

Commitment Problem, Economic Inequality and Institutional Reform in Authoritarian

Regimes: A Case Study of China

by

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Thesis submitted in partial fulfillment of
the requirements for the degree of
Master of Arts in the Department of
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ABSTRACT

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Abstract

Under authoritarian rule, investors' fear that their assets will be arbitrarily confiscated by the government weakens their incentives to make an investment, unless the commitment that the authoritarian government will favor capital owners is credible. In the case of China, the reform comprising decentralized economic competition and career mobility within bureaucracy to some degree substitutes the commitment. The prospect of promotion based on the performance in economic competition induces local government officials to shelter the investors. This policy bias in a long run, however, gives rise to a new commitment problem as it triggers the economic inequality between factor owners. As inequality grows, for placating the suffering factor owners who may organize massive collective actions to overturn the regime, the government has an incentive to redistribute revenues between factor owners. Recognizing this risk, investors hold up investment, particularly in projects with significant exit costs that may result in being captured by the government. The novel mechanism proposed by the Chinese Communist Party to solve this commitment problem in order to stimulate the economy is to co-opt entrepreneurs, ensuring their stake in regime's long-term survival and development. This logic explains the dynamics of political and economic institutional reform and the development of the private sector in China.

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1. Introduction: A Fundamental Commitment Problem in Authoritarian Economic Development

After Mao's death, the newly established leadership realized that economic development rather than ideological control should be the imperative for the Chinese Communist Party to keep the loyalty of the masses. The Third Plenary Session of the Chinese Communist Party 11th Central Committee held at the end of 1978 represented the beginning of adopting the pragmatic doctrine. Since 1979, China has consistently pursued policies of Reform and Opening Up. Major efforts have been made to readjust the economic structure, involving decollectivization of agriculture, opening up of the country to foreign investment, and permission for entrepreneurs to manage businesses. After the initiation of the reform, China enjoyed an economic boom with a constantly high rate of growth over 7% in the past the three decades. As the world's largest exporter and second largest importer, today China is a major economic power in the globe.

What exactly is the content of the Reform and Opening Up proposed by the post-Mao leadership? What is the mechanism contained in the reform that has oriented China into a path of growth? A consensus among students of economics is that the liberalization of capital market as a main practice of Reform and Opening Up explains the "China's economic miracle". Since Reform and Opening Up, a gradually expanding private sector has been one of the essential components of China's economy. In 1978 the

private sector virtually did not exist, whereas in 2011 it was estimated that was the domestic private sector contributed about two-thirds of gross domestic product (GDP). In the end of 2010, the number of private enterprises reached 4.68 million, accounting for over 70 percent of total enterprises. The share of the country's employment in the private sector has been greater than that in the public sector. The total registered funds of the private sector surpassed 19 trillion yuan (\$2.89 trillion) by the end of 2010, with an average growth rate of 20.1 percent year-on-year.

Nevertheless, different opinions against the story of constant private-sector expansion are not muted. Yasheng Huang (2008) in his book *Capitalism with Chinese Characteristics* for the first time within the scholarship of Chinese political economy estimates the size of fixed-asset investment made by private sector. He clusters two types of entities – self-employed household business (*getihu*) and privately run enterprises (*siying qiye*) – as private sector and calculates the private share of total fixed-asset investment. Table 1 presents his calculation of private share during different time periods. According to the data he collected, Yasheng Huang challenges the idea held by mainstream economic scholars that during the past three decades China has experienced a gradually liberalized improvement in the aspect of private economy. He argues that the blessing story of the private sector merely occurred in 1980s, after the Tiananmen Crackdown Chinese economy encountered a huge drop in the private sector activities and the liberalized reform was actually reversed until 2002 when the

leadership of Jiabao Wen and Jintao Hu were beginning to takeover. This argument, although not a mainstream one, receives much attention and stirs a new round of debate on what China's reform really looks like.

Table 1: Yasheng Huang's Measurement of Private-sector Fixed-asset Investment

	1981 - 1989	1990 – 1992	1993 - 2001	2002- 2005
Private share of total FAI	21.4	19.8	13.3	14.7

Source: Yasheng Huang, *Capitalism with Chinese Characteristics: Entrepreneurship and the state*, Vol. 1. Cambridge: Cambridge University Press, 2008.

To assess which side exactly gets Chinese story right, I collect data from China Statistical Yearbook 1980 – 2012, edited by National Bureau of Statistics. In my measurement, I use a different definition of private sector than Yasheng Huang's. From my point of view, his estimates are somewhat problematic especially with regard to the data for the period after 1990 as he inaccurately defines private enterprises in his dataset. As I just mentioned above that his definition of private sector includes two types of entities, however, this classification could only capture the ownership types in the 1980s. In 1990s, new types of private ownership emerged, such as joint ownership, cooperative ownership, limited liability ownership and share-holding ownership. He does not include them, creating an obvious underestimation problem. Figure 1 presents the trajectory of private share in total fixed-asset investment after I add these new types of

private ownership. Table 2 shows the average private share of total FAI for the four periods that Yasheng Huang emphasizes.

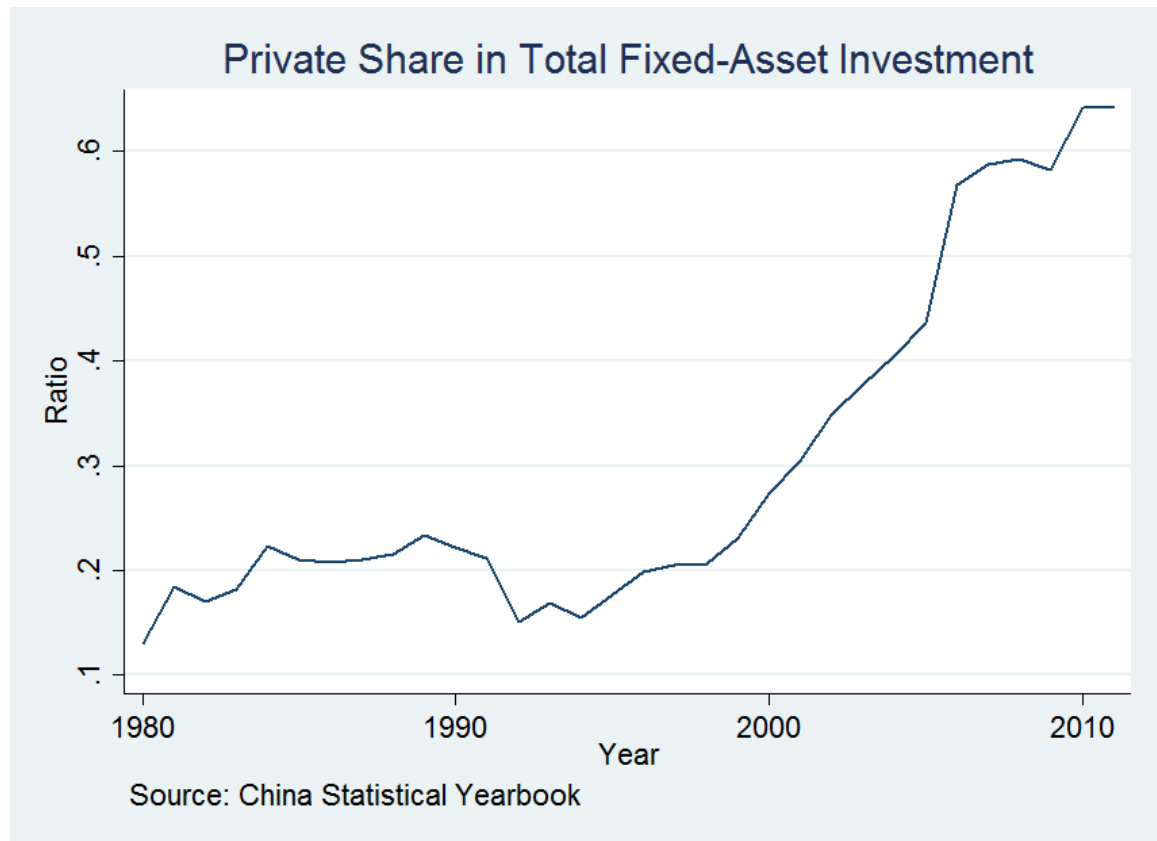


Figure 1: The trajectory of the non-state share in domestic investment in fixed assets, 1980 to 2011.

Table 2: Measurement of Private-sector Fixed-asset Investment With a Different Definition

	1981 - 1989	1990 - 1992	1993 - 2001	2002- 2011
Private share of total FAI	19.7	19.4	21.3	51.9

Source: China Statistical Yearbook.

It appears that none of the two versions of China story is perfectly correct. The drop of private sector activities in 1990s was not so significant as Yasheng Huang suggested. The private sector, however, was not expanding at a constant speed as those who embraced the idea of gradualist improvement. The development of the private sector was indeed quite slow in 1990s compared to its later momentum in 2000s. Despite of the disagreement on what trajectory has the private sector in China has exactly followed, a fair conclusion we could draw from the data is that private investment has made a significantly positive contribution to the total investment (from 0 contribution to over a half within only 30 years!). It is therefore not unreasonable to attribute China's economic growth to the burgeoning private sector as it has effectively made use of capitals that enables the economic development to sustain.

If we attempt to attribute this rapid economic growth to the emergence and expansion of the private business sector, however, a fundamental question needs to be answered in the first place: **why are those who bear entrepreneurship willing to run business and make use of the accumulated capitals to invest under an authoritarian regime like China?** This question is of substantive meaning as students of political economy have for long been involved in the debate whether authoritarian governments are an impediment to growth. The answer to this question derived from the experience of China could deepen scholarly understanding of the conditions under which authoritarian regimes could achieve economic growth in the long run.

Since North and Weingast (1989), scholarship has paid a great amount of attention to the commitment problem in authoritarian economic development. The uncertainty of property rights protection will hold up the incentives of the investors because of the fear that their investments will drain down all of a sudden. Thus long-run economic growth is unlikely absent the involvement of capitals, unless the commitment that autocrats will honor private property rights is incredible. Unfortunately, for autocracies, on most occasions the credibility of this commitment is suspect due to 1) a usually short time horizon of dictators that renders them to be inclined to expropriate asset owners and extract resources from economy (Olson, 1993); 2) a lack of institutional constraint on dictators that could circumvent the arbitrariness of the dictatorial leaders. This commitment problem casts doubt on investors' motivation to participate in economic activities, and thus hinders economic development in authoritarian regimes in the long run.

In China, class struggle aimed at clearing “capitalist roaders” officially came to its end in 1978 when Session of the Chinese Communist Party 11th Central Committee announced that China should prioritize economic development. The concern however remained that the authoritarian regime under the rule of the Chinese Communist Party could still arbitrarily confiscate private assets. Politically, many cadres continued to believe that private ownership in particular and capitalism in general was inconsistent with China's still socialist economy (Dickson, 2007). The voice that private businesses

should be banned and private business owners should be punished was not muted within and outside the Communist Party. The legal status of private economy has been much weaker than that of state-owned and collective economy until the 18th National Congress of the Chinese Communist Party in 2012, stating that “we must unwaveringly encourage, support and guide the development of the non-public sector, and ensure that economic entities under all forms of ownership have equal access to factors of production in accordance with the law, compete on a level playing field and are protected by the law as equals”¹.

For most years in the 1980s, bearing the concern of political risk, the private sector limited itself to individually owned enterprises and these enterprises normally hired very few workers – there is a seven-employee rule for the individual economy. Capital stock remained on a relatively low level. Consequently, it is not surprising that the economic development in industries which are centered around cities was not stimulated even the announcement of economic liberalization was made. Especially when compared to rural areas, economic growth in the cities was quite sluggish in 1980s.

Although my focus in this paper is on the economic growth related to capital investment, I will discuss briefly about the improvement of rural economy in China,

¹ Hu Jintao, general secretary of the Central Committee of the Communist Party of China (CPC) and Chinese president, delivers a keynote report during the opening ceremony of the 18th CPC National Congress at the Great Hall of the People in Beijing, capital of China, Nov 8, 2012.

which is mainly associated with the incentive enhancement of rural labor force. The economy in rural areas was animated through the adoption of a new contractual relationship between peasants and collectives. After rural economic system was reshaped into Household Registration System, peasants obtained residual claims and control rights over the production of their land, resulting in a tremendous rise in rural production².

For those who possess entrepreneurship, what renders the change of their incentives possible in the later period, if Chinese leadership's announcement of the resurrection of the private sector in political statements, decrees, regulations and laws is not credible? Why would ordinary citizens turn to have confidence to embark on new business ventures in the face of the looming risk of asset confiscation? The solution relied on the creation of politico-economic institutions that could shape the growth-oriented incentives of the authoritarian rulers and constrain the extractive behaviors of the authoritarian rulers, serving as a credible mechanism to overcome the commitment problem. Absent effective institutions that to some extent can restrain the arbitrariness of the authoritarian government while are compatible with business actors, the entrepreneurial incentives can hardly be activated, and the Chinese Communist Party is unable to achieve its goal to push for economic growth. This failure to develop

² Compared with urban reform, the reform in rural areas was taken quite spontaneously on the grass-roots ground rather oriented by the state, and the government was much more hands-off in coordinating rural reform. In 1978, Xiaogang Village in Anhui province was the first one that changed the contractual structure of rural economy to Household Responsibility System. This experience was then introduced to other rural areas.

economy would bring about some concerns on the legitimacy of the Chinese Communist Party's rule over 1.3 billion of population. Keeping a sense of this hazard, the Chinese Communist Party has been seeking for reforms to keep a roaring economy in the past three decades. So far it has been successful in executing this task, although situation is getting tougher for the party to handle as numerous uncomfortable byproducts of growth have been appearing. For the researchers on political economics, the most relevant inquiries regarding these reforms are: 1) what constitutes the core of the series of China's institutional reform? 2) What is the mechanism maintaining the incentives of market participants, despite of the uncomfortable byproducts (e.g. economic inequality), that enable the economy to prosper? This paper attempts to integrate explanations of China's development from different perspectives into a coherent theoretical framework of institutional analysis. Of course, it does not claim to offer a complete understanding of China's economic development, nor does it intend to defend authoritarianism, but to gain the insights based on a case study of China into the relationship between politico-economic institutions and economic growth in authoritarian regimes.

2. Career Mobility within the Cadre System and Decentralized Economic Competition

Beginning in 1980s, the reforms of China's cadre system and central-local relationship in economic governance catalyzed the great transformation from a planned economy to a market economy. These reforms helped construct an incentive-based framework under the condition that economic inequality between factor owners was low, mitigating the principle-agent problem involving the central government and subnational governments, and aligning the interest of local governments and entrepreneurs. Therefore entrepreneurs have the incentive to invest and economy is able to grow.

2.1 The Reform of Cadre System

The cadres in the Chinese Communist Party were quite aged at the end of 1970s. Many old but influential party members returned to highly ranked positions which they possessed before they were knocked down during the Cultural Revolution. As Svulik (2012) has prominently pointed out that an effective promotion and retirement policy is essential for the maintenance of a party's dominance, an ageing party is exposed to a serious survival problem. The younger generation, especially those who are talented and able to organize massive mobilization, could form an strong opposition against the incumbent single- or dominant-party based regime or give up their efforts to serve the interest of the party, if they could not receive enough benefits from joining the party due to the low prospect of promotion. In order to maintain the efforts of the junior party

members, the regime must operationalize a minimal rate of promotions and balance its promotion and retirement. As these implications suggest, upon the consideration of regime survival, the leadership of the Chinese Communist Party decided to reform the cadre system by institutionalizing promotion and retirement within the cadre system.

Deng Xiaoping in 1980 first proposed the idea of “Four Modernization of Cadre System”, referring to revolutionalization, rejuvenation, intellectualization and professionalization. These four criteria were then included in the Constitution of the Chinese Communist Party in the 12th National Congress of the Chinese Communist Party. Revolutionalization requires that all the cadre members should obey the order from the party and stick to the Four Basic Principles, so that the party could keep its authority in directing the reform. Meanwhile the other three criteria in fact signaled to the junior members in the cadre that they would have a significant prospect of promotion. Abolishing life-time tenure, setting term limits for office and promoting juniors from The Communist Youth League of China can be viewed as rejuvenation. What could be perceived as intellectualization and professionalization is the appointment of intelligent university graduates to key positions of which the duty is mainly coordinating the economic reform by using their knowledge acquired in the university. The executor of this cadre reform is the Central Organizational Department of the Chinese Communist Party as the personnel control of the Chinese Communist

Party is highly centralized to the Central Organizational Department. It assesses all the local cadres above municipal levels according to the newly established principles.

To formalize the argument of why this organizational feature could fare well with the party leadership's goal of economic growth, I may construct a simple model based on Svolik (2012)

¹ as follows. Suppose that there are only two ranks inside the party, which are a junior rank and a senior rank. Each party member i lives indefinitely over time periods $t= 1, 2, \dots$. In any period, a party member could at least receive benefits of a at every period and I assume that once joining the party one could keep his membership permanently with no chance of being purged. For a junior party member, he could choose to work hard or shirk. Working hard entails an effort e . Promotion to a higher rank could increase the benefits of a party member from a to b , where $b > a$.

For a junior member, if he chooses to deliver service with an effort e , he has a prospect of promotion with the probability $p \in [0, 1]$, while if he pays no effort in serving the party, the probability for him to be promoted is 0 and he receives a fixed wage a indefinitely.

The party member i 's expected payoff from making an effort of e , which begins at the junior level, is

$$u_i^J = \delta [pu_i^S + (1 - P)u_i^J] , \tag{2.1}$$

¹ Svolik (2012) develops a model by comparing the durability of authoritarian regimes with and without a single- or dominant- party. The present model mainly focuses on the optimal arrangement of promotion and retirement in a two-level party in an authoritarian regime.

where δ represents how much the junior member discounts the future benefits, and u_i^S is the expected utility of being a senior member. Meanwhile, his expected payoff from shirking is

$$u_i = a / (1 - \delta) , \quad (2.2)$$

He is going to make a choice between delivering service and avoiding duty contingent on the structure of promotion and retirement policies in the party. Solving (2.1) for u_i^J yields

$$u_i^J = \frac{\delta p u_i^S - e}{1 - \delta(1-p)} , \quad (2.3)$$

where

$$u_i^S = b + \delta[r u_i + (1 - r) u_i^S] , \quad (2.4)$$

r is the probability of the retirement of this senior party member. After retired, he will receive benefits of w in every period. Equation (2.3) yields

$$u_i^S = \frac{b + \delta r u_i}{1 - \delta(1-r)} , \quad (2.5)$$

For a junior party member, he would choose to make efforts to serve the party as long as

$$u_i^J \geq u_i , \quad (2.6)$$

We could obtain

$$p \geq \frac{1 - \delta(1-r)}{\delta} \frac{e+a}{b-a} . \quad (2.7)$$

For the party, promotion costs resources. Thus the regime will keep an optimal level of promotion rate as

$$p^* = \frac{1 - \delta(1-r)}{\delta} \frac{e+a}{b-a} , \quad (2.8)$$

under which condition,

$$\frac{\partial e}{\partial p} = (b - a) \frac{\delta}{1 - \delta(1-r)} \geq 0 . \quad (2.9)$$

This differential equation shows that the effort the junior member is willing to make increases with the probability of promotion. If we assume $\frac{\partial p}{\partial g} \geq 0$, where g denotes the economic performance in the jurisdiction of a local governor, meaning the probability p increases with the economic performance, then we obtain

$$\frac{\partial e}{\partial p} \frac{\partial p}{\partial g} = \frac{\partial e}{\partial g} \geq 0 . \quad (2.10)$$

From the perspective on incentives, intuitively this reform provides a solution to the principle-agent problem that the central leadership is faced with in improving economy. The basic principle-agent problem is that, absent a high-power incentive mechanism, the central government and subnational governments may not be aligned with each other in their goals. By initiating the cadre system reform, however, subnational government officials could be incentivized to make efforts to achieve the goal the central government pursues as long as they have a significant prospect of being promoted after complying with the central government, just as the condition (2. 10) has shown. Under a performance-based promotion system, the governors of subnational governments will try every means in order to outperform governors in other regions to win the “tournament”. Therefore the Chinese Communist Party's switch of focus from

ideological campaign and class struggle to economic development is achieved through setting a yardstick competition between local governors for economic growth. (Maskin, Qian and Xu, 2000). Empirical evidence has shown that local governors are incentivized to prioritize economy in order to receive political benefits (Li and Zhou, 2005; Xu 2011). Although Adolph, Shih and Liu (2012) raises a counterargument that the probability of promotion for local officials is uncorrelated with the economic performance within their jurisdictions, the incentive of economic performance still works as it is the baseline criterion, even not a distinguishing one, in evaluating local officials. A local governor would not necessarily get promoted because of a superior ability to manage economy, but would be very likely to lose his chance of promotion if he is unable to show a satisfactory economic performance.

This top-down solution to the principle-agent problem faced by the central government actually also aligns the interest of local government officials and entrepreneurs, serving as a *de facto* commitment mechanism that assures the entrepreneurs that local governments would be very supportive in protecting their property rights and providing with them various favorable policies.

2.2 Decentralized Economic Competition

Economic decentralization is a necessary condition for the incentive framework to function effectively. For the central leadership, as a result of the cadre system reform the ability of subnational government officials to manage regional economy is the major

criterion that dictates who should be promoted. Therefore, to allow a certain degree of autonomy in economic policies and delegate part of the authority of managing economy to subnational agents is a rational approach that should be simultaneously taken by the central government. By doing so, local government officials rather than central commend on economic policies are held responsible for the economic performance within their own jurisdictions. The central government could thus more easily identify the talented for promotion.

How decentralized is China's economy? Before the reform, China was a stereotype central-planned commend economy with collective-owned and state-owned enterprises as its major components. As mentioned above, the governance of the national economy is delegated to subnational governments, their responsibilities include providing public goods such as investing in infrastructure, education and health, managing state-owned endowment like land acquisition and granting, etc. Being hands-off on local economic governance, the central government is acting as a coordinator to carry out fiscal and monetary policies for stabilizing the national economy and implement national industrial policies for adjusting the economic structure. The number of state-owned enterprises that the central government is in charge is only 116 at the end of 2011. While for subnational governments, regional-level economies (provinces, prefecture, and municipalities) are quite autonomous. On each level of regional government, a counterpart of each central ministry is set to be led by regional

government, thus economic decisions and the use of funds can be made on local governors' discretion. Figure 2 presents the governance structure of Chinese economy, and Table 3 shows the change of central and local shares in total government expenditure.

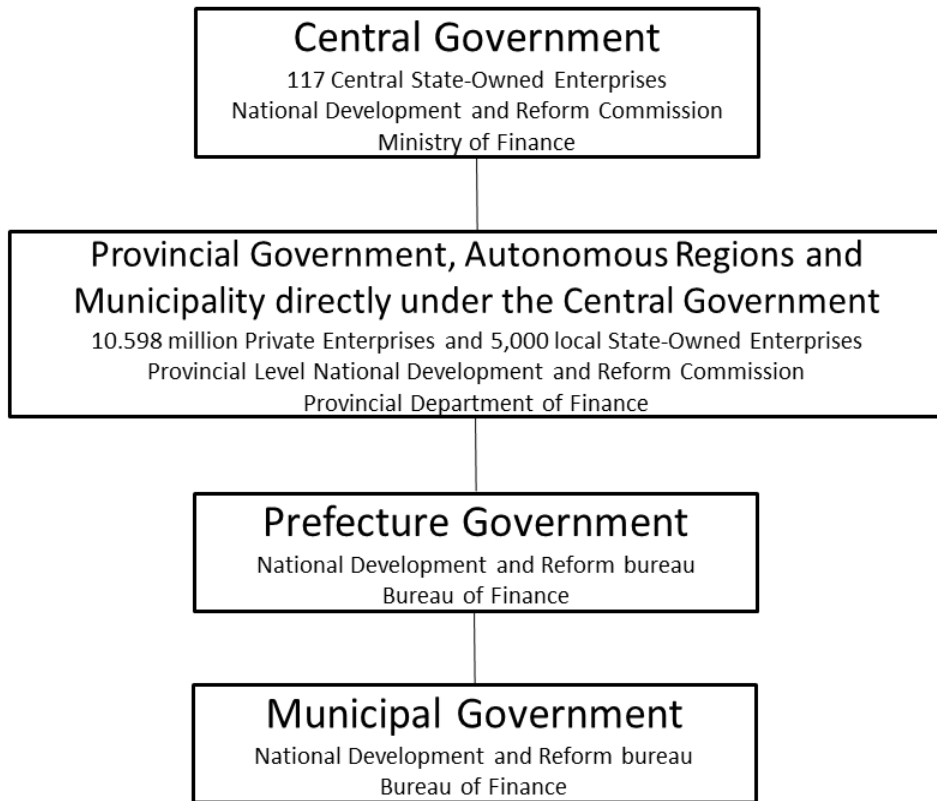


Figure 2: The Structure of Chinese Economic Governance

Table 3: The Share of Local and Central Government in Total Government Expenditure.

	National Government Expenditure (million yuan)	Central Government (million yuan)	Local Government (million yuan)	Central Share (percentage)	Local Share (percentage)
1978	1122.09	532.12	589.97	47.4	52.6
1980	1228.83	666.81	562.02	54.3	45.7
1985	2004.25	795.25	1209	39.7	60.3
1990	3083.59	1004.47	2079.12	32.6	67.4
1991	3386.62	1090.81	2295.81	32.2	67.8
1992	3742.2	1170.44	2571.76	31.3	68.7
1993	4642.3	1312.06	3330.24	28.3	71.7
1994	5792.62	1754.43	4038.19	30.3	69.7
1995	6823.72	1995.39	4828.33	29.2	70.8
1996	7937.55	2151.27	5786.28	27.1	72.9
1997	9233.56	2532.5	6701.06	27.4	72.6
1998	10798.18	3125.6	7672.58	28.9	71.1
1999	13187.67	4152.33	9035.34	31.5	68.5
2000	15886.5	5519.85	10366.65	34.7	65.3
2001	18902.58	5768.02	13134.56	30.5	69.5
2002	22053.15	6771.7	15281.45	30.7	69.3
2003	24649.95	7420.1	17229.85	30.1	69.9
2004	28486.89	7894.08	20592.81	27.7	72.3
2005	33930.28	8775.97	25154.31	25.9	74.1
2006	40422.73	9991.4	30431.33	24.7	75.3
2007	49781.35	11442.06	38339.29	23	77
2008	62592.66	13344.17	49248.49	21.3	78.7
2009	76299.93	15255.79	61044.14	20	80
2010	89874.16	15989.73	73884.43	17.8	82.2

Source: China Statistical Yearbook

To illustrate the effect of decentralized competition on economic growth, I will develop a simple model. Consider a setting with three types of players: local

governments A and B , capital owners C and labor force L . Here I assume capital and labor are the key factors of production that generate revenues and economic growth. In reality some other factors of production are also very important, such as land. Here I take labor force as a representative of factors that are complementary to capitals in production. The basic logic and conclusion of the model will remain the same if in this game labor force is replaced by land owners. Governments A and B have identical preference and face alike constraint. For capital owners, once investments are made, the invested projects succeed and revenues R are generated. The labor supply is inelastic, meaning that they would choose to work as long as capital owners need labor force, which to some extent reflects the fact that almost unexhausted immigrant workers flush into the cities to find jobs. As capital owners' concern whether they could reserve the fruits of investments determines their investment decision, the focus of this model therefore is the revenue allocation between three types of players.

The order of players' movement, given the setting that government A and B are in competition for mobile capitals, is that 1) governments A and B respectively propose a plan of revenue allocation, 2) capital owners choose a location to make an investment, and 3) the government which has attracted the investment allocates the generated revenues. There is no asymmetric information in this game.

Assume W_i is the wage labor force could earn within the jurisdiction of government i , where $i \in \{A, B\}$. Here I assume that the local government could

intervene into the labor market to dictate wage contracts between the labor force and capital owners. The wage therefore does not reflect the equilibrium price in a pure competitive labor market. Although seems extreme, this assumption captures the reality in 1980s and 1990s that the labor market in China was highly unprotected and distorted, absent any form of labor organization that could have rendered labor force able to resist coercive power of the local government. The utility function of labor force is

$$R_L = \beta W_i ,$$

β is the marginal utility of labor force's wages. It could also be viewed as a proxy of economic inequality. A rise in economic inequality could mean an increase in the income gap between different factor owners (e.g., capital owners and labor force). Intuitively, the greater the income gap between capital owners and labor force, the greater the marginal utility of wages for labor force. A very unequal society thus has a great value of β . The benefit a local government could receive from the total revenues is assumed to be r_i , which denotes local government officials' theft of the revenues that serves their personal consumption. Therefore, the share of revenues capital owners could receive from the investment (if they invest) is

$$R_c = R - r_i - W_i ,$$

I assume capital owners only have motives to invest if expected returns exceed a certain reservation value ρ , ρ could be any small positive number. In other words, as

long as expected returns are positive, capital owners are motivated to invest. For a local government governor, we define his utility function as

$$R_{G_i} = \begin{cases} \theta [R - W_i - r_i] + r_i, & \text{for C chooses to invest in } i \\ 0, & \text{otherwise} \end{cases} .$$

This utility function captures the incentive mechanism that the central government imposes on local government officials. θ represents how effective the incentive is and it can be illustrated in two different veins. First, θ could be viewed as a measurement of how tolerant the central government is towards local government officials' theft of revenues. Presumably, the more tolerant the central government, the lower the value of θ as opposed to the coefficient of r_i . Second, θ represents the opportunity cost for local government officials to defy the central government in policy implementation. In other words, the loss is tremendous once the local agent is divergent from the policy platform of the central government when the value of θ is high because the local agent may lose the opportunity of promotion and other political and economic benefits. For the sake of simplicity, θ in this paper is assumed to be a constant value greater than 1. This assumption reflects the fact that the central government of China has a high-incentive-power control over local governments. The head of the Chinese Communist Party frequently inspects local government governors in almost every aspect. Anyone as a local government header defying the central government would be

removed from his position, or even purged from Communist Party posts. The latter is the severest punishment for cadre members in this authoritarian regime that should be avoided at all costs. The downfall of several influential provincial government chairpersons who tried to challenge the central government or refused to comply with its policies have demonstrated the degree of political centralization in China. The most recent case was the removal of Bo Xilai, the Secretary of the most important city in southwest China and a Politburo member in the Chinese Communist Party before he was ousted.

Three elements are the major components of the local government official's utility function: the revenues that capital owners could reap on investment, the well-being of the labor force and the revenues the local government could obtain through revenue allocation.

Assuming $\theta > 1$ implicitly shifts the emphasis of the revenue allocation analysis onto how economic outcomes are distributed between capital owners and labor force, for it is always better off for a local government to allocate revenues between these two factor owners than to allocate revenues to itself (proofs in Appendix). Albeit seemingly extreme, this setting in its nature is in accordance with the incentive mechanism which relies on the performance-based (economic growth and inequality control) promotion. Furthermore, for a local government governor, he could not receive a share of government fiscal revenues without a principle-agent contract which is often seen in the

business world as a strong incentive. As his income is not dependent on how many taxes the government could levy from the tax base, government revenues is reasonably not as a strong incentive as political benefits for him.

Given the model setting, why and under what conditions could local competition, driven by the incentive of political promotion, facilitate the investments by surmounting the commitment problem? The following will elaborate the effects of competition between governments on local revenue allocation policies. Figure 3 shows the process of the game.

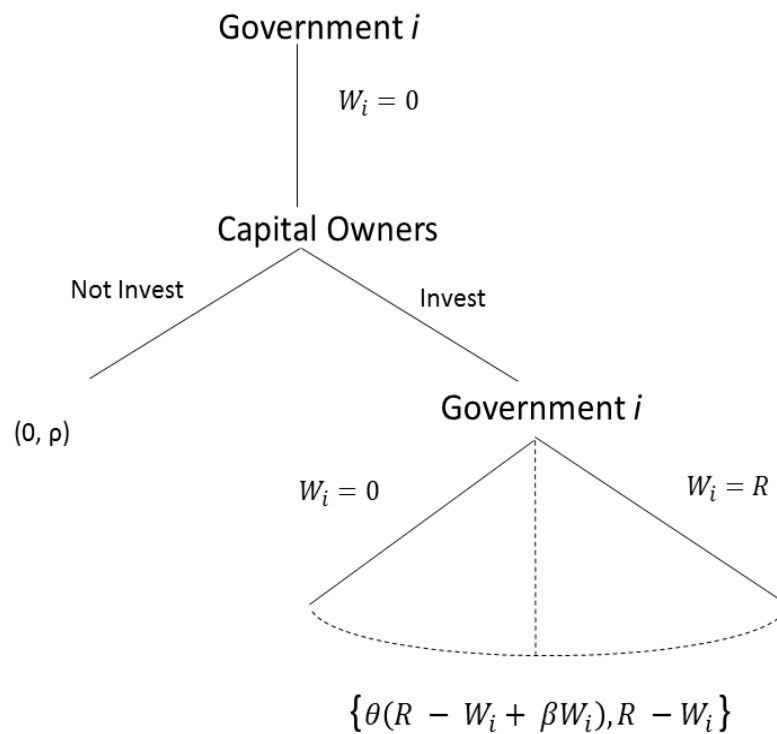


Figure 3: The Commitment Problem in a Three-Stage Game

Intuitively, in a yardstick competition among Chinese local governments, when a government proposes an allocation plan

$$(W_i, r_i) > (0, 0) ,$$

the other government could always propose a counterplan such as

$$(W_i - \epsilon, r_i - \epsilon), \epsilon \in (0, W_i) ,$$

to attract capitals. As a result, the latter could obtain a positive utility by offering such a plan. The process is like an auction in which two players are bidding for capital owners' investment.

Proposition 1. An equilibrium strategy of revenue allocation plan for both governments is

$$W_A = W_B = 0, \text{ if } \beta < 1 . \tag{2.11}$$

Proposition 1 suggests that the competition between local governments, when economic inequality between capital owners and labor force is moderate ($\beta < 1$), leads to a revenue allocation plan leaning to capital owners at the expense of labor force. In response to the offers made by local governments, capital owners make an investment in each region with the same probability of 0.5 as the plans are identical. Investors grab all the revenues, in contrast, the labor force cannot obtain any share of the revenues in this equilibrium. In this scenario, the commitment problem facing the investors is solved

since the revenue allocation plan is equivalent to a second-best, although not perfect, institution that protects property rights, as long as the economic inequality is low. Consequently, the capital owners have a very strong incentive to engage in local economic activities. Economic growth therefore is possible.

This proposition is an abstraction of the tension of interest between the capital owners and labor force or land owners under the circumstance of regional competition for growth. The facilitator of this type of tension is local governments. In China, state-owned enterprises began to dissolve after the reform in urban areas launched in the end of 1980s. As the demand for labor in private sector was increasing, labor force started to seek jobs in private sector. The role government played in preserving the welfare of labor force, however, was quite passive. Government shrugged its responsibility of providing labor force with health care, education benefits and social insurance. Labor force was unprotected when working in the private sector. In addition, government was very biased towards capital owners in their arbitration of disputes between labor force and employers. Similarly, farmers are the victims of local government officials who expropriate their land, leaving countless millions to face destitution. According to the Chinese Ministry of Land and Resources between 1998 and 2005 there were more than one million cases of illegal seizure involving at least 815,447 acres. The real number of such seizures is believed to be several times as high. Compensation for land confiscation, however, is negligible compared to the market

value of the land. After taking land from land “owners” (who possess the legitimate right to use the land), local governments typically grant it to capital owners who are investing in factory buildings. A large share of local government fiscal expenditure is for industrial infrastructure, such as power plants and roads around factory districts.

3. The Emergence of a Second-Level Commitment Problem as Inequality Rises

As has been emphasized above, although decentralized competition between governments has a positive effect on economic growth in China, labor force becomes a victim of the revenue allocation policy implemented by local governments. The unbalanced policy causes a greater economic inequality between capital owners and labor force as local governments favor capital owners in the revenue allocation process. A relentless exacerbation of labor force's welfare, however, is not costless. This deterioration of the well-being of labor force as a consequence of the local policy can lead to a serious problem that may cast doubt on the prospect of economic development in an authoritarian regime. I will demonstrate as follows why a new commitment problem facing capital owners will rise with an increasing inequality that can weaken their incentives to participate in economic construction.

Proposition 2 The government will renege on the offer to capitals if $\beta > 1$. In this situation the revenue distribution after revenues are generated is

$$W_A = W_B = R, \text{ if } \beta > 1 . \quad (3.1)$$

Proposition 2 shows that when $\beta > 1$, which implies that economic inequality is severe, the offer made by local governments to capitals is incredible even in the presence of decentralized competition. After capital owners invest in the region i , $i \in \{A, B\}$, they

turn out to be the victims because the government will defect from the promise previously made.

From the perspective of redistributive politics, with the growing inequality, the demand of labor force for a redistribution of economic outcomes becomes stronger. This increasing demand can be translated into collective actions that threaten the stability of an authoritarian regime. As Acemoglu and Robinson (2001), and Boix (2003) have argued, for autocracies which are not willing to give up its authoritarian rule when the degree of inequality is high, a rational strategy for autocrats is to make redistributive concessions to the poor. In order to preclude or at least limit the possibility of collective actions of the massive labor force, the government has a strong incentive to exploit capital owners once they have made their investments. This argument in fact represents the legitimacy issue of China's economic reform. The initial vision of the reform in the eyes of the Chinese Communist Party top leaders was to get a part of people wealthier than others, and then reduce the gap between the rich and the poor. This promise puts redistributive pressure on the Chinese Communist Party.

Through the lens of Chinese political system, one of the most important criteria in evaluating local government officials is their capability to keep the masses silent. The central government is very much concerned with the collective action problems. Even there is no nation-wide collective action, local level collective action still plagues the central government seriously as it easily diffuses, causing societal instability. For the

central government, if collective action emerges frequently, it has to approve a considerable amount of budget allocation to placate or to repress the aggrieved masses. This concession places a heavy financial burden on itself. As the central government hopes that its agents could handle the problem at the local level, it is reasonable to speculate that local governments would not stick to their *ex ante* promises to capital owners once the investments are done. As a result, local governments will turn to prey on the businesses, extracting revenues and resources. Under this circumstance, can capital owners cast a credible threat that they will flee in the face of being preyed on by local governments once governments renege? It depends on the exit costs for the investment.

Consider a simple five-stage repeated complete information game (see extensive-form game tree as follows) in which capital owners will incur an exit cost which is assumed to be $d \geq 0$ once they decide to divert investment. The order of players' movement in this game is that 1) government $i, i \in \{A, B\}$, offers a policy package $(0, 0)$ to the capital owners; 2) capital owners decide whether to invest in region i , if no investment is made the game is over; 3) the government allocates revenues if the investment is made; 4) capital owners decide whether to continue their investment; if not the game is over; 5) the government allocates revenues after capital owners invest.

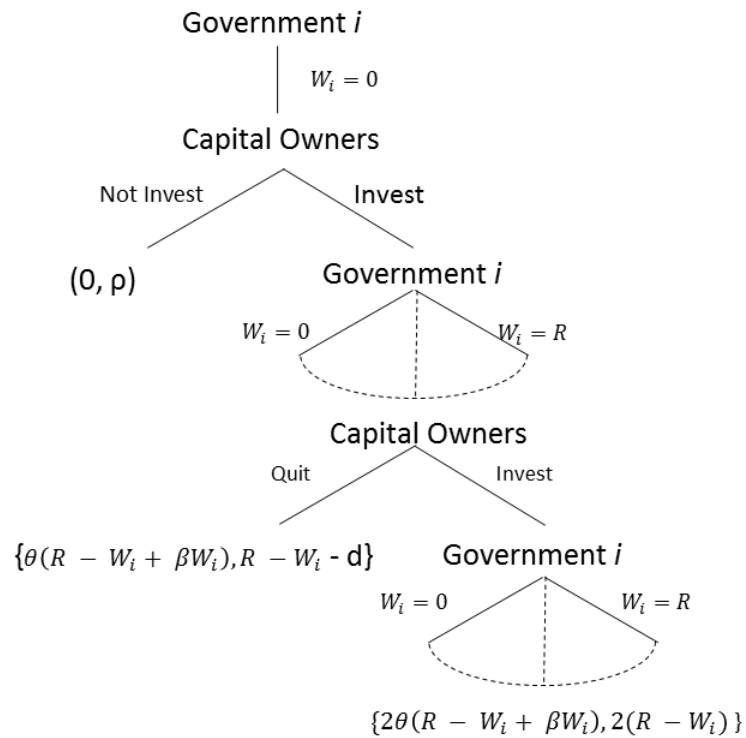


Figure 4: The Commitment Problem in a Five-Stage Game

A brief backward induction could unfold the fact why the existence of exit costs causes the commitment to be unsuccessfully enforced. Notice that the government's payoff is on the left side and capital owners' payoff is on the right side. If investment is made in stage 4, in stage 5 the government will grant the fruits of economy to labor force while granting nothing to capital owners ($W_i = R$). With this anticipation of stage 5, can capital owners in stage 4 impose a credible threat on the government by fleeing? Hardly, an exit cost encounters the investors once they make their mind to quit, meaning the threat is incredible. For the local government, expecting this incredible threat, in stage 3

it does exactly the same as it will do in stage 5 ($W_i = R$). As a result, these decisions of the government yield zero benefit to capital owners after they invest in the second stage. The ultimate outcome for investors to involve in economic activities is that they are captured by the local government. With this expectation that any promise made by the government in the first stage is a deception, the incentive for the entrepreneurs with considerable capitals to engage in economy is very weak. Intuitively, in the presence of horrible economic inequality, the higher the exit cost, the harder capitals could quit, and the easier capital owners are exploited by the government.

Absent any institution to solve this second-level commitment problem, the investment of private sector will be impeded and thus causes a negative impact on economic development. This explains the falling cases of Township and Village Enterprises in 1990s. TVEs were once very vibrant on the stage of Chinese economy. They supplied significant innovations through making use of their incredible entrepreneurships and contributed immensely to economic development particularly in rural areas. Their falling, which was such a pity, was reasonably traced to the inability of the government to stick to the commitment of sheltering them.

A notorious case is the collapse of Kelon Electronics, once a giant in the market of refrigerators. Kelon is one of the typical rural-based TVEs, and like many others it is a privately run enterprise under a name of Rongqi township collective. In early 1990s, it defeated many competitors by producing high-quality refrigerators. In its prime,

however, the Ronqi government started to steal, or according to the officials, reasonably transfer funds from Kelon to satisfy its own budgetary need as the increasing public expenditures created pressure for the Ronqi government. The expansion of Kelon empire paused, it began to suffer and lost its competence eventually.

Descriptive statistics could provide relevant information of the increasing social expenditures that may induce governments to spoil the capital owners in 1990s when inequality between factor owners was rising. Table 4 presents the increasing spending on social insurance, pensions, education and health. Although no causal evidence is displayed here, it is quite suggestive that local governments have the incentive to reallocate benefits between factor owners. If taking account into the fact that some local officials tend to overspend in certain years for political achievements (Guo, 2009), entrepreneurs are even more easily exposed to the risk of being expropriated.

Table 4: A Descriptive Measure of Social Spending in China (Unit: 100 Million Yuan)

	Social Spending	Share in Total Public Expenditures
1978	129.40	11.53%
1986	432.53	19.62%
1992	916.77	24.50%
1994	1456.20	25.14%
1996	2005.35	25.26%
1998	4527.34	36.47%
2000	6493.56	36.13%
2002	9604.93	38.41%
2004	12368.39	37.95%

Source: Finance Yearbook of China, China Statistical Yearbook, China Health Statistical Yearbook

4. The Co-optation of Entrepreneurs as a Means to Overcome the Second-Level Commitment Problem

Proposition 3. For capital owners, as long as they could be guaranteed to receive a share of $R_c \in (\rho, R]$, they are willing to make an investment. The revenue allocation package able to motivate capital owners offered by the government is

$$W_A = W_B = R - R_c, \text{ if } \beta > 1 . \quad (4.1)$$

Proposition 3 indicates that an institution is in need to be established that can preserve a positive share of revenues for capital owners. Back in early 1990s, it was the informal institution that many private Township and Village Enterprises wore a hat of collective ownership that kept TVEs prospering for a while (Tsai, 2006). This informal institution however failed to serve as a long-term mechanism to solve the commitment problem as it in fact did not take entrepreneurs who govern the business and make economic decisions as regime insiders. The political status of these entrepreneurs as regime outsiders could not preclude the potential risk of being spoiled.

In China, the institution the Chinese Communist Party developed was to co-opt business entrepreneurs to assure capital owners that the risk that their share will be taken is negligible. At the 15th Party Congress in 1997, the Chinese Communist Party declared that although public ownership remained the major force of the economy, the private-sectors were important components of a socialist market economy. The new wording raised the status of the individual and private sectors from supplemental to the public sector to important in their own right. At the Fifth Plenary of the 15th Central

Committee in October 2000, the CCP went even further, announcing that “the healthy development of the self-employed and privately owned businesses... [will be] supported, encouraged and guided”.¹

On July 1st 2001, the 80th anniversary of the founding of the CCP, Jiang Zemin recommended that private entrepreneurs be allowed to join the CCP, ending a ban that he himself had announced in August 1989. Jiang claimed that entrepreneurs were a new social stratum making significant contributions to the country's development and modernization, and therefore deserved a place in the ruling party. To further demonstrate the CCP's support of the private sector, the 16th Party Congress in 2002 revised the Party's Constitution to include “Three Represents Theory” promoted by Jiang Zemin. The CCP claimed to represent not only its traditional supporters, the workers and farmers, but also the interests of the new “advanced productive forces” of urban economic and social elites, thereby justifying their inclusion in the Party.

In practice, since it became a formal procedure to recruit entrepreneurs, these “capitalists” have participated much more frequently than ever in policy-making decisions both at local level and central level. They might not have decisive power to carry out policies but their opinions and consultations could be much more easily heard through the channel inside the regime. As a regime insider, they could more effectively get the information about the economic policy change, which renders a much

¹ This new policy was announced in the communique of Fifth Plenum of the 15th Central Committee of the CCP; see Xinhua, 11 October 2000

greater chance for them to benefit from investing in business. Now business entrepreneurs are very active in every year's National People's Congress and Chinese People's Political Consultative Conference, the major legislative bodies in China which were previously dominated by old cadre members in the Party. This symbolizes the integration of wealth and power, as economic elites are chosen for spots in formal political institutions. Truex (2013) shows that for an entrepreneur present in NPC, a seat in is worthy of significant returns to his company.

According to statistics, a growing number of entrepreneurs are recruited into the party: in the late 1990s, approximately 20 per cent of entrepreneurs were Party members, and by 2004, that number had reached to almost 35 per cent. In comparison, less than 6 per cent of the total population belongs to the Chinese Communist Party. The high concentration of Party members among private entrepreneurs shows the growing integration of political and economic elites in China. This integration largely solves the inherent commitment problem in authoritarian regimes that the state has the tendency to prey on capital owners in order to satisfy its own interest. The concern of the private sector could largely dissolve as they received the benevolent message of co-optation the Chinese Communist Party sent to them.

5. Conclusion and Discussion

5.1 Conclusion

This paper addresses the importance of solving commitment problem faced by the private sectors in authoritarian regimes. Even though an autocracy declares that it will prioritize economic growth, the uncertainty of the property rights will deter the investment, which makes economic growth impossible. Institutional designs aiming for providing proper solutions to this problem are needed for authoritarian regimes to thrive economically. Even for authoritarian states, economic development is possible as long as appropriate institutions are enforced.

In China, two major institutions have subsequently been formed. When economic inequality was relatively low in the beginning of Reform and Opening Up era, economic decentralization with a performance-based cadre promotion scheme that induced local governments to compete with each other served as a mechanism eliminating investors' concerns. However, since the economic inequality between factor owners increased as a byproduct of the local competition, a second-level commitment problem occurred. The enormous social cost brought by the rising inequality generated incentives for the government to renege on the favorable policies they offered to the capital owners. Fearing the redistributive risk, the incentives of private capital owners to make investments would be undermined. The response of the Chinese Communist Party to the occurrence of this commitment problem was to start to recruit private

entrepreneurs into the party around 2000, which was the second critical institutional reform. Being co-opted, the capital owners could be assured that their assets will not be arbitrarily expropriated by the government and they even could have a say in local economic policy-making. Their share of the benefits is much more secure as their political status is the regime insider.

5.2 Discussion

This paper engages with the central question of the burgeoning literature of authoritarian regimes: 1) why would autocracies establish power-sharing institutions by co-opting certain types of actors? 2) how does the political institution bear on authoritarian economic development? Although this paper shares the same idea with Gandhi and Przeworski (2007), Magaloni (2008) and Boix and Svolik (2011) that authoritarian regimes could establish power-sharing institutions through co-optation to keep regime survival, I take a different approach from theirs. I regard economic inequality as an intervening variable that influences the commitment problem faced by the ruled in autocracies. With different degrees of economic inequality, the demand of the capital owners for formal political institutions is different as the redistributive demand of those who suffer the economic transition changes with the inequality. This redistributive demand influences the policies of authoritarian government since they are concerned with the threat of the collective action that may destabilize the regime. This paper also to some extent concurs with the ideas that “adaptive informal institutions”

contribute to the incremental transition and that formal institutions that create the prospect of mutual benefits for state and non-state actors are endogenously evolved (Tsai, 2006). It however differs from Tsai's theoretical argument in that the endogenous determinant of institutional evolution is economic inequality, which accompanies economic growth.

Though providing a theoretical account of how could an authoritarian state lacking a credible commitment avoid the failure of governance through reforming institutions, this paper leaves a considerable amount of subsequent work to be done and it still leaves many questions to be answered. For instance, if autocracies have policy choices such as repression, it is possible that their reaction to the redistributive demand of the masses is to use coercive power. In my model repression is not an option for an authoritarian regime. As Gallagher and Hanson (2009) has pointed out that autocracies tend to use both "carrots" and "sticks" to keep its authoritarian rule and economic development, a meaningful attempt in the future research would be to consider the conditions under which the autocracies use coercive power or redistributive instruments. Moreover, in my paper, the revenue allocation between factors is actually the choice of private goods provision between actors by the government. Public goods that are also very important for economic growth and regime resilience are understated in this paper. I hope my future work could incorporate these factors into the analysis of political

institutions in authoritarian regimes and how institutions could affect authoritarian economic development.

Appendix

Equilibrium Solutions

For Government $i, i \in \{A, B\}$, the optimization problem it faces is as follows:

$$\max_{W_i, r_i} R_i = \theta(R - W_i - r_i + \beta W_i) + r_i$$

$$\text{s.t. } 0 \leq W_i \leq R$$

$$0 \leq r_i \leq R$$

Since Government A and B have identical features, in the equilibrium their revenue allocation plans are therefore identical. Denote the equilibrium W_i as W^* , and equilibrium r_i as r^* , we could have FOCs:

$$\frac{\partial R_i}{\partial r_i} = 1 - \theta$$

$$\frac{\partial R_i}{\partial W_i} = \theta(\beta - 1)$$

As θ is assumed to be a constant value greater than 1, $\frac{\partial R_i}{\partial r_i} < 0$. Thus the FOC implies that the only corner solution is $r_i = 0$, confirming my proposition that the government will always be better off allocating resources between capital owners and labor force.

Proposition 1

If $\beta < 1$, then $\frac{\partial R_i}{\partial W_i} = \theta(\beta - 1) < 0$, indicating that the optimal strategy for the government in Stage Three is to allocate $W_i = 0$.

The payoff for capital owners therefore is $R - W_i - r_i = R > \rho$. The best response for capital owners in the second stage is to invest.

The Nash Equilibrium of this game is $\{(0, 0), \text{Invest}\}$.

Proposition 2

If $\beta > 1$, then $\frac{\partial R_i}{\partial W_i} = \theta(\beta - 1) > 0$, indicating that the optimal strategy for the government in Stage Three is to allocate $W_i = R$.

The payoff for capital owners therefore is $R - W_i - r_i = 0 < \rho$. The best response for capital owners in the second stage is not to invest.

The Nash Equilibrium of this game is $\{(0, R), \text{Not Invest}\}$.

Proposition 3

If $\beta > 1$, then $\frac{\partial R_i}{\partial W_i} = \theta(\beta - 1) > 0$, indicating that the optimal strategy for the government in Stage Three is to allocate $W_i = R - R_C$.

The payoff for capital owners therefore is $R - W_i - r_i = R_C > \rho$. The best response for capital owners in the second stage is to invest.

The Nash Equilibrium of this game is $\{(0, R - R_C), \text{Invest}\}$.

Five-Stage Extensive-Form Game

If $\beta > 1$, then $\frac{\partial R_i}{\partial W_i} = \theta(\beta - 1) > 0$, indicating that indicating that the optimal strategy for the government in Stage Five is to allocate $W_i = R$.

If $W_i = R$, for capital owners, $R - W_i - d < 2(R - W_i)$. In Stage Four the best response for the capital owners is to invest. The threat that the capital owners are to quit in Stage Four is incredible.

In Stage Three, the optimal strategy for the government is to allocate $W_i = R$.

For capital owners, given $R - W_i$, $\rho > 2(R - W_i) = 0$. Thus the optimal strategy for capital owners in Stage Two is not to invest.

The Nash Equilibrium of this game is $\{(0, R, R), (\text{Not Invest}, \text{Invest})\}$

References

- Acemoglu, Daron and Robinson, James. *A theory of political transitions*. American Economic Review, 938-963., 2001.
- Boix, Carles. *Democracy and redistribution*. Cambridge: Cambridge University Press, 2003.
- Boix, Carles. and Svulik, Milan. *The foundations of limited authoritarian government: Institutions and power-sharing in dictatorships*. Available at SSRN 1352065., 2011
- Dickson, Bruce. *Integrating wealth and power in China: the Communist Party's embrace of the private sector*. China Quarterly, 192, 827., 2007.
- Gallagher, Mary and Hanson, Jonathan. *Coalitions, carrots, and sticks: economic inequality and authoritarian states*. PS: Political Science and Politics, 42(04), 667-672., 2009.
- Gandhi, Jennifer and Przeworski, Adam. *Authoritarian institutions and the survival of autocrats*. Comparative Political Studies, 40(11), 1279-1301., 2007.
- Guo Gang. *China's Local Political Budget Cycles*. American Journal of Political Science, 53(3), 621-632., 2009.
- Huang, Yasheng. *Capitalism with Chinese Characteristics: Entrepreneurship and the state*, Vol. 1. Cambridge: Cambridge University Press, 2008.
- Li, Hongbin, and Li-An Zhou. *Political turnover and economic performance: the incentive role of personnel control in China*. Journal of public economics 89.9: 1743-1762., 2005.
- Magaloni, Beatriz. *Credible power-sharing and the longevity of authoritarian rule*. Comparative Political Studies, 41(4-5), 715-741., 2008.
- Maskin, Eric, Qian, Yingyi and Xu, Chenggang. *Incentives, information, and organizational form*. The Review of Economic Studies, 67(2), 359-378., 2000.
- North, Douglass and Weingast, Barry. *Constitutions and commitment: the evolution of institutions governing public choice in seventeenth-century England*. The journal of economic history, 49(04), 803-832., 1989
- Olson, Mancur. *Dictatorship, democracy, and development*. American Political Science Review, 567-576., 1993

- Qian, Yingyi, and Xu, Chenggang. *The M-form hierarchy and China's economic reform*. European Economic Review, 37(2-3), 541-548., 1993.
- Rory Truex. *The Returns to Office in a 'Rubber Stamp' Parliament*. (March 4, 2013). Annual Meeting of the American Political Science Association, 2012. Available at SSRN: <http://ssrn.com/abstract=2098086> or <http://dx.doi.org/10.2139/ssrn.2098086>
- Shih, Victor, Christopher Adolph, and Mingxing Liu. *Getting ahead in the communist party: Explaining the advancement of central committee members in China*. American Political Science Review 106.1, 166-187., 2012.
- Svolik, Milan. *The politics of authoritarian rule*. Cambridge: Cambridge University Press, 2012.
- Tsai, Kellee. *Adaptive informal institutions and endogenous institutional change in China*, World Politics, 59(01), 116-141., 2006.
- Xu, Chenggang. *The fundamental institutions of China's reforms and development*. Journal of Economic Literature 49.4: 1076-1151., 2011.