlled both deposit and lending interest rates.

Before considering the process of financial liberalization and the broader process of market-oriented reform that began in 1991, it is useful to briefly consider the issue of why successive Congress governments beginning with Nehru (prime minister 1947-1964) and accelerating with Indira Gandhi (1966-1977) chose to adopt such a broad set of government interventions in the economy. It is, of course, easy to construct arguments that explain the expansion of interventionist policies as a deliberate strategy to employ state resources to create constituencies loyal to the Congress party or as a response to demands for redistribution from an increasingly mobilized population in a new democracy. But are such arguments factually correct? Do they correctly characterize how key political leaders in India perceived their choice situation and were these the actual reasons why political leaders made the decision to pursue these policies?

It is, of course, impossible to know with certainty but we can make certain reasonable inferences from the available historical information. The short answer is that, although the conjectures described above may contain some truth in explaining why the Congress party was able to maintain strong support and to continue its policy initiatives, there is ample evidence to suggest that Nehru and Indira Gandhi and many in the Congress party leadership strongly believed that a development strategy based
upon a mixed economy with extensive planning and state intervention was in fact the best means for realizing their frequently expressed objective of rapidly increasing national income. Put differently, there is not good evidence to support the claim that they believed that a different development model would in fact lead more to a more rapid increase in national income but that they rejected this alternative based upon political calculations that the political gains from increased state control outweighed the economic benefits.

Nehru wrote and spoke passionately about the need for planning and a mixed economy and articulated Fabian socialist views both as a key leader in the pre-independence Congress party as prime minister (Wolpert 2008; Chandra, Mukherjee and Mukerjee 2008, pp. 224-228; Guha 2007, pp. 212-232). He argued explicitly for the need to prioritize investment ahead of consumption as a prerequisite for the emergence of a welfare state; for the benefits of planning and a mixed economy as tools to direct investment to what he regarded as priority areas including heavy industry and agriculture; and for the importance of import-substituting development of a domestic industrial base as the means to secure Indian independence and to avoid a relation of

4 The policy goal of increasing national income is of course consistent with the assumption that Nehru, Indira Gandhi and other top leaders in the Congress party were simply office-seeking politicians who saw a rising standard of living as key to political survival; with the assumption that these leaders were genuinely motivated by concern for the well-being of India’s citizens; or some combination of these motives. It is important to note, however, that the development strategy introduced by Nehru favored investment over consumption and was more concerned with achieving industrial growth than pursuing immediate redistribution. Indeed, he explicitly argued that redistribution should be subordinated to the goal of development (Chandra, Mukherjee and Mukerjee 2008, p. 227).
dependency with India’s former colonial rulers and as a means to more rapid overall economic growth. Nehru’s chief advisor on these issues and the intellectual architect of the system of planning introduced by Nehru was the Cambridge-trained physicist, statistician, and Sanskrit philosopher Prasanta Chandra Mahalanobis, who was an avid student of the input-output linear programming economic planning ideas of Wassily Leontiff and who was strongly impressed by the apparent success of the Soviet Union with planning strategies in his travels to Moscow (Guha 2007, pp. 214-218). Indira Gandhi articulated similar beliefs to those articulated by her father and with similar passion, both as a political leader and in her private correspondence with friends and family members which is on display at the Indira Gandhi museum in New Dehli.

Belief in the efficacy of planning, state-directed investment in heavy industry, and a mixed economy as an effective means for achieving rapid economic growth in developing countries was widely shared by many mainstream economists in this period (e.g., Rostow, 1960; Leontief 1966) and was buttressed by the apparent success of the Soviet Union in achieving rapid industrialization and economic growth through pursuit of a more extreme version of this strategy. Moreover, many academics in this period advocated state control over the financial system and as a means to ensure rapid capital accumulation and the allocation of investment to industrial development as an effective means of promoting development in “backward” economies (Gershenkron 1962). It was precisely these intellectually dominant beliefs in the efficacy of state direction of
investment and state control over the activity of the financial sector that the later financial repression literature argued against (McKinnon 1973, Shaw 1973). Given the cognitive frameworks prevailing in the 1950s, 1960s, and into the 1970s it is therefore not surprising that Nehru and Indira Gandhi believed that a planning-centered development strategy that included a substantial element financial repression and state control over the financial sector was the most effective means to realize their goal of rapidly increasing India’s rate of development.

In 1991 the Congress government headed by prime minister P. Narisimha Rao (prime minister 1991-1996) initiated a wide-ranging series of liberalizing economic reforms that were carried forward by subsequent governments including the BJP-led government of Atal Bihari Vajpayee (prime minister 1998-2004) and the subsequent Congress government headed by Manmohan Singh (prime minister 2004-present). A key architect of the reforms introduced by the Rao government was the finance minister and future prime minister Manmohan Singh, an Oxford-trained economist who had written his dissertation on the potential benefits of to India of trade liberalization. Among the key reforms introduced by the Rao government were the elimination of licensing requirements for capacity expansion and new entry in almost all industries; liberalization of foreign direct investment; the end of import licensing; exchange rate devaluation; reduction in tariff rates; and the beginning of financial sector reform (Panagariya 2008, chapter 5). The Vajpayee government carried forward reforms
through further trade and foreign investment liberalization; larger scale privatization in
a variety of industries; efforts to introduce market pricing in electrical distribution; and
education reform. Liberalizing reform has continued the overall pace has slowed
somewhat under the Congress UPA government of Manmohan Singh (2004-present),
with most observers attributing this to the dependence of the government until 1998
upon the support of the Left Front. Many important areas of market-oriented reform
remain to be tackled, including further privatization; liberalization of labor and land use
laws; further privatization and marketization of key public sector utilities; and reduction
or elimination of subsidies on key products.

Important financial sector reforms have been introduced since 1991 as well, with
such reforms proceeding in an incremental and gradual manner (Sen and Vaidya, 1997;
Ahluwalia 1999, Hanson 2001; Echaverri-Gent 2001; Saez 2004; Panagariya 2008, chapter
11; Shah, Thomas and Gorham 2008). These reforms have included the gradual
reduction of instruments of financial repression including high bank reserve
requirements and monetization of government debt; and gradual elimination of interest
rate controls. There have also been steps toward privatization and entry liberalization in
the banking sector with the sale of minority stakes in government-owned banks via
public offerings; the privatization of several of the former “development banks” which
have become large universal banks (beginning with the ICICI in 2002 and including
IDBI, and IFCI); approvals for the entry of new private banks (beginning in 1993);
liberalization of branching by foreign banks. Efforts to modernize banking regulation by the introduction of risk-based capital adequacy regulation, accounting and disclosure reforms, and improvements in supervision. Efforts to encourage the growth of equities markets by the creation of a securities market regulator the Securities and Exchange Board of India (SEBI) in 1992 with responsibilities similar to the SEC in the U.S. and modernization of the exchanges. In addition, there has been current account liberalization (the ability to exchange the Rupee for other currencies for import and export transactions); but only limited capital account convertibility with limits on the total permissible outward portfolio investment by a given individual or firm, restrictions on foreign institutional investors (including limits on their holdings in individual firms and overall caps on foreign institutional investment in government and corporate bonds), limitations on foreign bank borrowing by Indian firms (but no limits on the raising of equity in foreign markets). Finally, in 2002, the government introduced legal changes that strengthen the ability of banks to seize collateral backing failed loans and that streamline procedures for bankruptcy proceedings involving failed bank borrowers.

The overall consequence of these reforms has been a considerable liberalization in financial market prices and reduction in financial repression; the growth of private banks and decline of state-owned banks (although these remain dominant); the rapid growth in equity markets but the slow growth in debt markets; and increased but limited foreign portfolio investment in India and foreign borrowing by Indian firms; and
the extensive raising of equity by Indian firms from foreign sources either through offerings on foreign equity markets (in the form of ADRs or GDRs) or through private equity investment. Advocates of more rapid financial liberalization have pointed to the need for further liberalization in a number of areas including privatization of government-owned banks (although the Rajan commission did not recommend full privatization of the State Bank of India in light of the political difficulties, favoring a gradual reduction in its market share); liberalization of entry by foreign bank subsidiaries (as required under India’s WTO obligations); further capital account liberalization combined with further liberalization of debt markets; and further reductions in directed lending requirements and in rural branch obligations for private banks (Government of India Planning Commission 2008).

The reasons for the launch of the overall economic liberalization program in 1991 are fairly clear and are consonant with my arguments regarding the importance of events in causing governments to become attentive to issues of reform. These include low rates of total and especially per capita GDP growth for much of the period from the mid-1960s through the 1980s (except for a brief growth spurt in 1988-1989 when Rajiv Gandhi’s government experimented with reform), with India performing poorly in reducing poverty and in terms of overall growth in comparison with other developing countries that pursued export-oriented strategies (e.g., Korea); growing fiscal deficits; and declining international competitiveness of Indian goods and a growing current
account deficit culminating in a balance of payments crisis in 1991. As a consequence of this poor performance, a consensus had been growing for some time among Indian leaders and elites of varying political persuasions that the Indian development model was failing (Panagariya 2008). Moreover, for the reasons that I have discussed extensively in previous chapters, there was a growing consensus within the economic profession generally during the 1980s and 1990s in favor of extensive market liberalization and away from state-directed development models (see Yergin 2002). The Rao government responded to the urgent need to restore confidence presented by the 1991 crisis and took advantage of the crisis to advance structural reforms that many believed to be necessary.

There are two interesting questions from the point of view of the theory that I propose in this dissertation. The first is why the Indian government chose to begin a process of financial regulatory reform at this time and successive Indian governments have continued with financial sector reforms. The second question is why reform has progressed only gradually and incrementally, and why certain liberalizing reforms have not been completed after nearly twenty years including privatization of state-owned banks; full removal of directed lending requirements; full capital account convertibility; liberalization of access by foreign institutional investors and financial institutions; and liberalization of debt markets. Other former import-substituting industrializers and heavily interventionist states have moved much farther on most of these dimensions of
financial sector liberalization and there are good reasons to believe these additional liberalizing measures would increase the availability of financing for Indian consumers and firms and hence ought to enjoy support among important groups.

The answer to the first question seems reasonably clear: consistent with the theoretical argument that I offer in this dissertation, Indian political leaders decided to prioritize financial sector reform because they saw such reform as instrumentally important to their ability to realize other critical policy objectives – specifically, as a key complementary reform to the broader market-oriented economic reform which they had launched in order to restore India’s economic performance. There is no evidence that important societal interest groups were clamoring for financial sector liberalization and that reform was thus a response to demand-side pressures. Many of the small and large private firms which have become an important pro-reform constituency were only created after the market-oriented reforms of the 1990s made their emergence possible and many of the “industrial incumbents” prior to the 1990s benefited from existing preferential lending arrangements and hence had fewer incentives to support reform (c.f., Rajan 2003a). On the other hand, there were good theoretical reasons for Indian policymakers to believe that a certain amount of financial liberalization was important to the success of market-oriented reform. A major thrust of theoretical arguments in the economic profession for much of the 1980s and 1990s has been that financial liberalization is beneficial for economic growth and efficiency as I have argued above.
Moreover, Indian policymakers had good reasons to believe that trade and price reform and the removal of entry and expansion barriers (licensing liberalization) would fail to cause changes in the pattern of economic activity unless capital could also freely flow toward new profitable opportunities and away from unprofitable activities. Not surprisingly, this is exactly the explanation for the government’s decision to initiate financial sector reform that I was given in an interview with a former senior Reserve Bank of India (the Indian central bank) official involved in key financial policy decision-making in the early 1990s.

In seeking to understand the answer to the second question, I arrived in India with two complementary hypotheses to explain the gradual and incomplete nature of financial sector liberalization in India in comparative context. First, consistent with “interest-group” accounts that I discuss in previous chapters, I hypothesized that Indian political leaders were hesitating to advance further financial sector reform because this would run counter to the interests of important constituencies who would have powerful incentives to mobilize against reform – implying that the political costs of reform were perceived to be excessive. Specifically, I hypothesized that further liberalizing reform would be opposed by many agricultural groups and by the employees and managers of state firms and state banks. Agricultural groups and state-owned firms generally benefited from preferential access to credit under India’s system of financial repression and directed lending, while state banks themselves would be
obvious losers from increased competition I reasoned. Second, I hypothesized that the fractionalization of the Indian party system explained the slow pace of financial sector reform – governments since the 1990s have been minority governments dependent upon fragile and diverse coalitions of parties for support and susceptible to defections by their own MPs. Given this fractionalization, I reasoned that governments would hesitate to undertake reforms that would upset important societal interest groups (such as farmers) that would risk splitting their coalition of support in the legislature.

As a result of my interviews in India during the summer of 1998 I came to conclude that these hypotheses were on the whole not correct. Instead, based upon my interviews, I came to conclude that further financial sector reform was proceeding slowly in India primarily because (i) remaining financial sector reforms were perceived by Indian political leaders to be less critical to the success of the broader goal of market-oriented reform – hence, there was less urgency the political executive to prioritize this within the broader policy agenda; (ii) and because of conflicts between the leaders of the major financial sector policy bureaucracies regarding the content and timing of additional financial sector reform. These conflicts presented the political executive with potential costs of pushing additional financial reform that it saw no urgency or need to pay in order to reach its broader policy goals.

I pursued the question of whether interest group opposition or the fear of negative electoral consequences was holding back further financial sector reform in
interviews with economists involved in policy debates, political scientists, senior political party officials, and journalists as well as in more casual conversation with Indians in a variety of walks of life. Almost universally the experts and other people I spoke to believed that farmers, state firms, and other interest groups were largely unaware of the details of financial sector reform issues and that the consequences of most reforms were likely to be too indirect or diffuse for these groups to notice. For example, while privatization of the state-owned banks might weaken the ability of the government to pursue directed lending strategies favoring the agricultural sector, the connections were likely to be too indirect and the consequences too gradual for most farmers to perceive. In an interview with leaders of the farmers’ wing of one of the two largest political parties, I found party officials to be largely unaware of the specifics of financial sector reform and not to have strong opinions regarding the desirability of pursuing additional specific financial sector reforms. Only on two specific potential areas of reform did interview respondents see the connections as sufficiently direct and large that they might generate active opposition. Some expert respondents thought it

5 Including small business owners, a producer of documentary films on social and political issues, a senior Indian Railways official with whom I shared a cabin in an overnight rail journey, a senior Indian-American businessman and a senior Indian-American venture capitalist both of whom worked with Indian business leaders and government officials on a regular basis, an urban planning expert, a lawyer specializing in securities market issues, students, several English-speaking rickshaw drivers I used on a regular basis and a host of other people.

6 Similarly, in an interview with a senior member of parliament who had previously served as the chief minister for a major Indian state, I was greeted with skepticism and disinterest when I offered hypotheses about the potential for electoral backlash from groups such as farmers or state-sector employees from further financial liberalization.
was conceivable that the direct elimination of directed lending to farmers could provoke active opposition or be electorally costly, but several respondents suggested that the government could easily substitute direct fiscal subsidies and that the extent of opposition would be minimal. Similarly, a number of respondents thought that the state bank employees union would likely strike if state banks were completely privatized, but believed that the government could easily stare down such a strike and would suffer few significant electoral consequences. Moreover, expert respondents generally believed that most large private companies were not particularly active in lobbying in favor of additional financial sector reforms, since existing financial sector reforms (e.g., the entry and growth of private banks, access to foreign sources of equity financing, etc.) were generally sufficient for their financing needs and because the benefits of broader financial liberalization (e.g., further capital account liberalization), although generally regarded as favorable, were generally too diffuse to merit the costs of specific lobbying efforts.7

Similarly, upon closer inspection, the hypothesis that party system fractionalization has been a key factor in hindering further financial sector reform seems to be largely incorrect. Most generally, respondents believed that financial sector reform

7 In an interview with a senior official with responsibility for financial sector issues at one of the major Indian business associations I was told that, while most association members generally favored further financial liberalization and that this was the official position of the association, the association and its members preferred to direct the majority of their efforts to addressing specific problems encountered by specific firms rather than general policy goals such as a capital account liberalization.
issues were not sufficiently electorally salient to be an important issue in party politics and hence in coalitional battles. Although some respondents saw the BJP as somewhat more disposed toward market-oriented reform in general, given its strong base of support among small-scale business people and the traditional social democratic ideological position of the Congress party, governments headed by both parties have advanced market-oriented reform in general and financial sector reform in particular over the past twenty years. Although there are important differences over specifics, there appears to have emerged a broad consensus among Indian elites in favor of market-oriented reform and away from state-directed development strategies over the past twenty years that cuts across most political parties (Panagariya 2008). Moreover, there seems to be little correlation between the electoral strength of particular governments or the composition of particular governing coalitions and the overall progress of reform during this period.\(^8\) We cannot, of course, test the counterfactual that a strong majority government of either party would have been able to advance reform more rapidly than has been possible in the past twenty years. This seems unlikely, however, for the reasons I explain further below – Indian political leaders have simply seen additional financial sector reform as less urgent to their broader policy objectives

\(^8\) A possible exception to this has been the somewhat slower progress of market-oriented reform under the Congress-UPA government (2004-present). A number of interview respondents suggested that government’s dependence upon support of the Left Front parties hindered reform given the ideological position of the Left Front. There was speculation that the departure of the Left Front from the government in July 2008 would enable the government to move much more rapidly with reform (Sunday Times of India, July 27, 2008). However, these expectations have not materialized.
and there are important divisions of opinion among bureaucratic policy experts and leaders of the specialized financial sector policy bureaucracies that has held back reform – with both of these factors likely to have held back financial sector liberalization even in the presence of a strong majority government.

My interviews suggest that the first reason why further financial sector liberalization has not occurred is simply that India’s political leaders do not currently perceive further financial sector liberalization to be especially urgent or critical to the success of their key policy objective of obtaining stable and high rates of economic growth. While the initial financial sector reforms were perceived to be critical to the success of market-oriented reforms, my interview research suggests that Indian political leaders see such further such reform as either unnecessary or as desirable but not urgent or critical to the achievement of economic growth. When I posed this question to an economic advisor to the prime minister with long experience in financial sector reform issues, I was given the explanation simply that while the government generally favored further gradual steps toward financial sector liberalization, the government simply did not perceive an urgent need for such reforms as previous steps toward financial liberalization had removed many of the most distorting interventions and had allowed the growth of a robust private banking sector. Other interview respondents offered similar opinions – the growth of India’s equity markets, the emergence of a strong private banking sector, and the removal of interest rate controls and other elements of
financial repression had significantly improved access to finance for many Indian firms
and had already addressed many of the most pressing needs. While the proponents of
further financial liberalization whom I interviewed believed that the economic gains
from further financial liberalization (e.g., further capital account liberalization,
liberalization of debt markets, removal of directed lending requirements) would likely
be significant, they believed that such longer-term potential benefits were not easily
perceived by many potential beneficiaries of such reforms and was not generally
appreciated to be an urgent issue. These findings are consistent with my broader
theoretical argument that the political executive chooses to prioritize financial sector
regulatory reform only when events cause them to perceive that this is instrumentally
critical to the success of their broader policy objectives.

My interview findings suggest that a second important reason why financial
sector liberalization has not progressed more rapidly or gone farther in India is the
existence of strong differences of opinion between leaders of specialized financial sector
policy bureaucracies and policy experts regarding the desirable speed and content of
further financial sector reform. On the one hand, officials at the Ministry of Finance, the
Planning Commission, and at the National Institute for Public Finance and Policy (an
influential official think tank), have generally favored more rapid and thorough going
financial liberalization. Both the Ministry of Finance and the Planning Commission have
recently commissioned extensive reports by expert committees, with these expert
reports presenting detailed arguments in favor of more extensive financial sector liberalization and arguing that the economic benefits of such reforms are likely to be significant.9

Officials of the Reserve Bank of India (India’s central bank) in particular have been more cautious about the desirability of rapid further reform. In my interviews with senior officials and economists of the Reserve Bank of India, these officials and experts, while supportive of existing steps toward financial liberalization, presented a number of arguments favoring a cautious and gradual approach to future financial liberalization. Among the arguments that these officials presented were the argument that existing financial sector reform had already enabled the growth of a robust private banking system and equity market and had removed many of the key distortions in financial markets; that, echoing arguments of economists such as Stiglitz, further capital account liberalization in particular was dangerous for a developing nation and that the risks of rapid further capital account liberalization outweighed the gains10; that it was

9 The Ministry of Finance commissioned report Mumbai: An International Financial Center of 2007 (commonly known as the Percy Mistry report after its chair), argues that the Indian government should take a host of steps to transform Mumbai into an international financial center and to promote broader financial liberalization – pointing to the importance of financial service export revenues and the broader economic benefits from financial centers such as New York, London, Singapore, and Dubai on which it offers case studies. The Planning Commission commissioned report A Hundred Small Steps: Report of the Committee on Financial Sector Reforms of 2009 (commonly known as the Raghuram Rajan report after its chair) makes a more general case for liberalizing financial reforms, advocating a series of cumulatively significant steps across a wide range of areas.

10 In the wake of the global 2008-2009 financial crisis, former RBI Governor Yaga Venugopal Reddy has received extensive praise both within India and internationally for taking a more cautious approach toward capital account liberalization and financial liberalization generally, with the consequences that the Indian
important to improve the institutional architecture and regulatory supervision of India’s financial markets before advancing with rapid liberalization in order to ensure that risk-taking was contained; and that weakness of alternative monetary policy transmission mechanisms in India (e.g., open market operations) implies the desirability of maintaining a degree of direct control over credit allocation.\footnote{Related to this last point, RBI officials argued that India’s agricultural system is particularly prone to shocks given the dependence of Indian agriculture upon monsoon rains as opposed to irrigation. Such shocks could result in large balance of payments swings if India were forced to import grain and foodstuffs on an emergency basis and pointed to the need, in their opinion, for capital controls and for tools for control over direct credit flows.} While it is possible to attribute a degree of this resistance to further liberalization to narrow institutional self-interest and turf-protecting since certain of these reforms would reduce the responsibilities and authority of the RBI, on the whole it seems more plausible that these differences in policy preferences reflected genuine intellectual disagreements about the likely causal effects of further financial sector reforms. This seems more plausible both because of the intellectual clarity of arguments on both sides of this debate and because it is easy to imagine the RBI adapting and remaining very influential within a significantly more liberalized financial system as is the U.S. Federal Reserve. The important difference, therefore, is not over desired ends but rather differences in cognitive frameworks that have resulted in genuine disagreement regarding the best means of achieving the shared goal of stable and high rates of economic growth.

financial sector survived the crisis largely unscathed and that India did not suffer sudden reversals of portfolio flows (Bajaj 2009).
There are two specific reasons why differences of opinion between leaders of these key specialized financial policy bureaucracies regarding the desirability of more rapid and wide-ranging financial liberalization have helped to prevent more rapid financial sector liberalization. First, there are likely to be costs to the political executive of moving in a direction that is strongly opposed by the Reserve Bank of India, even though the RBI is not formally independent of the government. This is because the government must work cooperatively with the RBI across a host of different areas in order to effectively implement different policies and because the RBI is a highly-respected institution within India and a government that pursued a policy agenda that met with outright RBI criticism could risk undermining the confidence of investors and other economic actors. In other words, the RBI has, within limits, the power to sanction government policy actions with which it disagrees. Second, and perhaps more importantly, the intellectual arguments offered by the proponents of a cautious approach to financial liberalization are likely to have had persuasive power – altering how the political executive and senior political decision-makers perceive the consequences of alternative policy actions. Given India’s strong recent rate of growth and the absence of compelling political reasons to contemplate more rapid financial

12 This point was made to me by a senior official at the Ministry of Finance with responsibility for financial sector reform issues. As he noted, it was important for the Ministry of Finance and the RBI to maintain a cooperative relationship on an ongoing basis. Phrased slightly differently, he saw their interaction as an iterated rather than a one-shot game.
liberalization, it is likely that such cautious incrementalist arguments have been at least partially persuasive to many key political leaders.

Overall, therefore, the Indian experience with financial liberalization over the period from roughly 1991 through 2008 suggests strong support for the theoretical argument which I offer in my dissertation. Major financial sector regulatory change (both toward greater state control and toward liberalization) has occurred when events have caused political leaders to perceive that financial regulatory change was instrumentally important to their broader policy objectives; the cognitive frameworks of political leaders and policy experts have been centrally important to how they understand the consequences of different policy choices and therefore to explaining the policies that they have selected as the means to realize their broader policy objectives; and specialized financial sector policy actors have been important actors in the policy process. By contrast, demand-side pressures from interest groups do not appear to have driven major financial regulatory change. Moreover, while the potential for negative reaction from interest groups may have caused the political executive to proceed slowly or cautiously with specific reforms in certain instances, on the whole the record suggests that the political executive is prepared to act decisively when it perceives financial regulatory policy change to be instrumentally critical to the realization of its other policy objectives.
7.2 Comparative Perspectives: Other Policy Domains

The theoretical framework that I offer in this dissertation has significant explanatory power when applied to other policy domains that share with financial regulatory policy the characteristics of complexity of the connections between policy interventions and outcomes and high stakes outcomes. I illustrate with two examples.

Consider first the policy domain of decisions regarding the use of military force and the conduct of military campaigns. Generally the circumstances that policymakers confront are highly complex and highly unique. In such situations, bureaucratic policy experts – generals and foreign policy experts – are likely to be very influential in policy discussions. Moreover, such bureaucratic leaders and experts are likely to wield influence by providing political leaders with cognitive frameworks that influence their perception of the causal relationships between policy interventions and outcomes. In other words, they offer cognitive frameworks which influence the policy actions which political leaders see as the most effective means to achieving their desired objectives.

Consider the example of the current Afghan war. In simple terms, we may characterize the common objectives of Bush and Obama administrations as that of inflicting maximum destruction upon the Al Qaeda terrorist organization and of preventing this group from resurrecting itself and again finding a safe haven in Afghanistan or another country. The determination of the best means to achieve these objectives clearly depends upon policymakers’ theoretical beliefs regarding a variety of questions. Will
success be achieved through the deployment of additional military resources in this geographically vast country so that a decisive military victory can be achieved against the ongoing Taliban insurgency and lasting peace brought to Afghanistan? Does success depend upon widening the war to deny safe haven to Taliban fighters who cross into Pakistan and what are the consequences of such an action? Or does success depend primarily building the capacity of the existing Afghan army and state institutions and helping to promote economic growth and a stable political system? What are the best means to pursue these objectives and are they likely to be successful? Or is the premise of existing policy simply flawed and is our presence merely creating new enemies, implying that U.S. national security will best be served by a withdrawal from Afghanistan that leaves the country to its own fate – even if that means a further descent into warlordism and the breakdown of the central government? These are not questions that can be answered by simple observation alone – how long does the U.S. need to pursue a particular course of action to know if it is working and how do policymakers know that an alternative policy would not work better? Rather, policymaker decisions are likely to depend upon the set of causal beliefs that they hold – in other words, their cognitive frameworks are likely to shape their choice of means.

A second example is offered by cases in which governments come to perceive that a wide-scale shift in economic structure is required to sustain adequate levels economic performance. Consider specifically the transition from planned to market
economies undertaken simultaneously by the former Communist countries of Russia and the roughly simultaneous transition toward a market economy in China. Putting aside the question of why political leaders believed that such a transition in economic models was necessary in the first place, let us simply consider their choice of means to achieve the outcome that leaders in all of these countries presumably shared as an objective – the transition to a market economy with a stable and high rate of economic growth sufficient to meet the expectations of their populations. The choice situation which leaders faced was highly complex and historically unique (as well as having features unique to each country). Deciding between policy alternatives required the ability to form assumptions about complex causal chains linking actions to outcomes and the ability to form assumptions about the complex interdependencies between different economic variables. Would the desired equilibrium of a well-functioning market economy best be achieved by a “big-bang” approach in which leaders undertook different market-oriented reforms simultaneously (domestic price reform, privatization, trade and capital account liberalization, etc.) and rapidly or by a gradualist approach in which reforms were sequenced? If a gradualist approach was to be chosen, what would be the optimal sequencing of reforms? What exact mechanisms should be used to achieve different objectives – should privatization be pursued by distributing vouchers to the public, by the sale of controlling blocks in companies to foreign investors, by manager buyouts, or by some other means? Should leaders simultaneously try to create
welfare state institutions to cushion the effects of newly unleashed market forces or would such efforts undermine the main goal of achieving a successful market transition? In each of these instances we saw domestic and foreign policy experts wielding considerable influence over policy decisions. They did so by supplying political leaders with cognitive frameworks which provided maps to the causal relationships between economic and policy variables, enabling political leaders to attach probabilities to the outcomes associated with different policy alternatives. In other words, they exercised influence not primarily by changing leaders’ preferences over outcomes, but by influencing their beliefs and hence their choice of means to reach their intended outcome.

7.3 Implications for Future Research

I conclude with a few thoughts regarding the implications of my research in this dissertation for future potentially fruitful research agendas within political science. I would suggest that it is likely to be particularly useful to pursue further research into two sets of factors that shape policy choice more generally.

First, my research points to the importance of further investigation into how political leaders acquire systems of causal beliefs that influence their policy choices. As I discuss in chapter 2, any rational choice account of how political leaders make decisions (or more generally any intentionalist account of decision-making), consists of a specification of the preferences, constraints, and beliefs of decision-makers (c.f., Gintis
2009, Elster 1986). The decisions of actors are influenced by what they believe their feasible set of actions to be, the causal relationships that they believe to exist in the world, and the probabilities that they assign to uncertain outcomes. In many policy domains these are not simply self-evident but rather depend on the systems of causal and ontological beliefs that actors hold about the world – what I label “cognitive frameworks”. It is a fair characterization, however, to say that much research in political science leaves aside entirely the question of the causal beliefs held by actors and focuses instead upon explanation based upon assumptions regarding the preferences and constraints that actors face. Moreover, when researchers do invoke “beliefs” in explanations, they often do so in a way that conflates or includes both normative commitments to desirable ends (i.e., preferences) and causal beliefs regarding the relationships between economic, social and political variables (c.f., Hall ed. 1989; Haas 1992; Jenkins-Smith and Sabatier 1994). While it is certainly true that the normative preference commitments of actors are often correlated with the systems of causal beliefs which they hold (e.g., Marxism, free-market fundamentalism), these do not necessarily go together and they are appropriately understood as separate elements that enter into accounts of the decision-making process of actors. A fruitful area for future research is therefore to investigate explicitly how and why the normative preference commitments and systems of casual belief that actors hold covary. Moreover, it is important to better understand how systems of causal belief emerge and how they change over time. I have
argued that adaptive learning in response to “events” is often important and that this involves more than just simple Baysean information updating and includes changes in theoretical beliefs regarding casual relationships. I suggest that it is likely to be fruitful to expand investigation of the mechanisms of learning and change of cognitive frameworks and of how leaders acquire such frameworks.

Second, my research points to the importance of combining theoretical accounts of the causal importance of cognitive frameworks with rigorous discussion of the preferences and constraints facing decision-makers. Often these are treated as either-or theoretical alternatives – researchers argue for the explanatory power of “beliefs” versus “constraints” or vice versa. A proper understanding of the constituent elements of intentionalist or rational choice explanation requires, however, that these elements be integrated in rigorous causal explanation.

I have attempted in this dissertation to offer a theoretical account that moves in these directions. I would hope that this inspires other researchers to consider these issues more generally and to advance our common understanding of these issues.
Appendix A: Structure of Financial Regulation in the United States

This appendix provides a brief overview of the major financial regulatory agencies in the United States and of the division of responsibilities between different regulators from approximately the mid-1930s through 2010. The U.S. Congress was actively considering major changes to this regulatory framework as I write this Appendix in 2010. I discuss these changes in Chapter 6 above.

Since the Banking Act of 1864, the United States has had a so-called “dual-banking system” in which banks can choose to be chartered either by state banking authorities as “state banks” or to be chartered by the federal government as “national banks”. Each state legislature has the power to set regulations governing the state banks chartered in its home state, with the state bank regulators of each state empowered to implement state bank regulations and supervise banks chartered by the state. The authority to regulate and supervise commercial banks is shared between three federal agencies: the Office of the Comptroller of the Currency (OCC), the Federal Reserve System, and the Federal Deposit Insurance Corporation (FDIC). The authority of these different regulators overlaps with one-another and with that of the state regulatory agencies as specifically described below. Table 3 summarizes this information.
**Table 3: Structure of Commercial Bank Regulation and Supervision**

<table>
<thead>
<tr>
<th>Type of Bank</th>
<th>Chartering Authority</th>
<th>Primary Regulator</th>
<th>Fed Membership</th>
<th>FDIC Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Bank</td>
<td>Comptroller of the Currency</td>
<td>Comptroller of the Currency</td>
<td>Mandatory</td>
<td>Mandatory</td>
</tr>
<tr>
<td>State Member Bank</td>
<td>State banking agency</td>
<td>Federal Reserve</td>
<td>By Choice</td>
<td>By choice</td>
</tr>
<tr>
<td>State Non-member Bank</td>
<td>State banking agency</td>
<td>State banking agency</td>
<td>Non-member</td>
<td>By choice</td>
</tr>
<tr>
<td>State Non-insured Bank</td>
<td>State banking agency</td>
<td>State banking agency</td>
<td>Non-member</td>
<td>Not FDIC Insured (may be state insured)</td>
</tr>
</tbody>
</table>

The **Office of the Comptroller of the Currency (OCC)** was established as a bureau of the Department of the Treasury by the National Currency Act of 1863, which was completely rewritten and replaced by the National Bank Act of 1864. The Comptroller of the Currency is appointed by the President, subject to the advice and consent of the Senate. The Comptroller serves a five year term. The OCC is the primary supervisor for national banks and has authority to examine national banks, issue rules and regulations governing safe and sound banking practices, and to take actions against banks that do not comply with prudential standards. The OCC has sole authority to approve or deny applications for new national bank charters. The Comptroller also
serves as an *ex officio* member of the five member board of the FDIC and therefore has some influence upon the decisions of FDIC (see below).

The **Federal Reserve System** (the “Federal Reserve”) was created by the Federal Reserve Act of 1913, with important modifications to the organization of the Federal Reserve enacted in the Banking Act of 1935 as described in Chapter 5. All national banks are required to become members of the Federal Reserve System (“**member banks**”), while state banks can choose to become members of the system (as “**state member banks**”). All member banks (both national and state member banks) belong to one of twelve geographic districts and are required to subscribe to the capital of the Federal Reserve Bank in that district as shareholders. All member banks have access to the discount window of their respective Federal Reserve Bank. The Federal Reserve has secondary authority for the regulation and supervision of national banks and state member banks, whose primary regulators and supervisors are, respectively, the OCC and state bank regulators. The 1956 Bank Holding Company Act established the Federal Reserve as the primary regulator and supervisor of **bank holding companies**, even if the subsidiaries of a the bank holding company has another regulator as its primary supervisor. The Gramm-Leach-Bliley Act of 1999 authorized the creation of **financial holding companies** (“FHCs”), and established the Federal Reserve as the Primary Regulator for FHCs. The subsidiaries of financial holding companies are subject to “functional regulation”, which means that each subsidiary is regulated by the federal or
state regulatory responsible for that functional area. The OCC is the primary regulatory of bank subsidiaries, the SEC is the regulatory of securities subsidiaries, and state insurance boards regulate insurance subsidiaries. The Federal Reserve also has sole responsibility for the regulation of the U.S. operations of foreign banks and of the foreign operations of U.S. banks.

The Federal Reserve System consists of twelve regional Federal Reserve Banks representing twelve districts and a Board of Governors located in Washington, D.C. The chief executive officer of each of the twelve Federal Reserve Banks (the “President”) is appointed to a five year term by the Board of Governors of that Federal Reserve Bank, subject to the confirmation of the Board of Governors in Washington, D.C. The Board of Governors of each Federal Reserve Bank consists of nine directors who serve three year terms, divided into three classes with three members each. Class A directors represent member banks of that district and are usually bankers; Class B directors represent the public “with due consideration to the interests of agriculture, commerce, industry, services, labor, and consumers”; and Class C directors are appointed by the Board of Governors in Washington. Class A and B directors are elected by member banks in the district, with large, medium, and small capital banks each selecting one director. The board of directors of each Federal Reserve Bank initiates changes in the discount rate for banks in their district, subject to the approval of the Board of Governors in Washington.
Significant supervisory responsibilities are delegated to the Federal Reserve Banks by the Board of Governors.

The **Board of Governors** in Washington is composed of seven members appointed by the U.S. President to staggered fourteen year terms, subject to the advice and consent of the Senate, with the President required by law to select a “fair representation of the financial, agricultural, industrial, and commercial interests and geographical divisions of the country.” The Chairman and Vice-Chairman of the Board are selected by the President to serve a four year term, subject to the advice and consent of the Senate. The Board of Governors must approve any changes in the discount rate initiated by a Federal Reserve Bank and has sole authority over changes in bank reserve requirements. Within the Federal Reserve System the authority to supervise banks and to issue regulations governing bank operations resides with the Board of Governors, which delegates important supervisory responsibilities to the Federal Reserve Banks.

The **Federal Open Market Committee** ("FOMC") is composed of the seven members of the Federal Reserve Board, the president of the Federal Reserve Bank of New York (as a permanent member), and the presidents of four other Federal Reserve Banks who serve on a rotating basis. The FOMC is responsible for setting and overseeing policy regarding open market operations. Open market operations are now the most important of the three main tools of monetary policy which include: open market operations, reserve requirements, and the discount rate.
The Federal Deposit Insurance Corporation (FDIC) was created by the Banking Act of 1933. The FDIC is governed by a five person Board of Directors, all of whom are appointed by the president and subject to Senate confirmation. The Comptroller of the Currency and the Director of the Office of Thrift Supervision are both *ex officio* members of the Board and their appointment and confirmation occurs in connection with the other offices that they hold. The FDIC is responsible for administration of federal deposit insurance; examination and supervision of commercial banks which are insured by the FDIC (in conjunction with the primary regulators of such commercial banks); and the management of receiverships and liquidations of failed banks.

The Office of Thrift Supervision (OTC) was created in 1989 and is responsible for the regulation and supervision of federally-insured thrift institutions. The OTC replaced the Federal Savings and Loan Insurance Board (FSLIC) which was abolished in 1989. Thrifts (or “savings and loan associations”) operate under a system of chartering and regulation that grew separately from that governing banks. As a result of reforms in the 1980s, their powers are now similar to those of commercial banks.

The Securities and Exchange Commission (SEC) was created by the Securities and Exchange Act of 1934 and has the authority to regulate the primary issuance and secondary trading of securities as these are defined in the act. The SEC has regulatory oversight of securities exchanges. The Maloney Act of 1938 authorized the registration and creation of national securities associations and authorized the SEC to delegate
(subject to SEC review) supervision and enforcement powers to such “self-regulatory organizations” or “SROs” to monitor the conduct of their own member firms and employees. As a result of the Investment Company Advisors Act of 1940, the SEC also regulates companies that offer investment advice (including mutual funds). The SEC has statutory authority to set accounting rules and standards. The SEC has delegated this authority to a private body, the Financial Accounting Standards Board.

The **Financial Accounting Standards Board (FASB)** is a private non-profit foundation. The SEC has delegated authority to set accounting rules to the FASB.

The **Commodities Futures Trading Corporation (CFTC)** was created in 1974 with the authority to regulate commodities futures and options markets. The Commodity Futures Modernization Act of 2000 explicitly prohibited the CFTC from regulating trading in over-the-counter (“OTC”) derivates provided that the transactions are conducted between sophisticated counterparties.

Insurance has traditionally been regulated by **State Insurance Commissions**. The McCarran-Ferguson Act of 1945 confirmed that state governments would retain exclusive authority for the regulation of insurance companies. State insurance commissions have attempted to coordinate and harmonize their regulatory activities through the National Association of Insurance Commissioners (NAIC). In 1993, the NAIC agreed to uniform basic risk-based capital requirements for insurance companies.
The insurance subsidiaries of federal financial holding companies are regulated by state insurance commissions.

The following financial markets are not regulated: foreign exchange trading; U.S. Treasury securities; over-the-counter (“OTC”) derivatives; “private placements” of securities as defined by the Securities and Exchange Act of 1934; nonblank lenders; and Hedge Funds (CRS, February 24, 2009).
References


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