Globalization and the Political Economy of Educational Inequality

by

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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 of Duke University 2015
ABSTRACT

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Abstract

I claim that globalization increases demands for education the most in less productive economies by fueling competition that both expands skill-intensive employment opportunities at an accelerated rate and funnels in relatively skilled jobs from overseas through offshoring. These dynamics most incentivize low-income citizens to vote and lobby for education because the poor—who face limited resources and exigent present needs—only prioritize schooling over short-term government provisions when they perceive education as a gateway for improving children’s long-run earnings. I test my theory with multiple analyses: 1) a large-N, cross-country procedure that shows that globalization reduces educational inequality the most in less productive economies; 2) a micro-level study of approximately 100,000 parents demonstrating that demands for education among the poor are greatest in open, less productive economies; 3) an investigation of diachronic shocks to globalization exposure in Costa Rica and Zambia that heightened demand for education among low-income residents; and 4) in-depth, qualitative case studies that link exposure to globalization to pro-poor schooling in Ireland and Vietnam.
Contents

Abstract iv

List of Tables viii

List of Figures ix

Acknowledgements xi

1 Globalization and Political Demands for Education 1

1.1 Globalization and Education . . . . . . . . . . . . . . . . . . . . . . . 6

1.2 Preview of the Argument . . . . . . . . . . . . . . . . . . . . . . . . 10

1.3 Outline of Empirical Tests . . . . . . . . . . . . . . . . . . . . . . . . 12

1.4 Importance of the Study . . . . . . . . . . . . . . . . . . . . . . . . . 17

1.5 The Study Going Forward . . . . . . . . . . . . . . . . . . . . . . . . 19

2 Theory: How Globalization Shapes How Citizens Vote and Lobby for Schooling 20

2.1 The Micro–Logic of Political Demand for Education . . . . . . . . . . 21

2.2 Firms, Competition, and the Demand for Skilled Workers . . . . . . . 24

2.2.1 Skill–Intensive Practices . . . . . . . . . . . . . . . . . . . . . . . 27

2.2.2 Offshoring . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 30

2.3 Predictions . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 33

3 Large–N, Cross–National Analyses: Globalization and Educational Inequality across Time and Space 35

3.1 Empirical Setup . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 36
3.1.1 Results and Discussion ........................................ 42

3.2 Chapter Summary .................................................. 50

4 Micro-Level Survey Analyses: Evidence from 100,000 Parents and Quantitative Case-Studies from Costa Rica and Zambia .......... 52

4.1 International PISA Survey ......................................... 53

4.1.1 Results and Discussion ......................................... 57

4.2 Test Cases ............................................................ 65

4.3 Offshoring: Intel in Costa Rica ................................... 66

4.3.1 Empirical Setup .................................................. 71

4.3.2 Results and Discussion ......................................... 73

4.3.3 Second–Best Counterfactual .................................. 77

4.4 Skill–Intensive Practices: Debt Relief for Zambia ................. 81

4.4.1 Empirical Setup .................................................. 87

4.4.2 Results and Discussion ......................................... 89

4.4.3 Second–Best Counterfactual .................................. 92

4.5 Chapter Summary .................................................... 96

5 Qualitative Case–Studies: Evidence from Ireland and Vietnam .... 98

5.1 Landmark School Reforms in Ireland and Vietnam ............... 99

5.1.1 Case Selection .................................................... 100

5.2 Ireland ................................................................. 100

5.2.1 A Brief History of the Celtic Tiger ............................ 100

5.2.2 Celtic Tiger Education Reforms ............................... 105

5.3 Vietnam ............................................................... 113

5.3.1 A Brief History of Doi Moi ...................................... 113

5.3.2 Doi Moi Education Reforms .................................... 118

5.4 Chapter Summary .................................................... 125

vi
6 Conclusion 126
7 Bibliography 129
Biography 147
List of Tables

2.1 Impact of Exposure to Globalization on Political Demands for Education 34
3.1 Effect of Open*Productivity on Educational Inequality 45
3.2 Effect of GlobalExposure*Productivity on Educational Inequality 49
4.1 Effect of Open*Income on Participation in School Governance 60
4.2 Effect of LowProductivity*Income on Participation in School Governance: Open Economies 63
4.3 Effect of Post–Shock*Income on Listing Education as MIP: Costa Rican Sample 76
4.4 Effect of Post–Shock*Income on Listing Education as MIP: Counterfactual Cross–Country Sample 80
4.5 Effect of Post–Shock*Income on WTP for Education: Zambian Sample 91
4.6 Effect of Post–Shock*Income on WTP for Education: Counterfactual Within–Country Sample 95
List of Figures

1.1 Average School Attainment across the World, 1950–2010 .......................... 3
3.1 Distribution of Educational Gini Coefficient in Closed vs. Open Economies 43
3.2 Predicted Values of Educational Gini Coefficient, Conditional on Openness*Productivity .............................................................. 46
3.3 Effect of Globalization Exposure on Educational Inequality .................. 47
3.4 Marginal Effect of Globalization Exposure on Educational Inequality, Conditional on Productivity ......................................................... 50
4.1 Percent Participation in School Governance in Closed vs. Open Economies (Raw Figures) ............................................................... 58
4.2 Predicted Probability of Participation in School Governance in Closed vs. Open Economies, by Income .................................................. 61
4.3 Predicted Probability of Participation in School Governance in High vs. Low Productivity Open Economies, by Income ......................... 64
4.4 High–Technology Exports as a Percentage of Manufactured Exports in Costa Rica, 1994–2012 ................................................................. 68
4.5 Skilled Workers at Intel Facility in Costa Rica ....................................... 70
4.6 Percent Listing Education as MIP, Pre– and Post–Shock (Raw Figures) 74
4.7 Predicted Probability of Listing Education as MIP Pre– and Post–Shock, by Income: Costa Rican Sample .................................................. 77
4.8 Predicted Probability of Listing Education as MIP in 1997 and 1998, by Income: Counterfactual Cross–Country Sample ............................... 81
4.9 Impact of Debt Relief on FDI in Zambia, 1970–2013 ............................... 83
4.10 Total Direct Employment in Mining Industry in Zambia, 2000–2011 .... 84
4.11 Percent WTP for Education, Pre– and Post–Shock (Raw Figures) . . 90

4.12 Predicted Probability of WTP for Education Pre– and Post–Shock,
    by Income: Zambian Sample . . . . . . . . . . . . . . . . . . . . . . . 92

4.13 Predicted Probability of WTP for Education Pre– and Post–Shock,
    by Income: Counterfactual Within–Country Sample . . . . . . . . . 96

5.1 Trade in Ireland, 1980–2007 . . . . . . . . . . . . . . . . . . . . . . 102

5.2 FDI in Vietnam, 1980–2000 . . . . . . . . . . . . . . . . . . . . . . . 115
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Globalization and Political Demands for Education

Over the course of recent history, globalization—through trade, foreign direct investment, and other “flatteners”—has transformed the world’s economy in profound and unexpected ways. Phrases like “war for talent” and “battle for brainpower” characterize the merciless fight that companies have waged to secure an edge in an increasingly competitive international marketplace. In this new globalized era, firms succeed primarily by adopting skill-biased practices and vying for top talent. An ostensible corollary is that if people are smart and gain a good education, they can achieve a better life regardless of geography. As Microsoft co-founder Bill Gates put it, “Now, I would rather be a genius born in China than an average guy born in Poughkeepsie.”

1 Qtd. in Friedman (2005).
has fully permeated the zeitgeist. We marvel at acceptance rates to the Indian Institutes of Technology that are a fraction of Harvard’s, read about “late-nights raids to enforce a new curfew on after-hours tutoring operations” in Korea, and witness the rise of “global network universities,” as vaunted institutions such as Yale, Duke, and N.Y.U. launch intellectual hubs in Singapore, China, and the United Arab Emirates. We hear about mass protests in Chile that draw “hundreds of thousands of people...demanding better public education.” We nod when a Pulitzer–Prize–winning journalist instructs his kids: “Finish your homework. People in India and China are starving for your job.”

These are not just isolated anecdotes. Although research on the topic is scarce, existing evidence suggests that trade, FDI, and related dynamics augment average demands for schooling by generating large economic returns to skills. The result is not only increased demands for education by young people, but also mounting pressures on governments to invest in high-quality schooling. A burgeoning literature contends that this phenomenon partly explains the global “upward convergence” in education

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4 Wildavsky (2012).
that is currently underway.⁷ As shown in Figure 1.1, for example, average school attainment has skyrocketed in recent decades. Many observers point to such numbers as proof that education’s rise is inevitable—and that the world’s human capital stock will continue to surge.

![Average School Attainment across the World, 1950–2010](image)

**Figure 1.1: Average School Attainment across the World, 1950–2010**

Fitted loess line, Barro–Lee Educational Attainment Dataset (2014)

On the face of it, such numbers tell a simple and compelling tale: Education, it seems, constitutes a “golden ticket”—the best way to capitalize on the new economic opportunities of an interconnected world. As a result, everyone—rich and poor, privileged and underprivileged alike—clamors to attain more and better skills. Yet does this picture tell the entire story? Considerable evidence from outside education indicates that trade, FDI, and the like almost always have distributive consequences—and that these consequences vary across societies. Even if globalization boosts demands for education on average, this does not mean that everyone will respond by

prioritizing schooling in the same way. It also does not mean that outcomes will not differ across contexts.

Indeed, the correlation between globalization and average demands for education could mask significant variation in who votes and lobbies for schooling. To date, however, scholars have largely overlooked this issue. By focusing almost exclusively on how trade, FDI, and so forth affect average demands for education (Ansell 2008, 2010; Carnoy 1999; Egger et al. 2005; Gittens 2006; Zhuang 2008), studies tell us only that mean demands for education are changing against the backdrop of globalization, not who is prioritizing education both within and across societies (and who is not). This study tackles these issues by asking not just whether globalization increases political demands for education—but who demands that education and under what circumstances.

Answers to these questions are not obvious, but they have profound implications for citizens across the globe. If globalization primarily raises demands for education among the “haves,” it may lead to more acute inequities in a country’s school system. If globalization primarily raises demands for education among the “have–nachts,” we may be more likely to witness reforms that offer a broader swath of the population access to high-quality education. As the world continues to shrink at an unparalleled clip—irrevocably altering how citizens perceive, demand, and acquire education—
it is essential that scholars develop a deeper understanding of how globalization influences the distribution of political preferences for schooling both within and across economies.

My argument, in short, is that the impact of globalization on political demands for education depends on a citizen’s income and the productivity level of the economy in which he or she resides. Specifically, I claim that globalization increases demands for education the most in less productive economies by fueling competition that both expands skill-intensive employment opportunities at an accelerated rate and induces companies to offshore relatively skilled jobs to such countries. These dynamics most incentivize low-income citizens to vote and lobby for education because the poor—who face limited resources and exigent present needs—only prioritize schooling over short-term government provisions when they perceive education as a gateway for improving children’s long-run earnings.

The remainder of this chapter proceeds as follows. I start by briefly describing prior efforts to parse globalization’s effects on demands for education. In doing so, I summarize why existing studies offer an incomplete narrative for answering my central research question. Next, I preview my theory. I begin with a generalized framework of the competing incentives that citizens face with respect to prioritizing education versus other government provisions. I then turn to how globalization af-
fects this calculation by shaping the expected wage returns to education in economies with different productivity levels. Finally, I outline my empirical tests, describe my principal contribution to the literature, and provide a roadmap for the rest of the study.

1.1 Globalization and Education

Many studies examine how globalization shapes demands for means-tested entitlements.\(^8\) Far fewer, however, explore its effects on demands for education. One exception is a small string of studies showing that exposure to globalization boosts mean levels of schooling across nations (Ansell 2008, 2010; Carnoy 1999; Egger et al. 2005; Gittens 2006; Zhuang 2008).\(^9\) The idea is that as states integrate into the global economy, citizens increasingly see the value of education. Because firms must pay skilled workers more to operate new technologies fueled by globalization, citizens demand education to gain a leg up on the labor market. “To the degree that globalization facilitates this kind of technology transfer,” notes Ansell (2010), “the

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\(^8\) The literature is sprawling. See, for instance: Adsera and Boix (2002); Boix (2002); Burgoon (2001); Cameron (1978); Garrett (1998); Iversen and Cusack (2000); Katzenstein (1985); Rodrik (1997); Scheve and Slaughter (2004); and Walter (2010).

\(^9\) Egger et al.’s (2005) findings are more nuanced: They discover a positive relationship between human capital accumulation and economic integration in capital-importing countries, but a negative link in capital-exporting ones. Their focus, however, is still on levels of student attainment rather than distributions. Ansell (2008) distinguishes between different classes of voters in specifying their preferences over school systems. Yet while he posits conditional country-specific effects with respect to globalization and educational outcomes, these are on how governments supply education, not how citizens demand it.
state’s incentive to invest in education also increases.”

The finding that globalization boosts average demands for education is useful, but it overlooks two crucial facts. The first is that average demands for schooling can hide significant variation within countries in who prioritizes education.\textsuperscript{10} Put simply, it is unclear whether globalization causes some citizens to demand education differently than others. Research largely neglects this issue because it tends not to investigate globalization’s differential effects on individual–level preferences for schooling. Instead, it simply assumes that countries with better educational outcomes reflect greater demands for schooling. This approach can explain some variation in educational outcomes across nations. Yet it has trouble addressing within–country differences in demands for schooling.

This void is striking not only because the vast literature on the welfare state focuses so intently on unpacking how different workers respond to globalization, but also because of the importance of educational distributions to a litany of social outcomes. Indeed, scholars have discovered that how education is distributed—not just whether average levels of schooling in a country are high or low—can affect outcomes as diverse as GDP growth (Sauer and Zagler 2012), democratic governance (Castello–Climent 2008), income inequality (Goldin and Katz 2008), and civil conflict.

\footnote{As described above, one exception is Ansell (2008).}
(Bartusevičius 2013). Thomas, Wang, and Fan (2001) even declare that “an equitable distribution of human capital...constitutes a precondition for individual productivity and ability to rise above poverty.”

The second crucial, but often overlooked, fact is that globalization—through trade, FDI, and other drivers of economic integration—may have differential effects across countries. Even if globalization fosters greater monetary returns to skills on average, educational demands may differ depending on the context. A nation’s economy likely mediates how globalization affects employment patterns. To the degree that such labor market opportunities—real or perceived—determine who prioritizes schooling, globalization should influence political demands for education differently across different societies. Thus, the challenge is not just to explain how globalization shapes the distribution of demands for schooling, but the conditions under which it does so.

This point is supported by extensive research indicating that globalization’s impacts on employment are variable (Lee and Vivarelli 2004; Jansen, Peters, and Salazar-Xirinachs 2011). FDI and trade have positive effects in some cases but not others. For example, Lall (2002) notes that “a generalisable relationship between globalisation and employment in developing countries as a whole may not exist. The

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11 As noted earlier, Egger et al. (2005) is an exception.
relationship is...context specific, dynamic and changeable, reflecting particular inter-
actions in each economy between the external facets of globalisation...that apply to
the economy and internal factors that affect its employment response.” The same
might be said of advanced economies, where globalization has doubtlessly brought
both steep gains and losses.

More broadly, few studies in political science even attempt to establish the causes
of political demand for schooling.12 Busemeyer (2010), for example, states that most
research on education “is more concerned with studying the determinants of actual
educational choices and attainment..., not the preferences of individuals on policies as
such.” Consequently, little scholarship provides guidance into the conditions under
which some citizens are more likely to demand education than others. In this study,
I aim to address this void. By building on simple insights from microeconomics and
rational–choice theory, I arrive at a set of stylized predictions for when citizens will
politically prioritize education. I then explain how exposure to globalization shapes
this calculus conditional on the context.

12 See Gift and Wibbels (2014) and Busemeyer and Trampusch (2001) for reviews of the general
lack of attention to education in comparative politics.
1.2 Preview of the Argument

My argument begins with a basic premise: Virtually everyone demands more education in principle, but citizens face hard choices about how much to prioritize it politically. Taxpayers cannot get everything they want, and every dollar devoted to education is one less that can be spent on other goods. Because education yields benefits over the long term, whereas many other goods yield benefits over the short term, these choices are driven by discount rates over the future. Namely, they are driven by the willingness of citizens to forego short–term consumption to enhance children’s long–term earnings resulting from education. I claim that, in recent decades, the most significant changes to labor markets have come via globalization, as competition has reoriented how firms hire and compensate workers.

Globalization does so in two primary ways: First, in all economies, it increases the perception that employers hire and pay workers based on skills and educational credentials. Because they face weaker competition from abroad, firms in economically sheltered nations are not compelled to undertake costly human capital investments. Globalization, however, forces employers to adopt skill–biased practices to stay competitive. Consequently, businesses must attract and retain more educated workers to succeed in this environment. This raises the expected returns to education. Because of diminishing returns, however, I argue that these effects are most pronounced in
less productive economies because more productive economies are already saturated with skill-intensive employment structures.

At the same time, I argue that these effects are complemented by the role of globalization in determining where relatively skilled jobs are located. To capitalize on their comparative advantages and to compete internationally, many multinational enterprises from more productive economies engage in offshoring. This allows them to cut costs and to boost efficiency by moving tasks in which they do not specialize overseas. In more productive economies, this actually decreases expected returns to education by reducing relatively skilled employment opportunities at home. In less productive economies, by contrast, offshoring boosts demands for skilled jobs through the growth of employment from overseas. This further increases expected returns to education.

The implication is straightforward: Globalization increases demands for education the most among low-income citizens living in less productive economies. High-income citizens almost always politically prioritize education because their large budgets enable them to defer present consumption for the possibility of larger gains for children in the future. Poor citizens, however, must focus on their immediate needs. They only demand education to the degree that the expected returns to education are large and likely. In less productive economies, globalization not only makes firms
more human–capital intensive at an accelerated rate, but also funnels in relatively skilled jobs from abroad. This convinces the poor that education can be a powerful engine of children’s future prosperity.

1.3 Outline of Empirical Tests

My central theory—that globalization raises political demands for education the most among poor citizens in less productive economies—is straightforward, but testing it presents challenges. Good data on education are not always available, and even when they exist, education’s complex qualities make it difficult to untangle. For my purposes, demand for education may be endogenous to globalization exposure itself, may correlate highly with variables like culture that are frequently omitted from regression analyses, and may follow long–term trends that could prompt a spurious relationship with globalization exposure. Overcoming these challenges is not easy.

To test my theory, I therefore rely on multiple analyses that probe my argument from different angles.

I begin at the broadest level by looking at panel data on the link between globalization exposure and educational inequality across the world. Because exposure to globalization may predominate in settings where workforce quality—and, by extension, demand for education—is already high, I exploit an indicator of economic
integration based on barriers to economic flows that is plausibly exogenous to educational inequality. Controlling for a host of factors, I discover that globalization lowers the educational Gini coefficient the most in less productive economies. I also confirm this finding using a country–level index of globalization exposure that incorporates data on actual economic flows such as trade and FDI, in addition to barriers to economic flows.

The above analyses provide a good macro–level test of my theory. Yet they do not actually tease out the micro–logic by which citizens are politically active on behalf of schools. In particular, we cannot know for sure whether differences in educational Gini coefficients are primarily a function of divisions in citizen preferences at the top and bottom of the income distribution. Moreover, the educational Gini coefficient does not explicitly capture how citizens prioritize education politically. It could be complicated by contextual differences in access to existing school systems. Untangling these dynamics requires more granular, household–level data that describe how different citizens demand education when faced with varying exposure to globalization.

To examine these issues, I marshal fine–grained survey data from a large set of countries, encompassing roughly 100,000 parents across the world. I find that populations whose economies are more open to the international marketplace demand
more education, and these differences are largely attributable to the preferences of poor citizens. Furthermore, in open economies, the poor demand more education in settings where productivity levels are low. This analysis provides a generalizable test of my theory at the micro–level. Yet an important limitation is that it does not explicitly demonstrate how my theory’s two primary mechanisms—offshoring and the increasing skill–intensity of firms fueled by globalization—influence political demands for schooling.

I attend to this challenge by exploiting a pair of shocks to globalization in two less productive economies and assessing how citizen preferences for education changed as a result. The first shock involves a case of offshoring: the commencement of production at Intel’s $300 million semiconductor plant in Costa Rica in 1998. The second shock involves the drive toward skill–intensive production: labor market changes resulting from huge inflows of FDI that flooded into Zambia after the International Monetary Fund forgave the nation’s debt in 2005. Comparing micro–level data from before and after the shocks, I find that more citizens demanded high–quality schools after the shocks to globalization. As anticipated, the preferences of poor citizens disproportionately drove these shifts.

By analyzing data in single countries over time—particularly over such a short time span—my “pre–/post–” empirical strategy reduces the problem of omitted dif-
ferences between populations. Because the samples are presumably similar along many key dimensions, I increase confidence that my results are not driven by unit heterogeneity across divergent societies. One lingering concern, however, is that my results could simply reflect a general trend: If sharp increases in educational preferences among the poor were not unique to Zambia and Costa Rica, then it is hard to attribute such shifts to the globalization shocks that I identify. To address this possibility, I further investigate demands for education through a set of “second–best” counterfactuals.

For Costa Rica, I examine preferences for education in three other countries—Brazil, Chile, and Mexico—that were all singled out as potential sites for Intel. I find no evidence that demand for education collectively rose among the poor in these countries, improving confidence that my results in Costa Rica are due to Intel. For Zambia, I exploit the fact that most FDI in that country channels to a geographically concentrated industry. Thus, I disaggregate how citizens demanded education based on whether they lived in a region that specialized in that industry. I discover that the greatest jumps in demand for education by the poor occurred in the Zambian provinces that I expected to receive the most FDI, again buttressing my original findings.

The above evidence all relies on how globalization affects citizen preferences over
schooling. Also of interest, however, is how these dynamics actually translate into real reforms on the ground. As such, my final strand of evidence involves two qualitative case studies of less productive economies in which globalization set the stage for pro–poor education reform. My first case comes from Ireland during the 1990s, when the country became a haven for trade and FDI that sparked the famed “Celtic Tiger” economy. I document how the increase in skilled job opportunities and rising perceptions of social mobility that infused this period provided the backdrop for not one, but two, major pieces of reform legislation: the Universities Act of 1997 and the Education Act of 1998.

My second case comes from Vietnam, when in the late 1980s, the country’s socialist government commenced doi moi—a series of political and economic reforms designed to cast aside anachronistic policies of the past and to help Vietnam bolster its competitiveness in the international economy. I describe how the large foreign investments that funneled into the country as a result of doi moi also spurred two landmark education laws in Vietnam. The first, the Law on Universalization of Primary Education of 1991, dramatically expanded access to basic education. The second, the Education Act of 1998, reshaped the country’s school system by drawing clearer lines of responsibility for education, while improving educational coverage and quality.
Collectively, my results—spanning multiple settings, dependent variables, and layers of analysis—strongly support my theory: Globalization increases political demands for education the most among the poor in less productive economies. Each of my empirical tests has benefits and shortcomings. What some give up in their level of detail, they make up for by generalizing to large populations over time. What some relinquish in terms of external validity, they compensate for by providing a nuanced account of how my theory unfolds in a real–world case. Although each piece of evidence is only partly persuasive in isolation, together they offer convincing insight into how globalization affects how families capitalize on the opportunities of a modern world.

1.4 Importance of the Study

This study contributes to the political economy and comparative politics literatures by providing a more nuanced account of how globalization affects citizen demands for schooling. Most previous work establishes that globalization increases political preferences for education writ large, as economic integration improves the benefits of skill acquisition. Yet I demonstrate that globalization’s impacts on demands for education are conditional on both a citizen’s income and the productivity level of the economy in which he or she resides. This finding highlights the need to account for the
likelihood that globalization’s influence on educational demands varies across people and contexts. That is, its effects are mediated by both individual- and country-level characteristics.

Ultimately, this study offers an optimistic vision: Particularly in countries with low productivity levels, globalization should reduce educational inequality as more poor citizens see the advantages of improving education and voice their opinions by voting and lobbying for high-quality schools. This is not to say that the process will be automatic, that equity goals will be achieved in a short time span, or that the incentives of politicians to respond to those demands are not also important. But the trendline points in the right direction. As globalization accelerates, and less productive economies open their borders to trade and FDI, politicians should increasingly face incentives to provide education to those at the bottom of the income distribution.

Despite its topical focus on education, my hope is that this study has broad scholarly appeal. At its heart, this study touches on age-old themes in comparative politics and political economy: inequality, public goods provisions, rationality, interests, and political behavior. Academics who study these and other related subjects—both in an applied policy context, as well as with a purer theoretical bent—may glean useful insights from this analysis. Social scientists who investigate international and
transnational processes may also find this study relevant. This is particularly true for those interested in how globalization influences political preferences for different government goods. Put simply, this study is about education—but it is not just about education.

1.5 The Study Going Forward

The rest of this study is organized into several parts. Chapter 2 details my theory of how globalization shapes the distribution of political demands for schooling conditional on a nation’s productivity. Chapter 3 provides results from my large–N, cross–national analyses, demonstrating that the marginal effect of globalization in reducing educational inequality is greatest in less productive economies. Chapter 4 leverages large–scale survey data from across the world and also features my quantitative case studies from Costa Rica and Zambia that examine how globalization increases demands for schooling among the poor in less productive economies. Chapter 5 presents qualitative case studies of pro–poor school reforms in Ireland and Vietnam. Chapter 6 concludes with a summary of my main findings.
Theory: How Globalization Shapes How Citizens Vote and Lobby for Schooling

This chapter presents my core theory. As previewed in Chapter 1, I argue that high-income citizens will almost always vote and lobby for schools because their basic needs are met, and they can afford to eschew short-run government consumption for the possibility of larger rewards to children in the future. By comparison, low-income citizens—who have trouble meeting their present needs—will only demand schooling to the extent that the anticipated returns to education are significant and likely. I predict that globalization increases the likelihood that low-income citizens vote and lobby for schools the most in less productive economies by making these countries more skill-intensive at an accelerated rate and by funneling in relatively skilled jobs from overseas through offshoring.
2.1 The Micro–Logic of Political Demand for Education

I begin my theory with the simple premise that virtually everyone desires more education in principle. Yet just because citizens value education in the abstract does not mean that everyone will prioritize it politically. Citizens cannot escape tradeoffs: Resources by the government are scarce, and politicians generally look to citizens for cues on how to divvy up public expenditures. Therefore, citizens must inevitably give up something they value in exchange for education. I assume that the single most important goal of citizens in prioritizing education is preparing youth for better jobs. By giving students access to a high–quality education, citizens expect future workers to gain economically on the labor market, and these benefits figure into their own utility functions.

Viewed in such terms, a distinguishing feature of education is that its rewards come primarily over the long run.\(^1\) Children who receive a good education are more likely to impress their employers and to acquire both the “hard” and “soft” skills required to be successful post–graduation. These qualities correlate with higher earnings over an individual’s lifetime. Education’s long–term benefits stand in obvious contrast to many other public goods, which improve utility in the short run. Consider, for instance, means–tested entitlements. Citizens can signal to their politicians

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\(^1\) This is a well–established principle outlined in foundational studies on human capital investments (Becker 1964; Mincer 1974).
that they want greater investments in this area, and payouts can come relatively quickly. These disbursements help people in the short term by, for instance, alleviating immediate suffering.

This conflict between short- and long-term consumption implies that citizens do not just face trade-offs, but inter-temporal trade-offs: how to prioritize the future (education) versus the present (other goods). Because of the time value of money, people generally prioritize the present. But this does not mean that people will never prioritize the future. This is particularly true given that education often promises larger benefits over the long term, even if the expected returns are not always clear. In some cases, the payoffs to a child’s education can be immense, more than outstripping those a citizen reaps from short-term government consumption. In others, however, the expected payoffs to young people can be less than citizens receive from consuming short-term goods.

I claim that citizens will inherently possess different proclivities for prioritizing education politically. The rich will nearly always delay instant gratification, regardless of the size and certainty of education’s benefits. They can cover their family’s short-term needs and can afford to be forward-looking. The poor, however, are not in the same position. They depend heavily on the government for meeting their
daily necessities. Therefore, they will only prioritize schooling over short-term government goods insofar as the expected returns to education are high and likely. In other words, the brighter a child’s expected economic prospects, the more willing they become to endure hardships in the short term to boost a youth’s labor market rewards in the long term.

Clearly, many factors in the economy can affect perceived returns to education. Sustained economic growth, for example, can improve job conditions, whereas financial downturns can dampen them. Yet despite the salience of the domestic economy in shaping employment outcomes, many of the most extraordinary changes to labor markets in recent years have come from non-indigenous sources. Specifically, they have come via globalization, as factors such as trade and FDI have penetrated new settings. I claim that by exposing companies to heightened competition from abroad, globalization alters the hiring practices of firms. This shapes their demand for educated labor and, in turn, the extent to which education advantages people on the job market.

\[^2\] Considerable evidence demonstrates that the rich usually have longer time horizons than the poor (Becker and Mulligan 1997; Harrison, Lau, and Williams 2002; Lawrance 1991).
2.2 Firms, Competition, and the Demand for Skilled Workers

To make this case, I start with the assumption that firms are profit-maximizers: They want to operate where marginal costs equal marginal revenue. At the same time, however, companies are intrinsically risk-averse. Even for the possibility of greater profits, they will not expose themselves to unpredictable circumstances if they can avoid it. This is entirely consistent with profit-maximization if the expected utility of changing a firm’s business model is less than that of the status quo. For this reason, firms often continue on a suboptimal path, even if profits could be higher by upending their strategy. Over time, institutional inertia sets in, and managers are content to “stay the course.”³ This can go on indefinitely, but one factor can stop it: competition.

When companies are exposed to globalization, I claim that they intrinsically face more—and more intense—competition. A large body of research discusses globalization’s pro-competitive effects.⁴ Generally, such studies concentrate on how the forces of trade and FDI wipe out companies that fail to compete effectively and impose relentless pressures on those that succeed. These pressures foster an environment where straggler firms eventually die off, and companies that persist stay

³ This insight is often attributed to Stinchcombe (1968).
⁴ See, for example: Cadot, Grether, and de Melo (2000); Caves (1980); Condon and de Melo (2012); de Melo and Urata (1986); Guash and Rajapatirana (1994); and Helpman and Krugman (1989).
engaged in a nearly endless struggle for survival. Survival means that even today’s newest technologies and cost-cutting practices will not necessarily be sufficient to meet the needs of tomorrow. And thus the process of developing even more cutting-edge businesses techniques begins anew.

Trade and FDI are two of the most common ways in which globalization induces competition. Regarding trade, for example, consider a country shut off from the world economy that is comprised of one firm. This monopolist can set prices above those in a perfectly competitive market. Now, suppose that this economy opens its doors to trade. Suddenly, consumers can purchase a wide bevy of goods from sellers outside their country. In response, the former monopolist must find new ways to survive, either by cutting costs or improving its product. Simultaneously, foreign firms are also exposed to more competition due to the former monopolist’s actions. Companies outside the country must therefore become even more efficient. The result is a virtuous cycle of competition.5

FDI can also induce pro-competitive effects. To see why, consider again a stylized economy comprised of one price-setting monopolist. When FDI arrives, foreign firms now compete with the former monopolist for business. The former monopolist can no longer sell lower-quality products at exorbitant prices because foreign firms

5 This example of the so-called “import discipline hypothesis” is based on a discussion from the World Bank (n.d.).
will undercut it. As a result, the former monopolist must develop better products or supply them at lower costs. Typically, only the most efficient multinational firms engage in FDI, which further heightens competition. These companies—which often are often skill- and capital-intensive—challenge the dominance of the former monopolist. If the former monopolist responds successfully, foreign-owned firms will also need to improve their business strategies.

It is this macabre notion of extinction—in that firms face an existential threat amid globalization—that best explains why FDI and trade upend “business as usual.” Firms—regardless of their previous successes—are not acting irrationally by failing to adopt more effective and cost-conscious techniques absent globalization. Revamping one’s production schedule is both costly and risky, especially in the short-term. Amid globalization, however, any utility lost from not undertaking these investments is more than dwarfed by the utility lost from going out of business. After all, at stake is the life of the company itself. Examples of globalization running even successful firms into the ground are rampant and align with the Schumpeterian theory of “creative destruction.”

How do companies actually respond to global competition, and how do their actions shape demand for skilled workers? Two approaches stand out: 1) the adoption

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6 This follows the logic of “defensive innovation” in which firms reengineer themselves to stay alive amid global competition (Wood 1995).
of skill-intensive practices; and 2) the pursuit of offshoring. I reason that both of these “defensive mechanisms” make firms more efficient, lower long-run costs, and maximize their chances of survival. In the following sections, I discuss each and explain how they influence the expected returns to education. Recall that these outcomes should be most important for poor citizens, who will not demand high levels of education unless the expected economic returns for children are high and likely. Rich citizens, by contrast, can always afford to prioritize schooling because their short-term needs are satisfied.

2.2.1 Skill-Intensive Practices

I claim that by exposing companies to foreign competition, globalization induces firms to rely more on skilled workers. This idea builds on extensive research in international and labor economics suggesting that globalization improves the skill intensity of employment.⁷ Firms exposed to competition have greater incentives to invest in skill-biased technologies because they can no longer turn a profit by using anachronistic or less efficient methods. Computers, robots, and other technologies allow firms to cut costs and to boost quality over the long term, even if such changes to the business model require upfront costs and risks in the short term. These

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⁷ For a review, see Brown (2009). Studies cited include: Acemoglu (2003); Attanasio, Goldberg, and Pavcnik (2004); Currie and Harrison (1997); Feenstra and Hanson (1997); Hanson and Harrison (1999); and Pavcnik et al. (2003).
technologies are typically complementary to skills insofar as they require educated employees to operate.

Because globalization encourages skill–biased production, all firms need workers who can excel in such a setting. Therefore, business managers are more apt to hire employees based on education. It takes someone with more education and specialized skills to succeed in this new, tech–rich environment. Because such workers are scarce, companies must also pay them more to attract and retain the talent they crave. This coincides with increases in the expected returns to education. Compare this to politically sheltered companies that have less incentive to innovate and to compete with firms on a global scale. Without the relentless forces of globalization, managers are less susceptible to Darwinian pressures and thus can hire less–skilled workers to carry out tasks.

Amid globalization, education thus becomes the main asset by which workers distinguish themselves. Hiring and compensation based on other criteria (e.g., economic class, social networks) become less tenable because firms cannot justify employing and paying people more with less productive profiles when competing in a globalized market. This is not to say it never occurs or that hiring managers do not screen on non–educational criteria. But such practices are costlier amid globalization, and

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8 See, however, sociology work showing that some employers are willing to rely on “cultural capital” rather than educational credentials to hire employees (Jackson, Goldthorpe and Mills 2005).
firms that consistently eschew meritocratic norms should—in theory—be priced out of the market. In this globalized environment, people perceive that individuals can earn more by acquiring skills so long as the newly created jobs are located in their own countries.

In principle, globalization’s impact in boosting the wage premium for skills should not be limited to certain nations. Yet even if globalization makes all economies more skill-intensive, diminishing marginal returns suggests that these effects should differ across settings. I argue that in less productive economies, there is more room for firms to innovate and to adopt human-capital-intensive practices because production techniques begin at a rudimentary level. More productive economies, however, are already saturated with skill-biased technologies. As a result, they should be less susceptible to international pressures because companies rely heavily on skilled workers. This does not mean that all the progress that can be made has already been made. But there is less room for skill upgrading.

In short, demand for educated workers is increasing everywhere. Few industries are protected from the need to improve their products, to save costs, and to be more efficient. One of the clearest ways to do this is to employ advanced technologies and to hire and pay for skilled workers capable of propelling change. The result is a wholesale shift in how companies think about, recruit, and retain talent. Physical infrastructure
is no longer the benchmark of a company’s success. Instead, it is a firm’s skill intensity. These effects, however, are conditioned by the existing productivity level of a nation’s economy. Less productive economies—by virtue of having more room for technology growth—should see more accelerated shifts toward increased demands for skilled labor.

2.2.2 Offshoring

The above discussion reveals that globalization can boost competition and force firms to be more efficient, particularly in less productive economies. This can occur through technological change and skill-upgrading. But I argue that it is also shaped by a parallel phenomenon: offshoring. The idea behind offshoring is simple: When faced with competition, companies should physically locate (or contract out) aspects of their businesses to where production can be done most efficiently. Some countries are more efficient at different kinds of production, and offshoring exploits this specialization. When globalization proliferates, firms have more power to rely not just on local labor and capital. Instead, the world is at their disposal, especially with today’s greater ease of transportation and travel.9

Although many factors may affect where a firm locates parts of its business, I argue that none matters more than an economy’s productivity level. This variable

9 Numerous studies evaluate both the positive and negative aspects of offshoring (Baldwin 2006; Bhagwati, Panagariya, and Srinivasan 2004; Blinder 2006).
determines what companies can produce most efficiently in a specific setting. More productive economies tend to specialize in capital–intensive outputs that require more–skilled labor. Not surprisingly, the costs of production are relatively high. Less productive economies, by comparison, tend to specialize in non–capital–intensive outputs that require less–skilled labor. Not surprisingly, the costs of production are relatively low. Most companies choosing between these settings are based in more productive nations. Thus, their decision is whether to move jobs to less productive economies.

In general, I claim that firms identify which elements of their supply chain must be located in more productive economies and then offshore the rest to less productive economies. The result is a transfer of jobs from more to less productive countries. This idea comports with the Ricardian notion of comparative advantage, which hinges crucially on productivity differences between nations determining what societies produce. More productive nations can make everything more efficiently. Still, they should specialize in activities that capitalize on their skill–based factors of production. Other jobs should be relegated to less productive nations, even if such tasks are done less efficiently. This specialization process presumably improves welfare for all firms.

Importantly, just because many jobs forced overseas are less skill intensive does
not mean that they require no skills. For example, assembly line workers at a car plant in Germany may not be high skilled relative to computer technicians who design the car. But these workers certainly possess some skills, and when their jobs move abroad, it has nontrivial effects on employment opportunities. To be sure, many jobs that firms have transferred overseas have not been extremely low–skilled, but instead are medium–skilled, craft and blue–collar jobs (and increasingly, even some white–collar jobs that require expertise like reading an X–ray or troubleshooting a computer problem). This has led to a hollowing out of relatively skilled jobs in more productive economies.\footnote{For a detailed discussion of how offshoring shapes the structure of employment opportunities, see Goos, Manning, and Salomons (2014).}

Evidence of this occurring is ubiquitous. In recent decades, for example, the loss of relatively skilled jobs in industries such as manufacturing has been particularly acute in more productive economies, where wages and related production costs are high.\footnote{For example, see Ebenstein et al. (2009) and Hira and Hira (2008), who discuss the impact of offshoring in job displacement.} In countries like the United States and the United Kingdom, such occupations that were once mainstays of national economies have been offshored. Many of these jobs require some skills—but production was too expensive to justify employing labor at home.\footnote{See, for instance, Mankiw and Swagel (2006) and Drezner (2004) for discussions of how offshoring has become a salient political issue in the U.S. context.} By contrast, the number of relatively skilled jobs in less productive economies...
tive economies has skyrocketed as a result of offshoring. In countries like China, India, and elsewhere, more skilled jobs abound due to global companies relocating production to these places.

Ultimately, offshoring should have cross-cutting effects on wages and employment for skilled workers. More productive economies should shed relatively skilled jobs when exposed to globalization, whereas less productive economies should add them. In more productive economies, this makes it harder for skilled workers to find well-paying jobs. In less productive economies, this makes it easier for them to do so. As nations become more exposed to globalization, the odds of being on one end or the other of offshoring increases. In this way, an economy’s productivity conditions the expected returns to education. Again, this should be most impactful for poor citizens, who will only prioritize education if the anticipated returns to schooling are likely to be considerable.

2.3 Predictions

Based on the above discussion, globalization’s impact on political demands for education is conditional on individual- and country-level characteristics. It has little effect on how rich citizens vote and lobby for schooling. Such individuals can afford to be long-run oriented, so they almost always demand education at high levels.
Poor citizens, however, only demand education to the degree that expected returns to schooling are both high and likely. Globalization increases political demands for schooling the most among the poor in less productive economies because here firms not only become more skill-intensive at an accelerated rate, but relatively skilled jobs are also funneled in from overseas through offshoring. Table 2.1 summarizes these predictions.

Table 2.1: Impact of Exposure to Globalization on Political Demands for Education

<table>
<thead>
<tr>
<th></th>
<th>Low Productivity Economy</th>
<th>High Productivity Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Poor Citizens</strong></td>
<td><em>Greatest Marginal Effect</em></td>
<td>Less Marginal Effect</td>
</tr>
<tr>
<td><strong>Rich Citizens</strong></td>
<td>Less Marginal Effect</td>
<td>Less Marginal Effect</td>
</tr>
</tbody>
</table>
Large–N, Cross–National Analyses: Globalization and Educational Inequality across Time and Space

In this chapter, I marshal large–N, cross–national time–series data to probe how globalization affects distributions of demand for education conditional on a country’s productivity. Controlling for other factors, I show that globalization diminishes educational inequality in student attainment the most in less productive economies. This finding offers evidence in favor of my theory, even if it comes at the expense of more detailed information on citizen demands for schooling. In a subsequent chapter, I will address various questions raised by this analysis, such as the possibility that differences in educational inequality are not due to citizen preferences at the top and bottom of the income distribution or that distributions of student attainment do not reflect how citizens prioritize education politically.
3.1 Empirical Setup

My empirical strategy is to regress over time a nation’s degree of educational inequality against its exposure to globalization, conditional on its productivity level. Below, I discuss how I operationalize my key dependent, independent, and control variables.

**DV: Educational Inequality**

My dependent variable is the educational Gini coefficient. Like the standard income Gini coefficient, the educational Gini coefficient measures how evenly distributed outcomes are in a society. A value of “0” denotes perfect equality; a value of “1,” perfect inequality. Data on the educational Gini coefficient come from the “Data Set of Educational Inequality in the World, 1950–2010” (DEIW) (Wail, Hanchane, and Kamal 2012). The DEIW derives its estimates from the authoritative Barro–Lee (2010) “Educational Attainment Dataset,” which relies on census data to arrive at educational attainment measures by country. The DEIW covers 146 nations over the time frame 1950 to 2010\(^1\) and represents arguably the best available international

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\(^1\) For each country, the data provide separate Gini coefficient datapoints across eight birth cohorts every five years. I take an average of the educational Gini coefficients for these cohorts in every available year and then interpolate the data so that they take on the standard country–year panel format. Therefore, although the original data are quinquennial, my final dataset has observations for every year from 1950 to 2010.
dataset of educational inequality.\textsuperscript{2}

For my purposes, one limitation of the DEIW is that it does not explicitly capture how citizens of different incomes prioritize education. I make the simplifying assumption that countries with lower educational inequality foster higher relative demands for schooling among the poor, whereas countries with higher educational inequality foster lower relative demands for schooling among the poor. This is reasonable given that it is hard to think of any country in which individuals with the least education tend not to come from the poorest families. Another limitation is that the educational Gini coefficient only captures dispersions in student attainment, not actual political demands for education. Nonetheless, it offers a useful approximation insofar as student attainment reflects how much citizens prioritize schooling generally.

\textit{IV: Economic Openness (lagged)}

My central independent variable is a country’s exposure to the international economy.\textsuperscript{3} For my main regressor, I rely on the widely–cited measure of external economic liberalization by Wacziarg and Welch (2008). The Wacziarg and Welch (2008)

\textsuperscript{2} As one scholar notes, the “DEIW outperforms previously introduced datasets on educational inequality” (Bartusevicius 2013).

\textsuperscript{3} Scholars have proffered many definitions and measures of economic openness. Harrison (1996), for example, declares that there exist “a dizzying array of ‘openness’ measures, methodologies, and sample countries.”
dataset, which builds off codings by Sachs and Warner (1995), defines an economy as either open (“1”) or closed (“0”) based on a range of barriers to economic flows, such as tariffs, whether an economy is socialist, and black market exchange rates.4 This variable covers the period 1950–1999 (and was expanded and extended for many countries to 2004 by Magee and Massoud (2011)). A primary upside of the Wacziarg and Welch (2008) variable is that it defines openness in a way that is plausibly exogenous to educational inequality. Many other indicators of global integration (e.g., trade or FDI) raise concerns that economic flows channel to certain countries precisely because of their human capital bases. Another benefit is that the variable is relatively slow-moving. When prioritizing education, individuals should take a long-term view toward future labor market opportunities, making it unlikely that their preferences will be swayed by short-term (and often volatile) movements in economic flows.

*Alternative IV: Index of Globalization (lagged)*

Despite reasons to prefer the Wacziarg and Welch (2008) openness variable, it is not without shortcomings. Perhaps the biggest limitation is its rather blunt classification

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4 As summarized by Magee and Massoud (2011), “A closed economy is defined as having at least one of the following characteristics: an average tariff rate of 40% or more, nontariff barriers covering 40% or more of imports, a black market exchange rate at least 20% lower than the official rate, a state monopoly on major exports, or a socialist economic system. The Wacziarg and Welch liberalization dates are the years in which the economy becomes permanently classified as open in the data set.”
scheme: Countries are either integrated into the global economy or they are not. In addition, although looking exclusively at barriers to economic openness helps to avoid endogeneity problems, actual economic flows—such as FDI, trade, and the like—are perhaps the most visible signs of globalization. To address these concerns, I employ an alternative independent variable. Specifically, I use data from the KOF economic globalization index (Dreher 2006), which offers a continuous weighted composite of a nation’s exposure to globalization based on both “actual flows” and “restrictions.”

Data on the KOF Globalization Index go back to 1970.

Moderator Variable: Productivity Level (lagged)

The effects of globalization on demands for education should be conditioned by a country’s productivity level. I measure productivity with data on a nation’s total labor productivity (equal to outputs per person employed). Data on labor productivity come from The Conference Board (2015) and are denominated in 1990 U.S. dollars. Observations date back to 1950 and cover 128 nations.

5 “Actual flows” are comprised of: 1) “Trade (percent of GDP)”; 2) “Foreign Direct Investment, stocks (percent of GDP)”; 3) “Portfolio Investment (percent of GDP)”; and 4) “Income Payments to Foreign Nationals (percent of GDP).” “Restrictions” are comprised of: 1) “Hidden Import Barriers”; 2) “Mean Tariff Rate”; 3) “Taxes on International Trade (percent of current revenue)”; and 4) “Capital Account Restrictions.” Theoretically, scores can run from “0” (absolute minimum exposure to globalization) to “100” (absolute maximum exposure). I divide scores by 100 so that their size accords more with the dichotomous definition of economic openness.

6 I divide these figures by 1,000.
Control Variables

To control for other factors that might explain educational inequality, I include several covariates in my models:

_Economic development (lagged)._ A nation’s level of economic development reflects the resources it has to devote to various kinds of social programs (Huber, Mustillo, and Stephens 2008; Kaufman and Segura–Ubiergo 2001). Usually, higher-income states not only spend more on schools overall, but also on efforts to improve classroom equity. Furthermore, wealthier nations are generally more prone to engage in countercyclical social spending amid economic downturns (Wibbels 2006). If low-income citizens cannot shield themselves from such cuts, low development can exacerbate educational inequality. Data on real GDP per capita come from the Penn World Tables (2012).

_Economic growth._ A country’s growth rate can also shape its allocation of education. Big-government proponents may more effectively advocate for government munificence amid economic booms (Stallings 1992). The opposite is true during periods of economic contraction, when right–of–center or otherwise fiscally conservative parties might be inclined to call for austerity on programs like education that disproportionately hurt the poor (Fagan and Munck 2009). To calculate annual economic growth, I again use real GDP per capita data from the Penn World Tables. I take
the total change in a country’s income from one year to the next, divided by the initial year’s GDP per capita.

Democracy (lagged). Democracies typically redistribute more than nondemocratic regimes (Bueno de Mesquita et al. 2003; McGuire 2001). In the same vein, democracies usually invest more overall in schools (Brown and Hunter 1999; Lake and Baum 2001; Stasavage 2005), and particularly, in primary schools (Brown and Hunter 2004), which tend to be less regressive than secondary and tertiary education. Thus, democracies should incur less educational inequality. Here, I rely on the Boix, Miller, and Rosato (2013) binary measure of democracy, which codes a nation as democratic (“1”) if it meets basic thresholds for elections and suffrage and “0” otherwise.

Conflict (lagged). Internal conflict can lead to the collapse of schools, foster insecurity that deters attendance, and funnel resources toward fighting that would otherwise go to education (Lai and Thyne 2007; UNESCO 2011). It can also prompt rebel recruitment that takes adolescents away from school and onto the battlefield (Collier and Hoeffler 2004). To the extent that the poor are more likely to live in war–prone regions, conflict should exacerbate educational inequality. I code a country–year as “1” if there was an ongoing conflict (more than 25 battle deaths) and “0” otherwise using data from UCDP/PRIO Armed Conflict Dataset (Themner
Traditionally, “Western” countries have possessed some of the most developed school systems in the world. Stemming from a long history and culture that emphasizes education, these nations were some of the earliest adopters of mass compulsory schooling. With these institutions established, Western countries had a base on which to build robust, modern school systems. To the extent that this history has led to the expansion of educational opportunities for poor and disadvantaged youth, Western countries should, on average, be afflicted by less educational inequality. Western countries are classified using the same criteria as Gift and Krcmaric (2015).

### 3.1.1 Results and Discussion

I start with a correlational exercise. Figure 3.1 presents a standard “box and whiskers” plot of the educational Gini coefficient, conditional on whether an economy is open or closed as defined by Wacziarg and Welch (2008). Open economies are both more tightly dispersed and clustered near the bottom of the distribution, indicating that they tend to be afflicted by less educational inequality. The median educational Gini coefficient of an open economy is .34, compared to .61 for a closed economy. Of course, this result could be due to the fact that I do not control for

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7 I do not lag the Open variable in these descriptive statistics.
other relevant factors (e.g., national income, economic growth, regime type, conflict, and Western status). Furthermore, this analysis does not reveal possible interactions between a country’s exposure to globalization and its productivity.

![Figure 3.1: Distribution of Educational Gini Coefficient in Closed vs. Open Economies](image)

**Figure 3.1:** Distribution of Educational Gini Coefficient in Closed vs. Open Economies

To address these issues, I turn to regression analysis. Specifically, I regress my \textit{EducInequality} variable on my lagged \textit{Open} and \textit{Productivity} variables, plus their interaction. Along with my covariates and decade fixed effects to control for time, this model can be expressed as:

\[
\text{EducInequality}_{it} = \alpha_0 + \alpha_1 \text{Open}_{it-1} + \alpha_2 \text{Productivity}_{it-1} + \alpha_3 \text{Open}_{it-1} \ast \text{Productivity}_{it-1} + \alpha_4 \text{Development}_{it-1} + \alpha_5 \text{Growth}_{it} + \alpha_6 \text{Democracy}_{it-1} + \\
\alpha_7 \text{Conflict}_{it-1} + \alpha_8 \text{Western}_{it} + \epsilon_{it}
\]
For my main model, I employ ordinary least squares (OLS) regression with Huber (1967)–White (1980) robust standard errors clustered by country. I rely on levels for my variables rather than dynamic first–differences because of the nature of the data. My key independent variable—the Wacziarg and Welch (2008) measure of economic openness—is relatively stationary. For many countries, it changes little over the observation period, making it hard to capture variation in globalization exposure over a reasonable length of time. Although the KOF index does move more significantly, the volatility of economic flows makes it unlikely that disturbances from year to year would exhibit considerable effects on how citizens demand education without clear departures from existing patterns.

I now turn to my results. Model 3.1 shows that the parameters on Open and Productivity are both negative and statistically significant. The coefficient on their interaction, however, is positive and statistically significant. Figure 3.2 uses these estimates to arrive at substantive effects. It reveals that more productive countries experience less educational inequality, irrespective of whether they are open. The effect of economic openness differs, however, conditional on a nation’s productivity. In less productive settings, educational inequality is lower in open economies. At higher productivity levels, this gap diminishes until economic openness actually be-

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8 I use the “margins” command in Stata to obtain the substantive/marginal effects estimates in this section.
gins to exacerbate educational inequality. As expected, economic openness decreases educational inequality the most in less productive economies.

Table 3.1: Effect of Open*Productivity on Educational Inequality

<table>
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<th>(Model 3.1)</th>
<th>(Model 3.2)</th>
<th>(Model 3.3)</th>
</tr>
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<tr>
<td>Open</td>
<td>-0.088**</td>
<td>-0.088***</td>
<td>-0.027**</td>
</tr>
<tr>
<td></td>
<td>(0.034)</td>
<td>(0.017)</td>
<td>(0.012)</td>
</tr>
<tr>
<td>Productivity</td>
<td>-0.006**</td>
<td>-0.006***</td>
<td>-0.003*</td>
</tr>
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<td></td>
<td>(0.003)</td>
<td>(0.001)</td>
<td>(0.001)</td>
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<tr>
<td>Open*Productivity</td>
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<td>0.004***</td>
<td>0.002**</td>
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<td>(0.001)</td>
<td>(0.001)</td>
</tr>
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<td>Development</td>
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<td>-0.002*</td>
<td>0.005***</td>
</tr>
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<td>(0.001)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Growth</td>
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<td>-0.156</td>
<td>0.002</td>
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<td>(0.100)</td>
<td>(0.016)</td>
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<td>-0.158***</td>
<td>-0.010</td>
</tr>
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<td></td>
<td>(0.028)</td>
<td>(0.011)</td>
<td>(0.010)</td>
</tr>
<tr>
<td>Conflict</td>
<td>0.047</td>
<td>0.047***</td>
<td>-0.006</td>
</tr>
<tr>
<td></td>
<td>(0.030)</td>
<td>(0.008)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>West</td>
<td>-0.064**</td>
<td>-0.064***</td>
<td>-0.277***</td>
</tr>
<tr>
<td></td>
<td>(0.030)</td>
<td>(0.024)</td>
<td>(0.044)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.699***</td>
<td>0.699***</td>
<td>0.604***</td>
</tr>
<tr>
<td></td>
<td>(0.031)</td>
<td>(0.021)</td>
<td>(0.027)</td>
</tr>
</tbody>
</table>

N: 4445
R²: 0.501

Standard errors in parentheses
Model 1 uses OLS with robust SEs clustered by country w/ decade FEs
Model 2 uses OLS/WLS with Driscoll–Kraay SEs w/ decade FEs
Model 3 uses OLS with robust SEs clustered by country w/ country REs and decade FEs

* p < 0.10, ** p < 0.05, *** p < 0.01, two-tailed test
Figure 3.2: Predicted Values of Educational Gini Coefficient, Conditional on Openness*Productivity

X–range shown in chart: 0 to + 2 SDs from mean; IV is lagged one year, as described in text

To confirm my findings, Model 3.2 reestimates Model 3.1 using pooled OLS / weighted least squares (WLS) regression with Driscoll–Kraay (1998) standard errors. This nonparametric covariance procedure corrects for autocorrelation and heteroskedasticity, as well as spatial cross–sectional dependence. Model 3.3 applies country random effects to Model 3.1, again using OLS with robust standard errors clustered by country. Random effects are preferred to country fixed–effects because the key independent variable (and many of the controls) are either time–invariant or slow–moving, so country fixed effects might “soak up” much of their variation. In every case, the signs and statistical significance of my core variables of interest are indistinguishable from my original estimation.

Next, I look at my alternative independent variable: the KOF index of economic

---

9 For an overview of this method, see Hoechle (2007).
globalization. As discussed earlier, this variable incorporates information on both economic barriers to globalization and actual economic flows. I begin again with a straightforward correlational analysis. Figure 3.3 plots the educational Gini coefficient against the KOF index of economic globalization. The relationship between exposure to globalization and educational inequality is negative. As countries become more exposed to globalization, educational inequality declines. Again, however, this relationship could be complicated by the fact that I do not control for other relevant factors or interactions in which globalization’s impact on educational inequality depends on a country’s productivity.

![Figure 3.3: Effect of Globalization Exposure on Educational Inequality](image)

---

10 I do not lag the GlobalExposure variable in these descriptive statistics.
Using OLS regression with robust standard errors clustered by country, Model 3.4 thus regresses the educational Gini coefficient against variables for the KOF economic globalization index, productivity, their interaction, my standard controls, and decade fixed effects. The coefficients on \textit{GlobalExposure} and \textit{Productivity} are both negative and statistically significant, with a positive and significant interaction term. As illustrated in Figure 3.4, globalization alleviates educational inequality the most in less productive economies. The signs and statistical significance of my variables are the same in Model 3.5, employing OLS/WLS regression with Driscoll–Kraay standard errors, and Model 3.6, using OLS regression with robust standard errors clustered by country and country random effects.
Table 3.2: Effect of Global Exposure*Productivity on Educational Inequality

<table>
<thead>
<tr>
<th></th>
<th>(Model 3.4)</th>
<th>(Model 3.5)</th>
<th>(Model 3.6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global Exposure</td>
<td>-0.629***</td>
<td>-0.629***</td>
<td>-0.195***</td>
</tr>
<tr>
<td></td>
<td>(0.120)</td>
<td>(0.043)</td>
<td>(0.062)</td>
</tr>
<tr>
<td>Productivity</td>
<td>-0.013***</td>
<td>-0.013***</td>
<td>-0.007***</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.001)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Global Exposure*Productivity</td>
<td>0.015***</td>
<td>0.015***</td>
<td>0.010***</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.001)</td>
<td>(0.002)</td>
</tr>
<tr>
<td>Development</td>
<td>0.001</td>
<td>0.001*</td>
<td>-0.000</td>
</tr>
<tr>
<td></td>
<td>(0.002)</td>
<td>(0.001)</td>
<td>(0.001)</td>
</tr>
<tr>
<td>Growth</td>
<td>-0.064</td>
<td>-0.064</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.074)</td>
<td>(0.119)</td>
<td>(0.019)</td>
</tr>
<tr>
<td>Democracy</td>
<td>-0.117***</td>
<td>-0.117***</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(0.027)</td>
<td>(0.010)</td>
<td>(0.008)</td>
</tr>
<tr>
<td>Conflict</td>
<td>0.025</td>
<td>0.025***</td>
<td>-0.009</td>
</tr>
<tr>
<td></td>
<td>(0.028)</td>
<td>(0.006)</td>
<td>(0.010)</td>
</tr>
<tr>
<td>West</td>
<td>-0.006</td>
<td>-0.006</td>
<td>-0.184***</td>
</tr>
<tr>
<td></td>
<td>(0.026)</td>
<td>(0.009)</td>
<td>(0.038)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.822***</td>
<td>0.822***</td>
<td>0.630***</td>
</tr>
<tr>
<td></td>
<td>(0.069)</td>
<td>(0.021)</td>
<td>(0.038)</td>
</tr>
<tr>
<td>N</td>
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<td>3652</td>
<td>3652</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.541</td>
<td>0.541</td>
<td></td>
</tr>
</tbody>
</table>

Standard errors in parentheses

Model 4 uses OLS with robust SEs clustered by country w/ decade FEs
Model 5 uses OLS/WLS with Driscoll–Kraay SEs w/ decade FEs
Model 6 uses OLS with robust SEs clustered by country w/ country REs and decade FEs

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$, two-tailed test
3.2 Chapter Summary

On the whole, my large-N, cross-country results validate the proposition that globalization diminishes educational inequality the most in less productive economies. Presumably, poor individuals are more likely to demand education because they expect increases in returns to schooling through firms becoming more skill-intensive at an accelerated rate and jobs being created via offshoring. The main advantage of the large-N, cross-country data is to enable examining globalization’s impact on educational inequality across a large number of countries over time. Yet to make claims about how different citizens react to globalization—and, particularly, whether political demands for education are mediated by budget constraints—I need micro-level
data that explicitly incorporate this information.
This chapter tests my theory using individual–level survey data. I present two kinds of evidence. First, I leverage survey data from across the world to show that poor parents demand the most education in open, less productive economies. Second, to parse the mechanisms in my theory, I examine a pair of shocks bearing on offshoring and the drive toward skill–intensive employment fueled by globalization in two less productive economies. My case of offshoring involves Intel beginning operations in Costa Rica in 1998. My case of a country becoming more skill–intensive entails FDI channeling into Zambia after the IMF forgave the country’s debt in 2005. In each case, I find that educational preferences increased due to globalization exposure, and
poor citizens largely drove these changes.

In addition to providing a window into my theory’s mechanisms, the Costa Rican and Zambian cases are particularly useful from the standpoint of improving causal inference. One of the primary challenges posed by international surveys is that nations vary in a constellation of ways that are difficult to model within a standard observational setup. These “unobservables” may skew my results if they correlate with how citizens vote and lobby for schooling. By looking at preferences for education within the same countries over a short period of time, I can allay this problem because the samples are presumably similar along most important dimensions. Below, I describe my empirics in detail, first for my PISA analysis and then for my quantitative case studies.

4.1 International PISA Survey

I begin by investigating data from the Programme for International Student Assessment’s (PISA) Parent Survey (OECD 2009, 2012). My empirical approach is to examine how preferences for education differ in open versus closed economies, as well as how preferences are conditioned by a nation’s productivity. I focus on the 2009 and 2012 waves of the PISA survey because these are the waves that asked the primary question about participation in school governance that serves as my dependent
variable. Given the sheer size of the sample—approximately 100,000 respondents in 17 countries (26 country–years)—I can use the PISA survey to evaluate my theory’s broad explanatory power and to gain a global overview of how citizens politically prioritize education.¹

**DV: Participation in School Governance**

To quantify citizen demand for education, I rely on the following question from PISA: “During the last <academic year>, have you participated in any of the following school–related activities? [Participated in local school <government>, e.g. parent council or school management committee].” I code as “1” if someone says that he or she has participated and “0” otherwise. My assumption is that parents who participate in local school governance are more likely to be active in voting and lobbying for education. One of the chief benefits of this indicator is that it focuses on actual political behavior. Other commonly used metrics of political support for education—especially preferences for per–pupil spending—suffer from the well–known problem of “acquiescence bias.” Because so few people say they do not favor more school spending, it is hard to distinguish who prioritizes education vis-à-vis other policy goals.² By contrast, actual involvement in school governance signals a

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¹ I exclude all respondents who answered the questions but were not listed as one’s mother or father.

² A good example comes from the International Social Survey Programme’s “Role of Government Survey,” in which huge majorities prefer “more” or “much more” spending on schools. See Gift and
clear and demonstrable commitment to the cause.

**IV: Economic Openness**

I measure exposure to globalization with the same main indicator as in the previous country–level analysis: the Wacziarg and Welch (2008) database of external economic liberalization, expanded by Magee and Massoud (2011). Because the data do not run through 2012, I use the most recent datapoints available. Economic openness is a national–level variable, so every respondent from a particular country is ascribed the same number. For example, in the most recent year available, Croatia was defined as a closed economy, so I assign all respondents from Croatia a “0.” Conversely, Chile was defined as open, so I assign all respondents from Chile a “1.” A downside of using the economic openness variable is the limited number of economies that qualify as closed. The overwhelming majority of nations that participate in PISA are more advanced economies that are integrated into the international marketplace.\(^3\) Thus, the open vs. closed analysis should be interpreted with caution.

**Micro–Level Moderator Variable: Income**

I capture budget constraints with the “1–6” scale of annual household income provided by PISA, where “6” constitutes the highest income bracket. This measures how

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\(^3\) In fact, the only country–years that qualify as closed are Croatia (in 2009 and 2012) and Qatar (in 2009).
individuals fare economically relative to others within a country, thus providing a frame of reference for their ability to emphasize short- versus long-run consumption.

*Macro-Level Moderator Variable: Productivity*

To measure an economy’s productivity, I again rely on labor productivity data from The Conference Board (2015). As mentioned earlier, the number of country-years that qualify as closed is small. It is almost impossible to make reasonable inferences about the role of productivity in conditioning demands for schooling in these economies, so I do not attempt to do so. I do, however, have a larger sample of open economies that I can analyze. For simplicity, I divide this sample into two categories: 1) low productivity economies; and 2) high productivity economies. Low productivity economies are those that, in the relevant year, ranked in the bottom half of all country-years participating in the 2009 and 2012 PISA Parent Surveys according to their labor productivity. High productivity economies are those that ranked in the top half. In the 2009 and 2012 waves, there are 20 country-years classified as open for which there are also labor productivity data. I code the top ten most productive economies as high productivity economies (“0”) and the bottom ten as low productivity economies (“1”).
Control Variables

I include control variables for education\(^4\) and sex.\(^5\) I do not control for age, a standard explanatory variable in studies of educational demand, because this variable is not available in both waves of the PISA survey. I will, however, control for age in subsequent non–PISA analyses when discussing Costa Rica and Zambia.

4.1.1 Results and Discussion

Before delving into my main statistical analyses, I first look at the raw data. Figure 4.1 disaggregates the percentage of parents who were involved in school governance, depending on whether their nation’s economy is open or closed. As we can see, parents who are more exposed to globalization are more active in the political affairs of their schools. Roughly 19.4 percent of respondents who live in open economies said that they were involved in local school governance, compared to just 11.5 percent who reside in closed economies. These numbers, of course, do not account for other factors that might explain this relationship, such as a respondent’s sex and educational background. They also do not reveal how citizens in different income brackets prioritize schooling across economies.

\(^4\) I proxy this measure with whether someone completed secondary education—i.e., ISCED (International Standard Classification of Education) Level 3A.

\(^5\) I code “1” for males and “0” for females.

57
To examine these effects, I estimate a simple logistic model that controls for a parent’s sex and education and that interacts my economic openness and household income variables. To guard against heteroskedasticity, I employ robust standard errors. I do not cluster standard errors by country because my number of country–groupings is too small by conventional standards and because the sizes of the clusters vary considerably. Country fixed effects are largely absorbed by the static country–specific variable for economic openness, so including additional dummy variables could bias my estimates. I do, however, include a dichotomous variable denoting whether observations fall in the 2012 PISA Parent Survey wave. My final model can be written as:

6 For more details on clustering, see Angrist and Pischke (2009).
As anticipated, Model 4.1 shows that \textit{Open} and \textit{Income} both yield positive and statistically significant coefficients. The parameter on their interaction, however, is negative and statistically significant. Holding the control variables at their medians, Figure 4.2 illustrates the substantive effects of these relationships. When an economy is closed, the predicted probability that a parent at the low end of the income scale ("1") participates in school governance is 12.4 percent, relative to 17.0 percent at the top of the income distribution ("6"). By contrast, when an economy is open, the chance that a poor parent takes an active role in school governance is actually greater than that of a high-income parent. These predicted probabilities are 25.4 and 17.1 percent, respectively.
Table 4.1: Effect of Open*Income on Participation in School Governance

<table>
<thead>
<tr>
<th></th>
<th>(Model 4.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>1.047***</td>
</tr>
<tr>
<td></td>
<td>(0.064)</td>
</tr>
<tr>
<td>Income</td>
<td>0.073***</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
</tr>
<tr>
<td>Open*Income</td>
<td>-0.173***</td>
</tr>
<tr>
<td></td>
<td>(0.018)</td>
</tr>
<tr>
<td>Male</td>
<td>0.128***</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
</tr>
<tr>
<td>Education</td>
<td>-0.241***</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
</tr>
<tr>
<td>2012 Wave</td>
<td>0.510***</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
</tr>
<tr>
<td>Constant</td>
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</tr>
<tr>
<td></td>
<td>(0.064)</td>
</tr>
<tr>
<td>N</td>
<td>102604</td>
</tr>
<tr>
<td>AIC</td>
<td>99855.262</td>
</tr>
<tr>
<td>BIC</td>
<td>99922.032</td>
</tr>
<tr>
<td>Log lik.</td>
<td>-49920.631</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
Uses logistic regression with robust standard errors
* p < 0.10, ** p < 0.05, *** p < 0.01, two-tailed test
I next analyze how globalization affects demands for education conditional on an economy’s productivity. Recall that I base this analysis exclusively on the sample of open economies. One limitation of such an approach is that—as indicated by the cross-country panel analysis—high productivity economies could inherently foster greater demands for education. Thus, even if the marginal effect of economic openness on raising demands for education is positive in less productive economies, it might not show up if baseline demands for schooling differ across productivity levels. With this in mind, I estimate a simple logistic regression with robust standard errors and all the controls that interacts Income with a variable denoting whether a country–year classifies as a low productivity economy:

\[ \text{Participate}_i = \alpha_0 + \alpha_1 \text{LowProductivity}_i + \alpha_2 \text{Income}_i + \alpha_3 \text{LowProductivity} \ast \text{Income}_i \]
\[ Income_i + \alpha_4 Controls_i + \epsilon_i \]

As shown in Model 4.2, the coefficients on LowProductivity and Income are both positive and statistically significant, while the coefficient on their interaction is negative and statistically significant. Figure 4.3 reveals the substantive effects of these relationships. In an open, high productivity economy, the predicted probability that a parent at the bottom (“1”) and top (“6”) of the income scale participates in school governance is virtually identical, at 16.0 and 17.0 percent, respectively. In an open, low productivity economy, however, the predicted probability that someone at the lower end of the income distribution participates in school governance reaches 29.3 percent, while that figure is just 18.1 percent for someone at the top of the income scale.
Table 4.2: Effect of LowProductivity*Income on Participation in School Governance: Open Economies

<table>
<thead>
<tr>
<th></th>
<th>(Model 4.2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LowProductivity</td>
<td>0.918***</td>
</tr>
<tr>
<td></td>
<td>(0.034)</td>
</tr>
<tr>
<td>Income</td>
<td>0.015*</td>
</tr>
<tr>
<td></td>
<td>(0.008)</td>
</tr>
<tr>
<td>LowProductivity*Income</td>
<td>-0.140***</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
</tr>
<tr>
<td>Male</td>
<td>0.087***</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
</tr>
<tr>
<td>Education</td>
<td>-0.172***</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
</tr>
<tr>
<td>2012 Wave</td>
<td>0.337***</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.836***</td>
</tr>
<tr>
<td></td>
<td>(0.031)</td>
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<tr>
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<td>99509.021</td>
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<tr>
<td>BIC</td>
<td>99575.562</td>
</tr>
<tr>
<td>Log lik.</td>
<td>-49747.511</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
Uses logistic regression with robust standard errors
* p < 0.10, ** p < 0.05, *** p < 0.01, two-tailed test
Because if anything we would expect more productive economies to foster greater baseline demands for education due to their better labor market opportunities, this result is especially noteworthy. It not only suggests that the marginal effect of globalization exposure on improving demands for education among the poor is positive in less productive economies, but that the actual propensity of poor parents to demand schooling is higher in those countries. In some respects, this is an even stronger result than in the cross-country panel analysis. In those empirics, the marginal effect of globalization exposure on decreasing educational inequality was significant, but more productive economies still experienced less educational inequality on average regardless of their exposure to globalization.
4.2 Test Cases

Overall, my PISA analysis supports my theory. Yet it does not actually probe how my key mechanisms—offshoring and the increasing skill-intensity of firms fueled by globalization—shape demands for schooling. To probe these issues, I now exploit a pair of shocks bearing on these mechanisms. First, I examine the case of Costa Rica when the tech giant Intel began operations there in 1998. I reveal how this example of offshoring improved expected returns to schooling and led the poor to demand more education. Second, I investigate the case of Zambia when the nation received large inflows of FDI after the IMF forgave its debt in 2005. I show how this example of a country becoming more skill-intensive also increased expected returns to schooling and augmented demands for education among the poor.

In line with my theory, there is good reason to think that Intel’s offshoring was a response to international competition. Moving production activities from the United States to Costa Rica meant that the company could devote more of its energies at home to where it had a comparative advantage (design, engineering, and research and development), while offshoring production that could be done more cheaply overseas. Similarly, when FDI entered Zambia, there is good reason to believe that competition spurred more skill-intensive hiring. To increase profits, foreign firms needed to expand their use of technologies and to hire and retain educated employees.
who could succeed in this setting. This also likely pressured domestic firms to become more skill-intensive.

Costa Rica and Zambia constitute good case studies for several reasons. Most importantly, they cover the two primary mechanisms described in my theory: offshoring and the drive toward skill-intensive production as a result of exposure to globalization. Additionally, they are both less productive economies. Costa Rica’s labor productivity in 1997 was $14,865, while Zambia’s in 2004 was $2,658. Based on my large-N analysis of the KOF economic globalization index, this is within the range of where globalization exposure should raise demands for schooling among the poor. Practically, I also select Costa Rica and Zambia because relatively good data on educational preferences exist in both countries over multiple years, thus enabling longitudinal comparisons.

4.3 Offshoring: Intel in Costa Rica

In March 1998, Intel began production at its new semiconductor plant in Costa Rica.\(^7\) Intel’s offshoring to the small Latin American nation was a game-changer.

One of Intel’s top executives equated the event to “putting a whale in a swimming pool” (Spar 1998). *The Economist* declared that “[s]ince Intel, an American semi-\(^7\) March 1998 is when the Intel facility “began operations” in Costa Rica. See: \url{http://explorelntel.com/costarica/photos/en}
conductor maker, opened a factory outside the capital, San Jose, in March 1998, Costa Rica’s economy has been transformed.”

According to the World Bank (2010), Intel proved “the catalyst for a realignment of Costa Rica’s competitive platform as an investment location.” “Intel was a landmark in our history,” declared Foreign Trade Minister Anabel González. “It put Costa Rica on the map as a place to invest and for high-tech firms.”

As shown by Figure 4.4, Intel transformed the composition of Costa Rica’s trading base. The transformation was swift, dramatic, and left few areas of the Costa Rican economy untouched. In 1997, the share of high-tech exports from Costa Rica totaled 13.2 percent. By 1998, that number had swelled to 43.7 percent. According to one expert, “Before Intel, Costa Rica’s principal exports were low value-added manufactured goods, such as textiles or more traditional products, such as coffee and bananas. While those exports are still important, Costa Rica’s single most important export now is microprocessors” (Nelson 2009). Put simply, before Intel, Costa Rica specialized in the “golden bean” of coffee; after, it was the “golden chip” of microprocessors (World Bank 2006).

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The Intel “bombshell” garnered immense public interest, from the media, politicians, and others. In short order, Intel became so critical to Costa Rica’s economy that after a new executive took over the plant in 1999, President Miguel Ángel Rodríguez quipped that his own position paled in significance.10 His words were only a slight exaggeration. Indeed, many Costa Ricans saw Intel as embodying the nation’s future. As Rodríguez’s predecessor, President José María Figueres, commented, “From the beginning it was evident that Intel represented a great opportunity for Costa Rica. Not only because it would give us name recognition, but also because it clearly represented what we were trying to accomplish with our sustainable

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The site for Intel’s new plant, which would become the epicenter of Costa Rica’s investment corridor, was Belen County, Heredia. But it was hardly a foregone conclusion that one of the world’s leading technology blue chips would choose Costa Rica for its new offshore facility. One expert, for example, notes that “[t]he investment community was initially stunned by Intel’s announcement” (Lederman et al. 2013). A World Bank analysis called “Intel’s selection of Costa Rica...a highly specific, idiosyncratic event” (Spar 1998). Not long before announcing the decision, however, an Intel executive referred to Costa Rica as a classic “greenfield” venture: “Costa Rica is a good product....It has several green lights, some yellow lights and no red lights” (World Bank 2006).

As Intel began production in Costa Rica, the firm rushed to fill its factory with qualified workers. Figure 4.5 shows the spike in employment at Intel from 1997, when the firm laid the groundwork for its new facility, to 1998, when it commenced production and began exporting. The number of technicians grew from 162 to 1,790, while the number of university trained workers increased from 344 to 544. Early forecasts even predicted that “[f]our indirect jobs would potentially be created for each Intel position” (Ketelhohn and Porter 2009). As one study concludes, “op-
erations of ...[Intel] in Costa Rica have had an enormous impact on the country’s economy, because of the large amount of highly qualified personnel it has hired” (Monge–Gonzalez and Gonzalez–Alvarado 2007).

![Figure 4.5: Skilled Workers at Intel Facility in Costa Rica](image)

Data from Intel Costa Rica; Collected by Monge–Gonzalez and Gonzalez–Alvarado (2007)

In addition to creating a large number of high-skilled jobs, Intel raised the incentives of Costa Ricans to invest in education by paying high wages to qualified personnel. For example, workers earned a mean wage of $562 per month at Intel, compared to $389 per month at manufacturing plants in the rest of Costa Rica (Larrain, Lopez–Calva, and Rodriguez–Clare 2000). Although much of this gap can likely be explained by Intel employing exceptionally well-trained and well-educated workers, the fact that Intel sought out such employees is exactly the point. To the extent that higher wages also led other firms in Costa Rica to bid up salaries in order to avoid “poaching” of their best workers, the situation would have only strengthened
the incentives of Costa Ricans to acquire skills.

Clearly, Intel’s offshoring of production to Costa Rica had a drastic effect on the country. The analogy of the firm constituting a “whale in a swimming pool” because of the splash it made in the nation was not an overstatement. Intel reoriented Costa Rica toward high–tech production, improved skilled employment prospects, and raised the stakes for education. This structural reconfiguration of the economy to one built on human–capital–intensive manufacturing and high–skilled jobs was key to Costa Rica joining an elite cadre of emerging nations at the cutting edge of business. Because of the company’s enormous impact on Costa Rica’s economy, the Intel case offers an excellent opportunity to investigate the effects of offshoring on political preferences for education.

4.3.1 Empirical Setup

To test my theory, I investigate data from the Latinobarómetro, which asks a range of questions to Costa Ricans. Specifically, I estimate how much respondents politically prioritized education both before and after Intel began operations in Costa Rica. I code the pre–Intel wave (1997) as “0” and the post–Intel wave (1998) as “1.”

12 The 1998 wave of the Latinobarómetro was fielded in November/December of 1998, after the Intel plant began operations in March of that year.
I define my dependent variable with a question that asks respondents to list the most important problem they face. The options are: 1) “Education”; 2) “Terrorism/political violence”; 3) “The environment”; 4) “Low salaries”; 5) “Job insteadiness”; 6) “Inflation/price rises”; 7) “Unemployment”; 8) “Opportunities for the young”; 9) “Housing”; 10) “Health”; 11) “Corruption”; 12) “Crime”; 13) “Poverty”; 14) “Drugs”; 15) “Other”; and 16) “Don’t Know.” The primary advantage of this “most important problem” (MIP) question is that it forces individuals to choose which issues are most important to them relative to others, thus approximating real-world trade-offs. One possible critique of the MIP question is that it may in part reflect differences in school quality. Yet given that educational quality tends to change gradually, and because the surveys come from consecutive years, it is reasonable to assume that the quality of schools is similar in 1997 and 1998. If people did not think that schooling was a problem in one year but did the next, this likely reflects a change in expectations.

Moderator Variable: Income

I measure income with a question that asks respondents whether “your salary and the total of your family’s salary allow you to satisfactorily cover your needs.”

---

13 In the 1998 wave, this changed to: “Instability in the labour market.”
code low– to high–income households using the following “1–4” scale: “1” (“Does not cover them, there are great difficulties”); “2” (“Does not cover them, there are difficulties”); “3” (“Covers them alright [sic], without great difficulty”); and “4” (“Covers them well, I can save”). Despite being a subjective measure of income, this question largely obviates the possibility that a simple “income effect” drives the relationship between exposure to globalization and citizen demand for education. It is possible, for example, that Intel drove up wealth in Costa Rica. If, as my theory presumes, citizens are more likely to support education if they are richer, then this might explain changes in educational preferences rather than altered perceptions of long–term labor market opportunities. By asking about actual budget constraints, however, the focus remains on how financially squeezed (or not) a family is.

Control Variables

I include control variables for age, sex, and education level.14 15

4.3.2 Results and Discussion

I start by investigating whether exposure to globalization had any overall effect on whether Costa Ricans politically prioritized schools. In Figure 4.6, I decompose the raw data into the share of the population who listed education as a top political

14 Again, I code males as “1” and females as “0.”
15 Again, I code as “1” if a person completed high school and “0” otherwise.
issue pre– and post–shock. As anticipated, the number of Costa Ricans who cited education as their MIP increased after the shock. Before Intel, just 11.2 percent of respondents listed education as a top priority, whereas that figure jumped to 15.8 percent after Intel. Such numbers indicate that exposure to globalization caused citizens to recognize the value of education in enhancing long–run earnings. But they do not control for other variables that might drive this relationship or examine the conditional links between income and globalization.

![Figure 4.6: Percent Listing Education as MIP, Pre– and Post–Shock (Raw Figures)](image)

To explore these dynamics, I estimate a simple logistic model with robust standard errors that takes the form:

\[
MIP_i = \\
\alpha_0 + \alpha_1 Post - Shock_i + \alpha_2 Income_i + \alpha_3 Post - Shock * Income_i + \alpha_4 Controls_i + \epsilon_i
\]
In Model 4.3, I find that the coefficient on *Income* is positive but not statistically significant. In line with expectations, however, the parameter on *Post − Shock* is positive and statistically significant, and the coefficient on its interaction with *Income* is negative and statistically significant. As illustrated in Figure 4.7, the effect is that poor citizens demand more education after the shock to globalization. Holding the control variables at their medians, those at the bottom of the earnings distribution (“1” on the income scale) had a 9.3 percent chance of prioritizing schools before Intel started production and a 20.0 percent chance afterwards. By comparison, for high-income citizens (“4” on the income scale), these probabilities stayed relatively similar, at 13.9 and 13.1 percent, respectively.

\[16\] One reason for this statistically insignificant effect may be that rich citizens already had access to better schools than poor citizens.
Table 4.3: Effect of Post–Shock*Income on Listing Education as MIP: Costa Rican Sample

<table>
<thead>
<tr>
<th></th>
<th>(Model 4.3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Shock</td>
<td>1.219**</td>
</tr>
<tr>
<td></td>
<td>(0.533)</td>
</tr>
<tr>
<td>Income</td>
<td>0.153</td>
</tr>
<tr>
<td></td>
<td>(0.142)</td>
</tr>
<tr>
<td>Post-Shock*Income</td>
<td>-0.321*</td>
</tr>
<tr>
<td></td>
<td>(0.192)</td>
</tr>
<tr>
<td>Age</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
</tr>
<tr>
<td>Male</td>
<td>-0.174</td>
</tr>
<tr>
<td></td>
<td>(0.145)</td>
</tr>
<tr>
<td>Education</td>
<td>0.117</td>
</tr>
<tr>
<td></td>
<td>(0.244)</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.571***</td>
</tr>
<tr>
<td></td>
<td>(0.450)</td>
</tr>
<tr>
<td>N</td>
<td>1690</td>
</tr>
<tr>
<td>AIC</td>
<td>1298.664</td>
</tr>
<tr>
<td>BIC</td>
<td>1336.691</td>
</tr>
<tr>
<td>Log lik.</td>
<td>-642.332</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
Uses logistic regression with robust standard errors
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$, two-tailed test
Figure 4.7: Predicted Probability of Listing Education as MIP Pre– and Post–Shock, by Income: Costa Rican Sample

4.3.3 Second–Best Counterfactual

My empirics suggest that Intel boosted the willingness of poor Costa Ricans to prioritize education. One concern with this analysis, however, is that it may simply reflect a general trend: secular increases in political demand for schooling among the poor, which could owe to many different factors. In claiming that my results are due to Intel, what I am really implying is that without Intel, demands for education among the poor would not have shifted in the way they did. This is a difficult assertion because Intel obviously did base its semiconductor plant in Costa Rica. In a perfect scenario, I would have two “separate” Costa Ricas, one with Intel and one without it, and then measure preferences for education in 1997 and 1998. Of course,
this true counterfactual is unavailable.

Fortunately, however, there is a “second–best” counterfactual. In particular, I can exploit the earlier observation that Intel’s decision to locate its new semiconductor plant in Costa Rica was, by some standard, quite idiosyncratic. Several other nations were apparently in the running until at last the firm whittled down the list. Presumably, these other countries had characteristics that were attractive to Intel. Thus, it seems plausible that Intel could have just as easily ended up in one of these other locales. To be sure, while the decision to invest in Costa Rica was not taken hastily, it is hard to imagine that once Intel had identified a set of countries as viable candidates, a degree of subjectivity was not at least partially responsible for Costa Rica’s selection.

Because we are privy to the other contenders—and because these nations were ostensibly similar in the eyes of Intel—we do have a sort of counterfactual. If all the other countries that might have won the bidding for Intel experienced a similar increase in demands for education among the poor as Costa Rica, then it would cast doubt on the proposition that Intel was the driver of these demands. If they did not, however, then we have a reasonable baseline against which to compare the results. In addition to Costa Rica, Intel’s “short–list” was reportedly comprised of three
nations: Brazil, Chile, and Mexico. All three of these countries participated in the Latinobarómetro in 1997 and 1998. Thus, I can conduct a similar pre-/post-analysis of educational demands.

To carry out this strategy, I pool the samples of Brazil, Chile, and Mexico, and—as before—divide observations into the 1997 and 1998 waves. I then estimate a logistic model with robust standard errors that interacts a dummy variable for the 1998 wave with income. This regression can be expressed as:

\[ MIP_i = \alpha_0 + \alpha_1 1998_i + \alpha_2 Income_i + \alpha_3 1998 \times Income_i + \alpha_4 Controls_i + \epsilon_i \]

Model 4.4 reveals no statistically significant effects on the interaction of 1998 and Income. If anything, Figure 4.8 demonstrates that income becomes an even more positive predictor of listing education as an MIP, although this effect is not statistically significant by conventional standards. Overall, these results corroborate that the increase in preferences for education among poor citizens was largely confined to Costa Rica. Collectively, the other nations that were not exposed to Intel—Brazil, Chile, and Mexico—saw no major differences in how income affected citizen satisfaction with schools from 1997 to 1998. This minimizes concerns that secular increases in political demands for schooling by the poor explain my result in

---

17 For the short-listed countries, see Spar (1998).

18 Again, these simulations hold all the control variables at their median values. Median values are used from the Costa Rican sample for consistency of comparison.
Costa Rica. Instead, Intel appears responsible for the shift.

Table 4.4: Effect of Post–Shock*Income on Listing Education as MIP: Counterfactual Cross–Country Sample

<table>
<thead>
<tr>
<th></th>
<th>(Model 4.4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>-0.487*</td>
</tr>
<tr>
<td></td>
<td>(0.286)</td>
</tr>
<tr>
<td>Income</td>
<td>0.081</td>
</tr>
<tr>
<td></td>
<td>(0.077)</td>
</tr>
<tr>
<td>1998*Income</td>
<td>0.107</td>
</tr>
<tr>
<td></td>
<td>(0.104)</td>
</tr>
<tr>
<td>Age</td>
<td>-0.002</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
</tr>
<tr>
<td>Male</td>
<td>0.084</td>
</tr>
<tr>
<td></td>
<td>(0.088)</td>
</tr>
<tr>
<td>Education</td>
<td>0.526***</td>
</tr>
<tr>
<td></td>
<td>(0.135)</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.468***</td>
</tr>
<tr>
<td></td>
<td>(0.249)</td>
</tr>
</tbody>
</table>

<p>| | |</p>
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<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
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<tr>
<td>AIC</td>
<td>3810.727</td>
</tr>
<tr>
<td>BIC</td>
<td>3858.159</td>
</tr>
<tr>
<td>Log lik.</td>
<td>-1898.363</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
Uses logistic regression with robust standard errors
* p < 0.10, ** p < 0.05, *** p < 0.01, two–tailed test
4.4 Skill–Intensive Practices: Debt Relief for Zambia

Like Costa Rica, Zambia represents a particularly interesting case in which to examine globalization’s impacts on political demand for education. A landlocked Sub–Saharan country, Zambia has long been cursed by geography, its own missteps, and—many observers would argue—the burden of structural adjustment programs imposed during the 1980s and 1990s. This is why, when news broke from Washington, D.C., on December 23, 2005, that the IMF would be forgiving 100 percent of the nation’s approximately $577 million debt as part of the Multilateral Debt Relief Initiative, the announcement was greeted with buoyant expectations.\(^{19}\) Hopes ran high that

\(^{19}\) For the official press release, see IMF (2005). Estimates on the exact amount of Zambia’s debt relief vary by source and how it is measured.
shedding its heavy saddle of obligations would be just the antidote Zambia needed to place the fledgling nation on firmer economic footing.

In large part, this change would come via the competition induced by FDI. Figure 4.9 shows the leap in FDI inflows to Zambia following the IMF’s forgiveness of the nation’s debt. At the outset, FDI increased from $357 million in 2005 to $929 million by 2007. Despite ebbs and flows, the trendline has pointed upward, with FDI reaching a recent value of $968 million in 2013. To be sure, debt relief was not completely exogenous to every factor in the country. The IMF in part agreed to relieve the country’s debt because it met objectives that made it a good candidate for assistance. But because of the timing of debt relief and the ensuing windfall to FDI, I can be relatively sure that the uptick in FDI was due to the IMF’s actions rather than any unobserved changes to the education sector.

---

20 To the extent that FDI contributes to inflation through spikes in the money supply (Ito and Krueger 1994; Unsal 2012), measuring FDI in inflation-adjusted dollars could significantly underestimate the actual size of the flows.

21 One journalist, for example, states that “debt forgiveness and growing confidence in the country’s macro-economic management have...helped it to attract foreign money” (Chung, Joanna. July 27, 2006. “The Allure of Emerging Markets.” Financial Times.).
Although FDI in Zambia has doubtlessly fueled competition in diverse sectors such as retail, services, and communications, most overseas money has flowed toward traditional parts of the economy. Consistent with the notion that FDI is often attracted to mature industries at the heart of a nation’s wealth creation—roughly 86 percent of recent FDI inflows have channeled into mining (OPM 2014). Of this figure, the overwhelming percentage of Zambia’s mining exports stem from copper, which is concentrated in two areas: the North Western and Copperbelt provinces.\textsuperscript{22} This matters because, to the extent that FDI makes a country’s labor market more skill-intensive, we would expect changes to be most acute in regions that receive the greatest influx of foreign capital.

\textsuperscript{22} According to Oxford Policy Management (OPM) (2014), more than 80 percent of Zambian export earnings derive from copper.
As portrayed in Figure 4.10, the number of jobs in Zambia’s mining industry has spiked since debt relief. In fact, from 2005 to 2011, total employment increased approximately 86.5 percent. At the same time, and as one might suspect, Zambia’s mining industry has experienced a burgeoning shortage of skilled workers. A recent survey of mining firms employing 32,515 employees, for example, discovered a substantial “skills mismatch” in the sector. Based on growth trends, the mining firms surveyed would require a projected 11,000 skilled workers over the subsequent five years merely to keep pace with present outputs. Given that 9,978 workers were already classified as skilled, this equates to a double-digit percent increase in the demand for skilled laborers (Hamukoma 2011).

Figure 4.10: Total Direct Employment in Mining Industry in Zambia, 2000–2011

To minimize these skill deficits, Zambia’s mining industry has been outspoken in its need for skilled workers. The CEO of one Zambian mining firm has declared that “the skills shortage...has led to serious competition among mining companies for the few available skilled persons.” According to Zambia’s Mines, Energy and Water Development minister, “If we do not address the shortage of skills development in the [mining] industry, we risk seeing an influx of expatriates, a situation that will rob Zambians of the much needed employment.” News articles such as “African Mining Facing Huge Shortage of Engineering Skills” (Mining Weekly, Mar. 29, 2013) and “Growth in Mining Has Caused Critical Shortage of Technical Personnel” (Post of Zambia, Mar. 20, 2013) further underline this fact.

Civic leaders have routinely emphasized the importance of FDI to Zambia’s economic trajectory. Zambia’s minister of Commerce, Trade, and Industry, for example, has called Zambia “a paradise in terms of investment.” According to one Zambian finance minister, “There is no country that has fought poverty without attracting

25 Some mining companies in Zambia have even taken it upon themselves to support education. Examples include financially sponsoring students to pursue higher education and even running schools, such as KCM’s Kitwe Trade School and Kansanshi’s Solwezi Technical Training Institute (OPM 2014).
FDI,...so let us not resist...since it is good for us as capital for job creation.”**27** Former President Rupiah Banda boasted that “Zambia is a country where business can be done, across all sectors. Wealth, jobs and yet more opportunities are being created....A politician would normally say something like ‘Zambia is open for business,’ but I have something different to say: ‘Zambia is already doing business, why not join us?’ ”**28**

Ultimately, it would be hard to overstate the impact of FDI on Zambia’s economy, and particularly its mining sector, since late 2005. Not only has competition from abroad spurred a more skill–intensive labor market, but it has also helped the country to achieve sustained economic development. This is not to say there is no disagreement about FDI’s effects. Enthusiasts insist that FDI has been nothing short of a godsend for Zambia, whereas others charge that it has still not done enough to boost job opportunities. Yet even as experts lament the missed opportunities in Zambia, FDI has certainly come with tremendous positives—and perhaps even greater hype. In this respect, there is good reason to believe that it has alerted citizens to the value of acquiring skills.


4.4.1 Empirical Setup

To examine the effects of globalization exposure on political demand for schooling, I leverage data from the 2005 and 2009 waves of the Afrobarometer survey “The Quality of Democracy and Governance in Zambia” (the last wave before the IMF extended debt relief to Zambia and the first wave after it). Conditional on my variables of interest, I estimate how much citizens politically prioritized education both before and after the shock, coding the post–debt relief wave (2009) as “1” and the pre–debt relief wave (2005) as “0.”

**DV: Willingness to Pay for Education**

I derive my dependent variable from a question that asks whether respondents concur that “[i]t is better to raise educational standards, even if we have to pay school fees.” The alternative is that “[i]t is better to have free schooling for our children, even if the quality of education is low.” Respondents can either “agree strongly” or “agree” with either statement, say that they prefer “neither,” or answer that they “don’t know.” I code “1” if a respondent “agrees strongly” that he or she would pay to improve educational standards and “0” otherwise because this reflects an unequivocal desire to sacrifice on behalf of schools. One drawback of this question

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29 The 2005 wave of the Afrobarometer, which was fielded October 9–28, 2005, took place several months before the IMF approved debt relief for Zambia on December 23 of that year.

30 I refer to this as “disagreeing” with the proposal to raise educational standards.
may be that it does not explicitly capture the political dimension of schooling. To
the extent that this question reflects how much citizens value high-quality schools,
however, it is still helpful for projecting how they might prioritize education in the
political sphere.

*Moderator Variable: Income*

To proxy for income, I rely on a question that asks respondents: “In general, how
do you rate your living conditions compared to those of other Zambians?” I use the
following coding scheme: “1” = “Much worse,” “2” = “Worse,” “3” = “Same,” “4” =
“Better,” and “5” = “Much better.” Again, one limitation with using a relative
measure of income is that it does not account for absolute changes in budget con-
straints. To address this issue, I construct a variable that captures overall personal
consumption based on various household goods. In a simple t-test, I find no statis-
tically significant difference in consumption from before to after the shock to FDI,
alleviating concerns that a rise in political demand for education is merely due to
across-the-board growth in personal consumption that stems from higher incomes.

---

31 The 2005 and 2009 waves of the Afrobarometer ask respondents whether they own three household items: a radio, a television, and a motor vehicle. In each case, I coded “1” if a person owned that item and “0” otherwise. I then averaged these responses to arrive at a mean consumption index.
Control Variables

My covariates are the same as in my Costa Rican analysis: age, sex, and education level.

4.4.2 Results and Discussion

As before, I first examine the aggregate impact of globalization exposure on the willingness to pay (WTP) of Zambians for better schools. Figure 4.11 shows the raw breakdown of respondents who either favored or disfavored raising educational standards. In line with my theory, the proportion of citizens who favored paying more for better schools spiked after the shock to globalization. Before the shock, just 23.8 percent of Zambians said they would “agree strongly” to pay for higher quality schools, compared to 34.7 percent after the shock. Of course, such an analysis again does not demonstrate whether globalization’s impact on preferences for education is greatest among low-income citizens. It also does not control for other relevant variables that might complicate this relationship.

---

32 Again, I code males as “1” and females as “0.”
33 Again, I code as “1” if a person completed high school and “0” otherwise.
Figure 4.11: Percent WTP for Education, Pre– and Post–Shock (Raw Figures)

As such, I estimate a basic logistic regression with robust standard errors that assumes the form:

\[
WTP_i = \alpha_0 + \alpha_1 Post - Shock_i + \alpha_2 Income_i + \alpha_3 Post - Shock_i * Income_i + \alpha_4 Controls_i + \epsilon_i
\]

As illustrated in Model 4.5, Post – Shock and Income is each positively and significantly related to being willing to pay for higher quality schools in Zambia. The interaction between these variables, however, is negative and statistically significant. As shown in Figure 4.12, the result is that demands for education grew significantly among poor citizens, but not as much among rich citizens. Before the shock to FDI, the probability that a Zambian at the bottom of the income distribution (“1” on the income scale) would strongly agree to pay for higher educational standards was
just 9.0 percent, relative to 40.5 percent at the top ("5" on the income scale). After the shock to globalization exposure, these figures narrowed to 24.2 and 41.6 percent, respectively.\textsuperscript{34}

Table 4.5: Effect of Post–Shock*Income on WTP for Education: Zambian Sample

\begin{center}
\begin{tabular}{lcc}
\hline
 & (Model 4.5) & \\
\hline
Post-Shock & 1.457*** & \\
 & (0.300) & \\
Income & 0.483*** & \\
 & (0.079) & \\
Post-Shock*Income & -0.283*** & \\
 & (0.098) & \\
Age & -0.004 & \\
 & (0.004) & \\
Male & -0.128 & \\
 & (0.096) & \\
Education & 0.494*** & \\
 & (0.102) & \\
Constant & -2.535*** & \\
 & (0.284) & \\
\hline
\end{tabular}
\end{center}

\textsuperscript{34} These simulations again hold all the control variables at their medians.

N=2294
AIC=2663.574
BIC=2703.741
Log lik.=-1324.787

Standard errors in parentheses
Uses logistic regression with robust standard errors
* p < 0.10, ** p < 0.05, *** p < 0.01, two-tailed test
My results indicate that demand for education among the poor rose after the shock to FDI in Zambia. Yet this outcome may again reflect broader secular shifts in educational preferences that are not unique to Zambia. As before, in a perfect scenario, I would have two “separate” Zambias, exposing one to FDI in 2005 and the other not, and then assess political preferences in each before and after the shock. Unfortunately, this is not possible. Furthermore, I do not have any prior assumptions about which countries to compare Zambia against like in the case of Costa Rica. Yet there is another “second–best” counterfactual. I can exploit within–country variation in FDI based on the fact that foreign money to Zambia flows overwhelmingly toward
mining.

To the extent that Zambians who lived in mining regions were disproportionately exposed to FDI after debt relief, perceptions of returns to skills might be especially high for these individuals. If all regions saw the same upticks in political demand for education among the poor, then it would cast doubt on the notion that FDI impelled these shifts. But if they did not—and changes in educational preferences were unusually large in the mining regions—this would lend credence to my theory.

As already established, FDI in Zambia has funneled primarily toward mining, which is dominated by copper. To proxy a respondent’s exposure to FDI, I therefore code “1” if a respondent resides in a copper mining region (the Copperbelt or North Western province) and “0” otherwise.\(^{35}\)

My empirical approach involves estimating a three-way interaction between \(Post-SHock\), \(Income\), and a variable that denotes whether a respondent lives in a mining region:

\[
WTP_i = \alpha_0 + \alpha_1 Post - Shock_i + \alpha_2 Income_i + \alpha_3 Post - Shock_i \times Income_i + \alpha_4 Mining_i + \\
\alpha_5 Post - Shock_i \times Mining_i + \alpha_6 Income_i \times Mining_i + \alpha_7 Post - Shock_i \times Income_i \times Mining_i + \\
\alpha_8 Controls_i + \epsilon_i
\]

\(^{35}\) The Afrobarometer survey is not intended to be subnationally representative, so these geographic effects should be interpreted with caution.
Model 4.6 depicts that the parameters on Income, Post – Shock, and their interaction remain statistically significant and in the same direction as before. The positive and statistically significant coefficient on Post – Shock * Mining means that preferences for education are greater in the mining provinces after the shock. As anticipated, however, Post – Shock * Income * Mining yields a negative and statistically significant coefficient. As seen in Figures 4.13a and b, the implication is that residing in a mining region after the shock to FDI raises preferences for schooling, and income is less predictive of who demands education in these areas.\textsuperscript{36} This confirms that my findings from Zambia are not solely an artifact of secular upticks in educational demands among the poor.

\textsuperscript{36} As earlier, my simulations hold all the control variables at their median values. These numbers come from the full Zambian sample.
Table 4.6: Effect of Post–Shock*Income on WTP for Education: Counterfactual Within–Country Sample

<table>
<thead>
<tr>
<th></th>
<th>(Model 4.6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Shock</td>
<td>1.095***</td>
</tr>
<tr>
<td></td>
<td>(0.340)</td>
</tr>
<tr>
<td>Income</td>
<td>0.443***</td>
</tr>
<tr>
<td></td>
<td>(0.088)</td>
</tr>
<tr>
<td>Post-Shock*Income</td>
<td>-0.194*</td>
</tr>
<tr>
<td></td>
<td>(0.111)</td>
</tr>
<tr>
<td>Age</td>
<td>-0.004</td>
</tr>
<tr>
<td></td>
<td>(0.004)</td>
</tr>
<tr>
<td>Male</td>
<td>-0.129</td>
</tr>
<tr>
<td></td>
<td>(0.096)</td>
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<tr>
<td>Education</td>
<td>0.471***</td>
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<td>(0.103)</td>
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<td>Mining</td>
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<td>Post-Shock*Mining</td>
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<td>(0.735)</td>
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<td>Income*Mining</td>
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<td></td>
<td>(0.196)</td>
</tr>
<tr>
<td>Post-Shock<em>Income</em>Mining</td>
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<td></td>
<td>(0.238)</td>
</tr>
<tr>
<td>Constant</td>
<td>-2.421***</td>
</tr>
<tr>
<td></td>
<td>(0.307)</td>
</tr>
</tbody>
</table>

| N                      | 2294                |
| AIC                    | 2660.230            |
| BIC                    | 2723.349            |
| Log lik.               | -1319.115           |

Standard errors in parentheses
Uses logistic regression with robust standard errors
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$, two–tailed test
4.5 Chapter Summary

To summarize, this chapter tested my theory at the micro-level. I started with a large-scale survey analysis of PISA data covering roughly 100,000 parents in 17
countries. Consistent with my theory, I discovered that low-income citizens were most likely to demand education in open, less productive economies. I also explored shocks to globalization in less productive economies bearing on my key theoretical mechanisms. In Costa Rica, I found that in response to Intel beginning operations in the country in 1998, poor citizens were more likely to prioritize education politically. In Zambia, I found that as a result of debt relief that opened the floodgates for FDI in 2005, low-income citizens were more apt to say that they would pay to improve schools.
Qualitative Case–Studies: Evidence from Ireland and Vietnam

My previous analyses offer robust statistical evidence that exposure to globalization in less productive economies heightens concern by poor citizens for their schools. But what impact do these shifts actually have? From a practical standpoint, we should ultimately be interested in whether globalization leads to pro–poor educational outcomes, which are a function of low–income citizens demanding schooling from their politicians. To probe this issue, I turn to a pair of case studies from two less productive economies—Ireland and Vietnam—to investigate how exposure to globalization led to landmark school reforms that promoted the interests of the poor. The remainder of this chapter outlines the key cases, justifies their selection, and then turns to the empirical evidence.
5.1 Landmark School Reforms in Ireland and Vietnam

My first qualitative case study comes from Ireland, when in the 1990s, the country’s “Celtic Tiger” economy grew out of a well–known spike in globalization exposure. I argue that, not coincidentally, the nation also undertook two flagship school reforms during this period that helped low–income citizens. The 1997 Universities Act overhauled the nation’s higher education system, improving access for underrepresented groups and forcing institutions to develop blueprints for serving the nation’s underprivileged students. Likewise, the 1998 Education Act upended the status quo by ensuring that schools developed specific plans to give everyone—including the economically disadvantaged—better educational opportunities.

Next, I spotlight the case of Vietnam, which in 1986 saw the birth of doi moi, a series of wide–ranging reforms that upended the old socialist marketplace and expanded its exposure to the international economy. In turn, the Vietnamese government also passed two major laws that promoted education for the poor. The first, the Law on Universalization of Primary Education of 1991, not only required all young people to obtain a basic education, but also provided for the support and resources to help achieve this objective. The second, the Education Act of 1998, sought to revamp the curriculum over all levels of education and further outlined provisions to enable the Vietnamese state to meet its exploding demands for education.
5.1.1 Case Selection

There are good reasons to concentrate on both Ireland and Vietnam, which closely mirror the rationales for choosing Costa Rica and Zambia in the previous chapter. First, they illuminate the core mechanisms in my theory. Much of what I focus on involves globalization increasing the skill intensity of these labor markets, but offshoring also occurred in both countries. Second, Ireland and Vietnam are relatively low productivity economies. Ireland’s labor productivity in 1989 was $33,931, whereas Vietnam’s in 1985 was $2,168. Again, based on my large–N analysis of the KOF economic globalization index, both fall within the spectrum of where the expected marginal effect of globalization diminishes educational inequality. Finally, I focus on Ireland and Vietnam for the pragmatic reason that good empirical evidence exists from these countries.

5.2 Ireland

5.2.1 A Brief History of the Celtic Tiger

Ireland for much of the twentieth century was implanted in the economic doldrums. Slow growth, high poverty, and sluggish employment all became synonymous with “the Emerald Isle.” Ireland’s poor economic performance was not so much characterized by rapid decline, as much as prolonged stagnation—and occa-
sional retraction. But unlike today, where troubles can frequently be blamed on global structural changes—such as financial meltdowns—one would be hard pressed to find a scapegoat for Ireland’s woes. The nation’s problems were almost entirely homegrown, the result of poor macroeconomic policy, heavy-handed regulation, protectionism, and profligate spending. By the late 1980s, many skeptics wondered whether a turnaround would ever be possible for the beleaguered island nation.

But in less than a decade, all of this would change. From roughly 1990 to 2007, Ireland’s economy would, against all odds, be heralded as Europe’s crown jewel. Gone were chronic recessions. In were huge economic expansions. Hence began the Celtic Tiger Economy—a phrase coined in 1994—to describe what was, by any standard, one of the greatest economic miracles in modern history. According to one scholar, the Celtic Tiger years sparked “a cultural and social change in terms of confidence....[that] is clearly not confined to economics: it affects everything from sport to the arts, to politics...to education” (O’Donnell 2003). Another study declares that the Celtic Tiger years were marked by “increased social fluidity in relation to long-range hierarchical mobility” (Whelan and Layte 2006).

Ireland’s Celtic Tiger boom can be attributed to luck, an active industrial policy, and internal reforms that made it a haven for trade and FDI. Lured by the opportu-

nity to penetrate new markets, Ireland became the world’s new hotspot—a veritable “showcase of globalisation” (Smith 2005). Consider trade activity in Ireland. As seen in Figure 5.1, prior to the 1990s, trade inflows and outflows had been low, frightened away by a sickly economy and economic mismanagement. In the early 1990s, however, these measures grew exponentially. In 1989, total imports and exports for Ireland were around just $76 billion dollars. By 2000, that number had spiked to approximately $212 billion. Coupled with substantial FDI investments, Ireland was poised to take off economically.

![Figure 5.1: Trade in Ireland, 1980–2007](image)


During this period, Irish citizens were swamped with positive messaging about the Celtic Tiger economy. This hope was informed by an ebullient belief that new jobs created by trade and FDI would eradicate disincentives to work and innovate. Such
messages contrasted baldly with the pessimistic and “almost apocalyptic” forecasts of the 1970s and 1980s (O Grada and O’Rourke 2000). In 1988, for example, *The Economist* dubbed Ireland “the poorest of the rich.”2 In 1997, the same publication acknowledged the country’s improbable volte-face: “Just yesterday, it seems, Ireland was one of Europe’s poorest countries. Today it is about as prosperous as the European average, and getting more prosperous all the time.”3 These pronouncements were ubiquitous—and left the population with almost unbridled hope.

The changes were so seismic that they even spawned a new term—“the Irish model”—to describe how nations could revolutionize business through export-led expansion. One study describes “remarkable upgrading of sections of the Irish industrial and service economy...[and a] rise in living standards that places Ireland as having one of the highest per capita GDP rates in the world” (Kirby and Carmody 2010). These gains occurred across the wage distribution, leading to “increase[d]...demand for low–skilled employment that complemented increased demand for high–skilled employment at the other end of the occupational structure” (McGuinness, McGinnity, and O’Connell 2008). Unemployment plummeted from over 16 percent in the late 1980s to less than 4 percent by the early 2000s (OECD 2014a).

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3 *The Economist* May 15, 1997. “Ireland Shines.” See, for example, Murphy (2000), who uses these quotes to motivate his work on Ireland’s takeoff during the 1990s.
Yet it was rapid growth in high-skilled sectors that most defined the Celtic Tiger years. “[W]hat distinguishes the Irish boom...” states one scholar (Kirby 2001), “is not just high growth rates but also a strategy of targeting some of the world’s most successful companies in three cutting-edge sectors: healthcare (pharmaceuticals and medical devices), electronics, and software”—in other words, sectors where education would enable workers to boost their wages. According to another study, “foreign plants tended to be larger, and have realized a substantially higher labour productivity than indigenous ones....FDI was predominantly concentrated in relatively high-skill or high-tech intensive activities in the Irish manufacturing sector—such as chemicals, computers, and communication” (Ferreira and Vanhoudt 2002).

These ideas were reinforced by strong appeals from the Irish business community about the growing need for high-skilled workers. In 1997, for example, a prominent business leader declared that an expeditious boost in tech workers was necessary to prevent Ireland from “running into a brick wall.”

In 1998, the so-called Expert Group on Future Skills Needs in Ireland released a study forecasting “an average shortfall of approximately 2,200 engineering and computer science technologists in the 1996–2003 period.”

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market coincided with these pronouncements. The Skills Awareness Campaign and the Science and Technology Awareness Programme, for instance, strived “to increase the interest and awareness of second–level students in technology careers.”\(^6\)

In summary, globalization proved the backbone of Ireland’s Celtic Tiger economy. It helped to fuel rapid growth and to cultivate countless opportunities for skilled workers. “Ireland’s Economic Miracle” was the product of several factors, but without exposure to the world economy, the Celtic Tiger would have never roared as it did. It is arguably the most compelling example from the twentieth century of how opening a nation’s borders to commerce and attracting human–capital–reliant investments can turn a country from an economic laggard into an economic leader. Although Ireland’s economy finally crashed amid the European debt crisis, its strength from 1990 to 2007 is difficult to overemphasize. Ireland thus constitutes a prime case in which to analyze how globalization can influence education.

5.2.2 Celtic Tiger Education Reforms

At the height of the Celtic Tiger years, the Irish government enacted two sweeping pieces of reform legislation that fundamentally transformed all levels of the country’s school system. The Universities Act of 1997 and the Education Act of 1998 were groundbreaking bills focused largely on making schooling in Ireland more open and

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inclusive. But there was nothing inevitable about the passage of these reforms—or about their explicit focus on serving poor and disadvantaged populations. Indeed, a defining aspect of Irish schooling was how little it had changed over its history. “The educational system [of Ireland] under colonial rule, the system after independence, and the present system fulfilled and continue to fulfil essentially similar functions,” commented one observer on the brink of these reforms (Clancy 1995).

Mass education in Ireland had traditionally been run by the Roman Catholic Church, albeit with considerable state subsidies (O’Halloran 2014). For nearly a century, this situation remained mostly undisturbed, perpetuating a school system that was insulated from change. As one scholar notes, “the mixed ownership and control model that evolved in Irish education was allied with a lack of specific legislation governing the operation of schools” (Lynch, Grummell, and Devine 2012). Universities in Ireland had also for much of their history maintained “a long tradition of autonomy” (Morris 2005), even while remaining firmly infixed within the public sector (Coates 2014; Horner et al. 2007). In general, decisions surrounding personnel, student access, and budgets were left to the discretion of individual institutions.

The Universities Act sought to “modernize” higher education in Ireland, while

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7 As one scholar points out, “Although important pieces of educational legislation were enacted from the end of the nineteenth century and throughout the 20th century, Ireland was unusual insofar as it never had a comprehensive education act since the establishment of the state system of education in 1831, by Ministerial letter, until the passing of the Education Act, in 1998” (Drudy 2006).
simultaneously expanding opportunities for underrepresented groups. Much of the legislation focused on striking a balance between state accountability and oversight, on one hand, and the preservation of institutional autonomy, on the other. Most notably, however, were the equity precepts that the Universities Act enshrined. The bill stipulated that universities, while given latitude to manage their own affairs, must address “the promotion and preservation of equality of opportunity and access.”\(^8\)

Institutions were required to craft reports bearing on “access to the university and to university education by economically or socially disadvantaged people and by people from sections of society significantly under-represented in the student body.”\(^9\)

In the same way, the Education Act implicated nearly every part of primary and secondary schools in Ireland. It outlined “the functions and responsibilities of all key partners in the schooling system [...called for] the establishment of Boards of Management for all schools [...and forced] schools to engage in the preparation of school plans.” It also mandated that schools “promote parent associations [...and it specified] accountability procedures” (DES 2004). At the core of the bill, however, was an unwavering commitment to “promot[ing] equality of access to and participation in education.”\(^10\)


of the school relating to equality of access to and participation in the school and the measures which the school proposes to take to achieve those objectives.”

Many observers echo this emphasis on educational equity. One study, for instance, contends that “the new education legislation of the 1990s...challenged schools at all levels to provide an education that respected all children and young people equally” (Chen, Moran, and Gardner 2009). According to another analysis, “Credit must surely go to those Ministers who introduced a measure of equity into the education system.... They left a proud ministerial legacy to Irish education in the 1997 Universities Act...[and] the 1998 Education Act” (McManus 2014). An additional account concurs that “[s]ince the 1990s, the [Irish] government has introduced policies and strategies to promote equity, inclusion and quality in education for all students, and to identify and address educational disadvantage” (Taguma et al. 2010).

Both the Universities Act and the Education Act resulted from a political convergence of top-down and bottom-up efforts against the backdrop of the Celtic Tiger economy. The intellectual architecture for these reforms is often traced to a set of green and white papers, notably *Education for a Changing World* in 1992 and *Changing Our Education Future* in 1995. Yet these briefs would almost certainly have failed to gain traction without public support. As one scholar affirms, “The

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danger in reading the history of education in Ireland, or any other country, is that the aspirations of policy documents replace real, effective changes in provision. Governments and ministers come and go and the only true litmus test of policy is whether or not provision changes, for the better, for all concerned parties” (Walsh 2011).

The most visible sign of support for these reforms is that legislative approval spanned two different governments: the Universities Act under a Fine Gael/Labour Party/Democratic Left coalition, and the Education Act under its successor, comprised of a Fianna Fáil/Progressive Democrats coalition. This is not to say that the acts faced no criticism. Most debates, however, focused on issues at best peripheral to the objective of equity or revolved around squabbles by elite political interests. For example, the Universities Act encountered backlash from faculty concerned that the law would lessen their own autonomy. Similarly, the Catholic Church repudiated the Education Act due to the curbs it placed on its authority. But in the end, both bills were proposed, pushed through, and ultimately enacted by the Irish Parliament.

There is little question that the Celtic Tiger economy galvanized these reforms. According to the OECD (2006), “the sustained economic buoyancy [in Ireland]...assisted both the resourcing of, and the climate for educational change.” According to another study, as far back as the 1960s, Ireland recognized the “utilitarian” value of education, but “it would take many more years before...[such notions] garnered polit-
ical salience or prompted policy change. A series of fundamental educational reforms eventually emerged during the 1990s and produced a significant transformation in the Irish higher education system....A steadfast national focus on creating an educational system which prioritised jobs, employment and employability guided much of the substance of Irish educational reform and discourse.” (Murphy 2014).

Demands for education and public interest in school reform piqued as the Celtic Tiger economy took off. An early sign of this demand came after the publication of the 1992 green paper. In the words of one expert, “It is not an exaggeration to describe the response to the Green Paper as extraordinary....The most remarkable feature of the consultation process was the volume of written submissions to the department, almost 1,000 in all by the revised deadline. This was probably more than any government document had prompted in many years and was a measure of the growing public interest in education as a vehicle for personal and societal advancement.” The diverse range of actors that weighed in, he said, “reflects a sense of public ‘ownership’ of the debate on the future of Irish education” (Walshe 1999).

The 1995 white paper evoked similarly strong reactions. An opinion piece in the Irish Times by a member of the National Parents Council–Primary typified the aims of many parents: “Our interests are simple and straightforward. We want high quality and effective education for every child. We want an education system
that embodies the principles of pluralism, partnership, accountability and quality. To achieve this we will need thigh [sic] quality of teaching, of management and of partnership. We will need children’s rights and entitlements to be underpinned by law. Resources are going to be very important.”12 Such advocacy by interest groups and the broader public was common. As one scholar asserts, school reform during the Celtic Tiger era resulted from “intense public consultation” (Drudy 2009).

As the Celtic Tiger economy hummed, demand for education only intensified. This was particularly true at the university level, not just reflected in the passage of the Universities Act, but also by the large number of citizens clamoring to upgrade their skills. In 1995, for example, one writer critiqued the university system for being “‘totally unprepared’ to meet the educational demands being made upon it.”13 The surfeit of education–seekers produced challenges, “[w]ith lecture halls...bursting and laboratories faced with further huge increases in enrolments.”14 Even after the signing of the Universities Act, there was no let–up in demands for higher education. As one commentator warned in 1998, “Failure to recognise this need will result in economic decline and increased social unrest.”15

Today, both the Universities Act and the Education Act remain milestones in Irish social policy. One scholar, for example, pronounces that “[t]he Education Act (1998...), rather like the...No Child Left Behind (2001) legislation in the US, is a major landmark in the firmament of Irish education” (O’Sullivan and West–Burnham 2011). Another account states that “[t]he Universities Act, 1997 is the most significant piece of university legislation since the state was founded.... [I]t is a landmark in the history of university education in Ireland” (OECD 2006). “Ireland’s education system has undergone major changes since the 1990s,” writes one report. “There have been significant changes to, and reform of, the curriculum at both primary and post–primary levels with issues such as social inclusion” (Teaching Council 2010).

Ultimately, the Celtic Tiger economy illustrates how globalization can boost political demands for education among everyday citizens and inspire pro–poor school reform. Ireland, the beneficiary of extraordinary growth in trade and FDI during the 1990s, experienced an unprecedented expansion in skilled employment opportunities. In response, many Irish citizens concluded that education was the best way to capitalize on these new jobs and to prepare a coming generation of young people for economic success. The masses mobilized around this political agenda and successfully induced the legislature to enact two major education reform acts that were highly egalitarian. With this established, I now examine a similar case of
globalization exposure affecting educational change in Vietnam.

5.3 Vietnam

5.3.1 A Brief History of Doi Moi

Although it is too strong to say that the Vietnam of the 1990s would have been unrecognizable to those who visited even a decade earlier, the changes would still have been dramatic. Hailed as the next “Asian Tiger”—along with Taiwan, South Korea, Singapore, and Hong Kong—Vietnam’s economy enjoyed a renaissance during the 1990s. It attracted the attention of major corporations and increasingly became a magnet for new investments in light of its low cost of labor and aggressive efforts to court foreign firms. Indeed, it is not an exaggeration to argue that Vietnam in the 1990s had few real rivals in terms of its pace and extent of development. While optimism surrounding these changes eventually stalled, it is hard to deny that Vietnam reaped significant economic gains during this era.

Although the 1990s witnessed a remarkable turnaround for Vietnam, the changes were anything but predictable. When in 1976, North and South Vietnam unified under a socialist banner, the country’s economic future was gloomy. The early 1980s confirmed this reason for pessimism, as the legacy of communism—and a thicket of regulations and inward-looking policies—stiffed development. It would not be until
1986 that the nation saw its first glimpse of reform with a program called *doi moi* ("newness"). *Doi moi*, enacted by the Government of the Socialist Republic of Vietnam (SRV), sought to cure the country’s political and economic ills. It was designed to bring the country in line with the modern world by instituting a series of market-based reforms that would make it more competitive in the global marketplace.

*Doi moi* took off in earnest in 1989 with a set of “big bang” reforms that “made the country the boldest reforming centrally planned economy” at the time (Van Brabant 1990). Although *doi moi* involved major domestic reforms, the SRV was particularly eager to promote investments from abroad. One observer even commented that “[t]he centerpiece of doi moi has been to attract foreign investment” (Waller and Cao 1997). Besides deregulating commercial activities, Vietnam also enticed foreign companies with special incentives. For example, it created Exporting Processing Zones “to attract foreign entrepreneurs interested in export-oriented foreign direct investment.... These EPZs offer[ed] inexpensive land, combined with zero duties and no taxes in an environment with low cost labor” (Dana 1994).

At least for a period, the reforms succeeded in convincing foreign investors to take a risk on Vietnam. Figure 5.2, for instance, reveals the enormous jump in FDI inflows to Vietnam beginning in the early 1990s. In 1986, for example, FDI inflows totaled $118,000. A decade later, that number had increased exponentially to roughly $2.8
billion. A considerable portion of this FDI came from the United States, which ended its trade embargo with Vietnam in 1994, prompting approximately 400 U.S. companies to flood into the nation as a result. By any metric, Vietnam’s turnaround was astonishing for a country that many experts had written off as too communist, too insular, and too poor to be a global economic player. For the first time in its history, a unified Vietnam was a legitimate part of the international economy.

![Figure 5.2: FDI in Vietnam, 1980–2000](image)

As one might expect, *doi moi* caused a skills deficit. A UNESCO (n.d.) study, for example, notes that “[s]ince the introduction of market reforms and the consequent economic expansion known as Doi Moi, Viet Nam has had to cope with a serious shortage of skilled workers.” Another report claims, “As Viet Nam continues its transition...to a market economy, the need for a productive, competent, and flexible
workforce cannot be understated. Following the economic reforms of 1986 known as Doi Moi (Renovation), the country’s changing economic landscape has intensified the demand for skilled workers and production technicians” (ADB 2012). The OECD (2014b) similarly observes that “[t]he Doi Moi reform process led to an increase in demand for skilled workers. Meeting this demand proved a challenge.”

FDI inflows eventually leveled off toward the end of the 1990s and into the 2000s. Despite promises to the contrary, many aspects of doi moi ultimately proved unsustainable. For example, one journalist lamented that “the Communist Party’s talk of ‘doi moi’ has turned out to be little more than talk—and...foreign investors misjudged the political climate....Endless red tape, corruption and a slippery legal system have also discouraged new investment.”

According to another account, “Overly optimism [sic] had perhaps reigned [regarding]...Vietnam becoming the next Asian ‘tiger’. Foreign investors may have been too optimistic about the opportunities and on the Government side policies were perhaps not sufficiently developed to sustain a continued interest among the investors” (Schaumburg-Muller 2002).

Yet these realities did not dampen enthusiasm for doi moi at the time. In 1997, one expert held that “[d]oi moi represents a basic change from the economic policy of the past: it...welcomes global traders and investors...[T]he successes are dramatic,

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and now Vietnam seems well launched on a path of high growth and international economic cooperation” (Ebashi 1997). Another analysis claimed that “[t]he doi moi period...has had positive results: during 1986–1990 real GDP growth was on average 3.9 per cent, from 1991–1995 8.2 per cent, and in both 1996 and 1997 remained at around 9 per cent” (Son and Thanh 1998). “Using post–reform, real per capita GDP growth as the measure,” states another study, “China and Viet Nam are indisputably two of the most successful economies in transition” (O’Connor 1998).

Clearly, doi moi—from the late 1980s through the 1990s—was integral to opening Vietnam’s economy to the outside world. It therefore constitutes another prime case in which to investigate the effects of globalization exposure on education. Although Vietnam immediately following unification remained essentially divorced from the world economy, doi moi saw a sharp pivot away from the iron–fisted, inward–looking policies of the past. The SRV implemented wide–ranging political and economic reforms that caught the attention of the international businesses community. Companies responded by channeling significant investments into the nation. The result was to heighten the demand for skilled workers in Vietnam and to raise the stakes for acquiring high–quality education.
5.3.2 Doi Moi Education Reforms

In the 1990s, at the zenith of doi moi, Vietnam’s education system was transformed. This transformation was solidified by two laws—the 1991 Law on Universalization of Primary Education and the 1998 Education Law—which today remain the two most important education statutes enacted in the country. The laws reflected an intense decade of emphasis on education, as Vietnam flung open its borders, jumpstarted industrialization, and became more outward-looking in its orientation. As one study summarizes, “The management of the education sector in Vietnam must be placed in the broad context of the national economic and social reform (Doi–Moi) that began in 1986 and moved the country from a centralized planning system and economy to a socialist-oriented market mechanism” (Nguyen and Nguyen 2008).

The 1991 law mandated “universal primary education compulsory from grade 1 to grade 5 for all children in Vietnam in age from 6 to 14 years old.” It stipulated that the government secure an “adequate budget to implement universal primary education” and “mobilize additional financial resources” toward that end.\(^\text{17}\) The 1998 law was even more encompassing, seeking to enhance educational delivery at all levels. It sought to update the curriculum for a modern labor market and to revamp how education was provided by both the public and private sectors. All

\(^{17}\) Law on Universalization of Primary Education. 1991. Chapter 1.
together, the law “contained 110 articles that cover...levels and types of education, as well as the responsibilities and roles of students, teachers and the state in regards to formal education from primary to higher education” (Buetikofer 2009).

The 1991 and 1998 education laws represented a stark departure from the status quo. Following the country’s unification, from roughly 1976 to 1985, Vietnam’s school system experienced what one World Bank analysis refers to as an era of de facto “pre–reform” (Kinh and Chi 2008). During this period, the government spent most of its energy binding together the remnants of two fragmented school systems. For example, the SRV sought to eliminate religious markers in schools and to increase basic literacy so that it could inculcate feelings of national pride. These efforts were largely aimed at consolidating political rule under the communist banner. To the extent that the government focused on improving educational outcomes for their own sake, such aims were mostly aspirational and delivered uneven results.

Reforms in the 1990s were substantially different, as the explicit focus was on boosting student coverage and school quality. The 1991 Law on Universalization of Primary Education was undeniably pro–poor. Its goal was to increase educational participation among students who otherwise might never have attended school or been prone to dropping out prematurely. The 1998 law was also deeply concerned with advancing equity in education. It specifically said that “[t]he State gives prefer-
ence to and create conditions for children of ethnic minorities and the families in the areas with exceptionally difficult economic and social conditions, the beneficiaries of preferential policies, the disabled and the beneficiaries of other social welfare policies, to exercise their right and discharge their obligation of learning [sic].”

Efforts to educate underprivileged students in Vietnam during the 1990s are well-documented. “According to Vietnam’s education law,” says one analysis, “every citizen has equal learning opportunity regardless of ethnicity, religion, gender, family background, social status, and economic conditions. To achieve social equity in education, the government of Vietnam creates learning conditions for everyone—with priorities to ethnic minorities, children from socioeconomically disadvantaged families, and people with disabilities—to implement their [sic] learning rights and obligations” (Kinh and Chi 2008). Another expert affirms that “[a] relatively complete, unified and diversified education system has been built at all levels from pre-school to doctorate training....The social equity in basic education is ensured” (Loc 2006).

*Doi moi* acted as a critical impetus for education reforms in Vietnam. One scholar, for example, asserts that “Vietnam has experienced significant...educational changes during the last two decades since the ‘Doi Moi’ policy was implemented. To respond to new requirements required by the global economy, Vietnamese education

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19 Qtd in. Lee et al. (2011).
has undergone remarkable reforms” (Thanh 2011). “Education reforms in contemporary Vietnam are linked to Doi Moi, the programme of economic reforms launched in 1986,” says another report (Joseph and Matthews 2014). An additional account confirms that “[t]he country’s first education Law replaced a system of multiple decrees and regulations, and formed the basis for an integrated education system intended to meet the needs of an emerging market economy” (London 2011).

Given the country’s socialist setup, the 1991 and 1998 education laws were obviously not born of a fully democratic process. Still, evidence suggests that the SRV faced mounting political demands for schooling amid *doi moi*. One analysis claims that “high economic growth and greater openness led to an increase in social demand for higher education to prepare young people for jobs in new and modern sectors” (Anh Dang 2009). Another study declares, “Following economic and political transformation, the Communist Party of Vietnam has been aware of the demand for education reform in general and for higher education reform in particular” (Van Dang 2013). In the words of one expert, “As a result of the emerging market economy in the country there is a growing demand for schooling” (Bannink 2001).

Generally, education reforms reflected considerable debate both between and among public officials and key stakeholders. Regarding the 1998 education law, “[t]he extended process of drafting the law was undertaken to ensure a very wide
input and opinion from among those with an interest in education. The process brought to the fore particular areas of contention among the interested parties, such as the level of detail the law should contain, administrative procedures, and sources of finance” (St. George 2005). UNESCO (2000) also reports that “[t]hroughout the 1990’s, education and training has been one of the topics on the agenda of sessions of the National Assembly of the SRVN. The National Assembly spent time and effort discussing and making resolutions on issues relating to education and training.”

Vietnam has benefited enormously from these reforms, as “[t]he adoption of a more market-oriented economy under doi moi has paved the way for Vietnam to record remarkable human development achievements in the past decades” (Le 2006). The numbers are striking: “[B]etween 1992 and 2006, the percentage of the population aged 25-55 without any education level completed has decreased from 23% to less than 1%. Primary educational attainment increased from 28% to around 34% of the population, lower secondary attainment from 30 to 34% only, and upper secondary education from 7 to 12%.” From an equity standpoint, however, perhaps most important is that “rural and lower income populations have benefited the most from the increase in primary and lower secondary attainment” (USAID 2009).

This expansion of educational opportunities is not just reflected in rising student attendance, but also in how the Vietnamese government has deployed its resources.
A World Bank study, for instance, finds that “[b]etween 1992/93 and 1997/98, per capita public spending on education increased more than threefold aided by economic growth and the high priority placed by the Vietnamese government on the sector.”

To expand opportunities for underprivileged demographics, the SRV also directed large amounts of money toward basic schooling: “[O]ver the decade, government expenditure was reallocated from higher to primary and lower secondary education, leading to a doubling of expenditure on primary education...[and] improved targeting of public expenditure on education to the poor” (Terme 2003).

If there were any downsides, it was that the drive toward educational change occurred too quickly. As one analysis notes, “When Vietnam implemented its Doi Moi reform, the demand for education considerably increase[d] in both quantity and quality. The government...[could] hardly provide this service on its own due to limited capacities and financial viability” (Tran 2013). Vietnam sought to plug this gap partly by expanding the role and scope of private schooling. As one study states, “Private education in general, and private tutoring in particular, came into existence and developed in response to the growing demand for education [resulting from doi moi]” (Dang 2007). These efforts further underline the avalanche of educational demands that Vietnam faced amid its rapid economic expansion.

Following the 1990s, Vietnamese education underwent some additional changes.
But as *doi moi* dissipated, FDI dipped, and economic forecasts soured, reform efforts became less ambitious. One commentator observes that “if the period of 1986–98 was one of searching for direction, experimentation, and trial and error to meet the demands of a rapidly changing environment,...the subsequent decade was largely one of consolidation and refinement” (London 2011). For example, in 2005, the Vietnamese government signed a “revised Education Law” that in large part sought to address ambiguities in the 1998 education bill. This period of relative continuity has only recently been challenged, as Vietnam has again experienced significant increases in FDI over the past several years.

Much like Ireland, Vietnam illustrates how exposure to globalization can fuel educational change. As a consequence of *doi moi*, Vietnam received huge investments from abroad during the 1990s that contributed to severe skill shortages and heightened the importance of acquiring education. In turn, demands for schooling among citizens spiked. To satisfy these demands—and to help spur economic growth and industrialization—the SRV undertook two major education reforms. The 1991 Law on Universalization of Primary Education and the 1998 Education Law revamped schooling in Vietnam, signaled a new commitment to improving educational outcomes, and were strongly egalitarian in their aims. Combined with other evidence, 

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20 This is according to London (2011).
these reforms offer useful insight into how my theory operates in practice.

5.4 Chapter Summary

This chapter leveraged qualitative evidence to show that, in less productive economies, globalization can cause low-income citizens to successfully demand education from their governments. Specifically, I examined real-world, signature education reforms in Ireland and Vietnam that resulted in large part from their exposure to globalization. These cases confirm that, under the right conditions, globalization does not just raise preferences for education among the poor, but can also translate into universal, high-quality education. Although this study is primarily about how globalization affects how citizens politically demand education—and not how politicians react per se—whether people who vote and lobby for education are ultimately rewarded with what they want is of great interest.
The twenty-first century rise in globalization—coinciding with structural changes to the international economy and huge jumps in living standards across the planet—is unparalleled in terms of both its velocity and scope. As workplaces change, jobs are transformed, and domestic and multinational enterprises seek to tap the world’s top talent, citizens from all walks of life have rushed to equip themselves (and their families) with the skills to compete for the well-paying jobs of tomorrow. It is hardly surprising, then, that as globalization has increased at record clips—bolstering skill acquisition as an economic imperative—so too have demands for education. Against this backdrop, the result has been growing pressures on governments to supply high-quality schooling.

Yet this ostensibly virtuous cycle only tells part of the story. Even if preferences
for education increase as a result of globalization, who actually demands that education and under what circumstances? To date, scholars have largely overlooked these salient questions. My thesis is that, through the forces of competition, globalization boosts political demands for education the most in less productive economies by not only making these countries more skill-intensive at an accelerated rate, but also by funneling in relatively skilled jobs from overseas via offshoring. These dynamics are particularly impactful on low-income citizens because the poor can only afford to defer short-term consumption for the long-term benefits from education if the rewards are likely to be considerable.

To test my theory, I relied on several analyses: a large-N, cross-country study; an investigation of large-scale parental survey data; an examination of external shocks to globalization in Costa Rica and Zambia; and qualitative case studies from Ireland and Vietnam. Each chapter adds unique evidence in favor of my theory. It achieves external validity by employing macro-level data across a large number of countries over time. It unpacks how high- and low-income individuals prioritize education through fine-grained, micro-level survey data. It addresses, if imperfectly, key threats to causal inference, such as endogeneity, unobservables, and secular long-run trends in demands for education. And it complements these findings with evidence on real-world school reforms.
My study contributes to a still nascent body of scholarship on the political economy of education by emphasizing that globalization’s impacts on citizen support for schooling are individual- and context-specific. Particularly in less productive economies, globalization causes low-income citizens to vote and lobby for schooling. This does not mean that the benefits of globalization will inevitably flow to all economies, that there will not be “winners” and “losers” along the way, or that education should be the only concern in how governments address globalization. But it does imply that countries can reap sizable educational benefits from cultivating cross-border investments and transactions that enhance long-run labor market opportunities.


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Biography

Thomas Gift is a Ph.D. candidate in the Department of Political Science at Duke University. He was born on September 26, 1984 in Chambersburg, Pa. His writings have been published by *Political Behavior*, *Journal of Conflict Resolution*, *Annual Review of Political Science*, *World Economy*, and Harvard Education Press. While at Duke, Thomas was the recipient of a Graduate Research Fellowship and a Doctoral Dissertation Research Improvement Grant, both from the National Science Foundation. He earned a B.A. in Economics and Politics from Washington and Lee University in 2007. During the 2015–2016 academic year, he will be a Post–Doctoral Fellow at the John F. Kennedy School of Government at Harvard University.