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Making Markets: The Political Causes And Consequences Of Private Education In India

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Abstract
The two questions motivating this project are, first, why did India see such a rapid growth in private education since 1980? And, second, what are the effects of this growth on citizen-state relations? Approximately 35 percent of students attended a private school in 2012, nearly a doubling in private school enrollment since 2003. In 1987, Indian households spent an average of 10 Rupees (approximately 17 cents) out of pocket on education per year. That figure stood at 2,700 Rupees (approximately $45) per year in 2014.

To answer the first question, I rely on a variety of methods, including historical and archival methods of official government and international financial institution policy documents, parliamentary debates, and secondary data sources. I argue that initial choices made in the expansion of government-provided education in the 1980s and 90s created conditions that allowed for private providers to later thrive.

At the same time, interactions with government services serve as an important site of political socialization. What then happens when governments are no longer the primary providers of services? To answer the second question, I rely on an original household survey with households that were entered into a private school voucher lottery in the state of Andhra Pradesh. Here I find that access to private education does not change a household's engagement with the Indian state, but it does change their political preferences. Household's with access to private services express stronger preferences for private services and value government services less. I suggest that governments are fundamental in "making markets'" and, in a process of policy feedback, can then create constituents that are later hostile to the expansion of government provided services.

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MAKING MARKETS: THE POLITICAL CAUSES AND CONSEQUENCES OF PRIVATE EDUCATION IN INDIA

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MAKING MARKETS: THE POLITICAL CAUSES AND CONSEQUENCES OF PRIVATE EDUCATION IN INDIA

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through, and she kept me motivated and grounded throughout. I am blessed she was able to see me finish, and it is to her I dedicate this dissertation.

ABSTRACT

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List of Abbreviations

APPEP	Andhra Pradesh Primary Education Project
ASER	Annual Survey of Education Report
BJP	Bharitiya Janata Party
CSS	Centrally Sponsored Scheme
DFID	Department for International Development
DIET	District Institutes of Education Training
DISE	District Information System for Education
DPEP	District Primary Education Programme
IDA	International Development Association
IHDS	Indian Human Development Survey
IIM	Indian Institute of Management
IIT	Indian Institute of Technology
IMF	International Monetary Fund
MTA	Mother Teacher Associations
NEDA	Netherlands Development Assistance
NPE	National Policy on Education
NORAD	Norwegian Agency for Development Cooperation
NSP	Non-State Provider
NUEPA	National University of Education Planning and Management
ODA	Overseas Development Administration
PIL	Public Interest Litigation
RTE	Right to Education
SIDA	Swedish International Development Cooperation Agency
SSA	Sarva Shiksha Abhiyan
UNICEF	United Nations Children's Fund
VEC	Village Education Committee

A Note on Spelling and Terminology

Throughout this dissertation I sometimes quote policy makers, politicians, and official Indian government documents. These are written using British English spelling and I leave the spelling and grammar as is in the original. When referring to the national level government in power in Delhi, I refer to it as the "Central" or "Centre" government and remain consistent with British spelling. When referring to state-level governments as a collective, I use the capitalized "States". The Central Government in India is what would be considered the Federal Government in the United States

In Great Britain and former British colonies, "public schools" are used to refer to schools that are privately managed and financed but are otherwise open to the public. To avoid confusion, I use the term "government schools" when I am writing about schools that are managed and financed by the Indian government.

I also often refer to schools run by mosques and other Muslim religious groups as "madrassas". Although I recognize that this terminology is currently fraught with negative associations and has the potential to be orientalizing, I continue to use this name to describe Islamic religious schools as that is the common phrase used to describe them in South Asia.

Through this dissertation project, I use the number of schools per 10,000 school-aged children instead of the number of schools per capita. I do this for ease of interpretation rather than following any convention as this allows for whole numbers instead of decimal places.

CHAPTER 1: INTRODUCTION

Over the last three decades the Indian government has rapidly expanded government school provision. Public expenditure on primary education has tripled since 1990 (Chakrabarti and Mistree, 2013; Goyal, 2009, 327), and since the implementation of *Sarva Shiksha Abhiyan* (or Education for All) in 2002 India has built an average of 200 new government schools per district, or about 30 schools per district per year (Figure 1.1). As a result, India has achieved near universal enrollment in education (ASER, 2015*a*), previously a pox on India's social development record (Weiner, 1990). At the same time, Indian households are increasingly turning to private and non-governmental organizations (NGOs) for education. Approximately 35 percent of students attended a private school in 2012, nearly a doubling in private school enrollment since 2003 (Figure 1.1). In 1987, Indian households spent an average of ₹10 (approximately 17 cents) out of pocket on education per year. That figure stood at ₹2,700 (approximately $45) per year in 2014 (National Sample Survey Office 1987, 2014).[1]

What is most striking about this move away from public education is that while it was previously an upper and middle class phenomenon, India's poor have also begun to abandon government education. In a survey of Patna, a large city in East India, Rangaraju, Tooley and Dixon (2012) found that there were between 10 and 100 private schools for every government school in the city. Most of these schools were low-fee private schools catering to the city's poor. Citizens are choosing to "exit" state provided education and turn to government schools for education (Hirschman, 1970).

There are at least three reasons we should be concerned about the growth of private education in India. First, not only does public education represent a redistribution of income in the present by transferring financial resources from the wealthy to the poor, it also holds the promise of reducing intergenerational transmission of poverty by increasing human capital of low-income individuals and increasing future earning power (Angrist and Krueger, 1992). If private schools were providing higher quality education, exit to private school would be one way to reduce intergenerational inequality. The best evidence we have of the quality of private schools, however, suggests that they are no better, and may be worse than government schools (ASER, 2015*a*; Muralidharan and Sundararaman, 2015; Singh, 2013). The poor are then paying out-of-pocket for poor quality education, representing a net welfare loss.

Second, education has the ability to socialize individuals into the political system. Experiences *inside*

[1] Both figures are quoted in 2010 prices. The nominal amounts were ₹50 in 1987 and ₹2,300 in 2014.

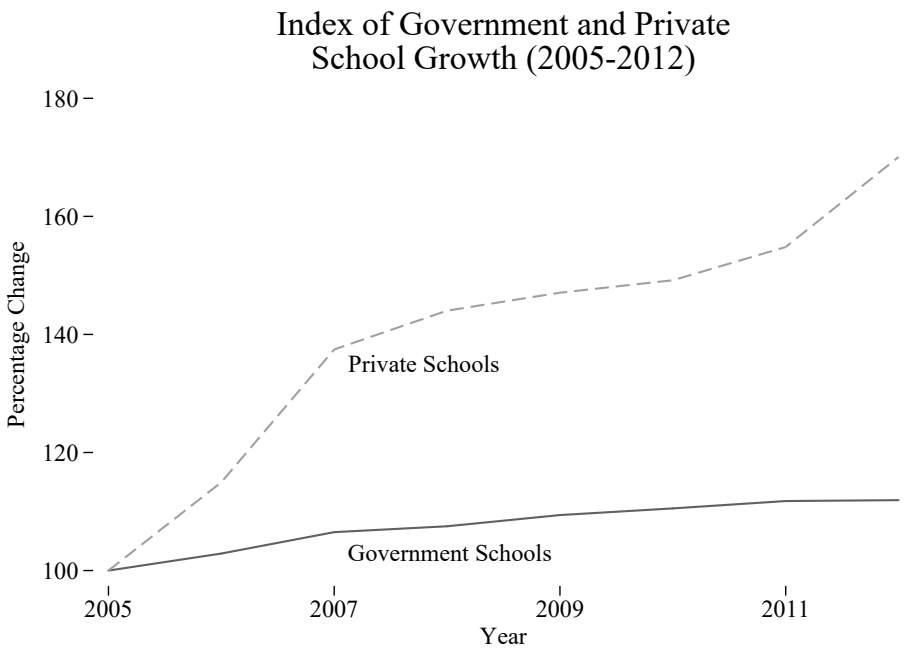

Figure 1.1: Public and Private School Growth since 2005.

The solid line measures the percentage change in government primary schools. The dotted line measures the percentage change in private primary schools.
Source: District Information System for Education (DISE) 2005-2012.

schools can shape experiences of citizenship and provide common experiences around which polities are constructed. Early experiences provide long-standing lessons on the value a nation places on its citizens (Marshall, 1964). If the state no longer provides education, it loses a level of control of this socialization process as well as the ability to provide a common experience for all its citizens (Bowles and Gintis, 2011; Freire, 2000; Marshall, 1964; Pritchett, 2002; Weber, 1976).[2] It also has spillovers to other elements of citizenship such as political participation and social capital (Mettler, 2005). These features are particularly salient in India where government school teachers are often the most educated members of a village (Béteille, 2015), and serve a number of other roles important to citizen interactions with the state such as census enumerators and poll-booth monitors. Access to private services in other contexts have been shown to change citizens' relationship with the state (Di Tella, Galiani and Chargrodsky, 2007; Jeffery and Jeffery, 2008; Lerman, 2013) — does education still retain these positive externalities if it is provided privately?

Finally, teachers and education bureaucrats are also often the "front-line functionaries" of the state and structure interactions between citizens and the state (Béteille, 2009). Especially in low-income countries, government teachers are of the only constant state presence in some rural areas. Interactions with these functionaries provide lessons on how the state views its citizens and how they can expect to be treated by the larger state apparatus (Lipsky, 2010; Soss, 1999). Exit from the state breaks these relationship, whether negative or positive, and reduces contact with the state.

This dissertation is motivated by questions raised by this third concern but also speaks to concerns of the first two. Why, after the Government of India has effectively saturated the education market, do private schools still thrive? And, what effect is this having on citizen's engagement with the Indian state? The expansion of the private sector in education in India belies easy explanation. Although there are numerous discontents with the government education system in India, few provide convincing explanations for the mass exodus from government education.

Exit is not an elite phenomenon. Although India has grown at about eight percent per year since the early 2000s, exit to the private sector has not been the result of increased incomes for rural populations. Many schools charge no more than ₹100 per month (approximately $2 USD per month) and are located in poor urban and rural areas (The PROBE Team, 1999; Tooley and Dixon, 2003; Tooley, 2009; Rangaraju,

[2]The state can also outsource the provision of education to private providers and heavily regulate the content, but has often preferred the direct provision over regulation as a result of incomplete contracting between the state and the private sector (Pritchett, 2002). For an example of this preference for direct control over contracting occurring in India contemporaneously, see The Wire (2016).

Tooley and Dixon, 2012). Priced at that level, they are accessible to large numbers of the population.

Private schools also do not provide better quality education. What research there has been on the differences in quality between the private and government sector suggest that the private sector is marginally better at best (Some of the most recent works, *inter alia* ASER (2015*a*); Chudgar and Quin (2012); Goyal and Pandey (2012); Muralidharan and Sundararaman (2015); Singh (2013)). Indeed, the quality of education has been falling across *both* the government and private sectors (ASER, 2015*b*).

Teacher absenteeism has also often been offered as an explanation for disaffection with the government school system. Indian government teachers are often missing, and, when present, not teaching (Banerjee and Duflo, 2006; Kremer et al., 2005; Muralidharan et al., 2016). Much of this work assumes that the problem lies in the lack of incentives regular government teachers face and that private contracting will align teacher incentives to student outcomes. It is not clear, however, whether carefully designed incentives to motivate government and private school teachers will work either. Various forms of teacher incentives have been shown to work in the short-term (Muralidharan and Sundararaman, 2011*a*,*b*), but ignore the long-term costs (Robinson and Gauri, 2011; Béteille and Ramachandran, 2016). On the private side, private school teachers confessed that their ultimate career aspirations were to become regularized government school teachers because of the higher pay and job security (Anonymous interview, Medak District, October 2013).

Social aspirations have also been increasing with rapid economic growth and urbanization and have been offered as an explanation for demands for private and, more importantly, English language education (Genicot and Ray, 2015; Fernandes, 2006; Kapur, 2010*a*; Kapur and Witsoe, 2011; Kapur, 2010*a*). Citizens are moving to urban areas in large numbers (Auerbach, 2015; Fernandes, 2006; Kapur and Witsoe, 2011) and economic opportunities in urban areas are changing demands for education. But there is no reason to expect that, *ex ante*, rising aspirations should increase demand for private education instead of improved government education. When asked directly *why* households that sent their children to private schools chose the private option, only ten percent explicitly cited English language education as their motivation (National Sample Survey Office, 2014). Why have changing aspirations led to the exercise of exit over voice?

1.1 Two Questions

This dissertation poses two questions. First, why, despite the rapid growth in financing and provision of government provided primary education, do we see an exit to the private sector? Second, what happens to political attitudes and behaviors when citizens exit from government education? I discuss these two

questions more formally below and then expand on the existing literature that attempts to address them.

1.1.1 The Growth of Private Education

This first question is concerned with the timing and form the growth of private education took in India. The fastest growth of private schools occurred in the late 1990s and 2000s, well after market-oriented reforms. Most of this growth was in private un-aided schools, schools that receive no financial support from the Indian government. As I show in Chapters 2 and 4, there have always been some states in India, particularly Kerala in the South, that have had high levels of private investment and management of education. However, this pattern has changed in recent years. While Kerala continues to have high levels of private management of education, most other states in India have now caught up to Keralan rates.

The geographic location of private institutions has also changed dramatically. While most private schools were previously located solely in urban areas (Deva, 1985, 1648), this is no longer the case (The PROBE Team, 1999). During field work, not one village I visited was lacking a private school, some having up to four within walking distance. Private schools are now a rural as well as urban phenomenon. How can we explain these outcomes?

Answers to the growth of public and private education have largely fallen into three strands. First, scholars have suggested that a country's relative levels of private investment in education are a result of bargains during a nation-states early development. Second, democratization, and the new political voices introduced during democratization, are believed to influence investments in education. Finally, market-oriented reforms and integration into the global economy was supposed to sound the death knell for government provided services, education among them, and private providers were expected to pick up the slack.

State-Formation and Education

The canonical model in economics suggests that governments should provide public goods such as public health and education as this will be under-provided by the market (Sen, 2000). Certain market failures, such as the inability to internalize the positive externalities provided by health and education, result in an under-provision by the private market and the call from economic theory to provide this good publicly.[3]

Bargains made during early state-formation have been seen as important in explaining the relative in-

[3]This call, it should be noted, is not for the government to necessarily *operate* public services and can take many forms such as financing (in the form of school vouchers and health insurance) and regulation (in the form of medical accreditation boards for example).

vestment in government versus private education. Private education was seen as a way to contain religious conflict by giving large religious groups control over their education. Ansell and Lindvall (2013) suggest that countries with large Catholic populations will see greater private investment in education as a way to solve religious conflict. This explanation carries weight in India where Kerala, Tamil Nadu, and states in the North-East, with a large early presence of private schools, have the highest proportion of private schools. Singh (2010) argues that allegiance to a common sub-national identity (in her case a Malayali national identity in Kerala) facilitates investments in public goods such as education through private channels as minorities were given freedom in running their own schools..

In Chile, Soifer (2010, 2015) finds that local-level institutions were crucially important in implementing central state directives. Local-level state officials played two roles in the expansion of Chilean schooling in the early 19th Century: properly implementing state policies on education, and second refining these policies independently to adjust to local level conditions. The role of local-level institutions and the "front-line functionaries" of the state is an aspect of the implementation of education policy I return to later. Akshay Mangla (2015*a*) also finds a large role for education bureaucrats. He argues that organizational culture and bureaucratic norms are critical for the proper implementation of education program in India. It is the "unwritten rules that guide the behavior of public officials and structure their relationships with civic actors outside of the state [that] influence how officials enact their roles and responsibilities as they carry out the tasks of policy implementation" (Mangla, 2015*a*, 884).

In new nation-states, and new states *within* India, committed education bureaucrats have been found to be important in the establishment in a broad-based government provided education system. Himachal Pradesh (in the case of Mangla (2015*a*)), and Chile (in the case of Soifer (2010)), are two cases that, until recently have seen relatively higher levels of government investment in education.

Explanations rooted in initial nation-building bargains, however, do not help us understand changing dynamics. While Kerala and other states with large religious minority populations had high initial levels of private education, they saw much slower growth in private education in later periods as I show in Chapter 2. Initial bureaucratic cultures have also been found to be strong predictors of robust government education systems. But for bureaucratic culture to help us explain the rapid growth in private education, we would have to see a rapid deterioration in bureaucratic culture in India. What is more likely is that bureaucratic culture has always been poor with some notable exceptions such as Himachal Pradesh as Mangla (2015*a*)

finds.

Democratization and Education

The third wave of democratization and the increased focus on the causes and consequences of democracy in non-OECD countries has led to an interest of the effects of democracy and democratization on social spending in general and education in particular. Modernization theory argued that democracy and education would move together, although the causal direction was left unclear (Lipset, 1959). Expanding on mechanisms, later arguments have suggested that with the inclusion of previously excluded groups and widening of the "selectorate", democracies should lead to greater redistribution (Lake and Baum, 2001; Przeworski et al., 2000).

Lake and Baum (2001) suggest that democracy has an "invisible hand" that leads to greater spending on human capital investments such as health and education. Their argument rests on the inability of democratic leaders to fully extract monopoly rents as autocratic leaders can. Brown and Hunter (2004) also find that democracies are likely to spend more on *primary* education than autocracies. Ansell (2010) gives agency to mass organization and their ability to organize around demands for greater redistribution to primary, as opposed to tertiary, education. In a similar vein Kosack (2009, 2012, 2014) argues that "political will" is an important determinant of whether democratic governments will invest in education. Political will emerges when there is a "vital constituency" (Kosack, 2009, 502), that resembles the "selectorate" in Lake and Baum's (2001) conception, or Stasavage (2005*b*) class-based political coalitions. In a subnational study of government expenditure on education in Mexico, Doug Hecock (2006) shows that electoral competition has led to higher levels of spending on education, suggesting that higher "quality" democracy leads to higher levels of investment in education.

David Stasavage (2005*b*) argues that Uganda's transition to multi-party democracy increased spending on primary education as education became a salient political issue in post-democratization elections. He also cautions against generalizing from Uganda on the basic relationship between democracy and education because the winning coalition for Yoweri Museveni across Uganda was constructed on class, not regional or ethnic, lines. He suggests that places where ethnic cleavages are more salient than class cleavages, it might be difficult to construct coalitions in favor of broad-based education, suggesting an important role for ethnic cleavages in the provision, or lack of, of education. In support of this story, Kramon and Posner (2016)

suggest that, even under democracies, leaders favor members of their own ethnic groups in the provision of public goods, providing evidence that even if the salient cleavage is ethnic, democracies might still provide high levels of education, but in a particularistic way.

In a cross-country study of democratization in sub-Saharan Africa, however, Stasavage (2005*a*) finds that African governments have spent more on primary education after democratization, downplaying the effects of ethnic cleavages. In another cross-country study of the effects of democracies on investment in education, David Brown (1999) finds support for the idea that democracies invest more in education as a result of electoral pressures. Providing greater nuance to these results, Harding and Stasavage (2014) find that democracies have higher rates of school enrollment and lower school-user fees that non-democracies across sub-Saharan Africa. There is little difference in school inputs, however. They suggest this is because democratically elected politicians are more likely to exert effort in highly-visible goods like school-fees, and reduce efforts for less visible goods like school inputs, a finding supported by evidence from India (Mani and Mukand, 2007). Moving beyond simply measuring education expenditures, Michael Ross (2006) suggests that democracy might not actually lead to useful educational redistribution. He finds that although democracy does result in higher levels of public investment in education, this does not translate to higher-levels of welfare for the poor.

Although none of the works above deal directly with the role the private sector and non-state providers (NSPs) play in service provision regimes and education, except as the *inverse* of public provision, this lacuna has begun to be addressed in more recent years. As democracy is believed to be good for *public* investment in education, it is also believed to enable NSPs. Scholars have found that, particularly in formerly authoritarian countries, NSPs can now form, operate and grow and not necessarily be viewed as threatening to the incumbent party or regime (Brass, 2010, 2012, 2014).

Separately from the ability to operate in more open political environments, the expansion of government provided education under democracies has also been found to directly impact the demand for private education. For example, in Kenya, the implementation of education for all resulted in the entrance of large number of poorer students to formerly exclusive government schools, resulting in middle-class exit to private schools (Bold et al., 2015; Lucas and Mbiti, 2012). With democratization and the political imperatives to provide broad-based education, the Kenyan government launched an education-for-all campaign and eliminated user fees in primary education. Bold et al. (2015) and Lucas and Mbiti (2012) find that this

allowed previously excluded groups to access government education, but pushed wealthier households to private schools. Andrabi, Das and Khwaja (2013) also find that private schools in Pakistan are uniquely dependent on the prior expansion of government education. They argue that private schools depend on a large cadre of publicly educated and unemployed women. Without the expansion of public schools, the female teachers that private schools employ would not have otherwise received an education.

Market-Oriented Reforms, Global Integration, and Education

Market-oriented reforms, market liberalization, and integration into the global economy have also led to changes in service provision regimes. Early scholarship on market-oriented reforms and increasing integration into global markets suggested that integration would constrain the ability of domestic govearnments to make policy (Cerny, 1995; Garrett, 1998). This contradicted foundational work on the introduction of markets in Western Europe that suggested that with the rise of markets there would be a "double movement" to protect society from the vagaries of the market (Polanyi, 1944). Others, such as John Ruggie (1982), suggested that the new wave of market-integration would break the "embedded liberalism" compromise of post-World War II global market integration. Early empirical work from OECD nations complicated this picture. Countries with larger initial welfare states were more likely to be open to international trade as welfare states were more likely to compensate the losers from international integration (Rodrik, 1998).

Moving outside of the OECD has led to indeterminate empirical findings. Erik Wibbels (2006) argues that developing countries peripheral position and late integration into the global economy spells doom for the welfare state. Wibbels and Arce (2003) also argue that global integration has shrunk the welfare state, while Kaufman and Segura-Ubiergo (2001) show that although social security spending has decreased in Latin America after international integration, spending on health and education has *increased*. Thomas Gift (2014) argues that integration into the global economy will increase demand for education as citizens look to increase their human capital to better match available jobs. Avelino, Brown and Hunter (2005) find that increasing market integration has not had the dire consequences predicted by globalization skeptics and in an analysis of Latin American countries during economic crises, Brown and Hunter (1999) also find that democracies are more likely than autocracies to compensate voters during economic crises. Chakrabarti and Mistree (2013) find that state governments across India have dramatically increased their spending on education but not on health. They argue this is because the rhetoric after market-oriented reforms in India

emphasized human capital accumulation in the form of greater education, but not in greater investments in healthcare. All the authors suggest this is because as countries integrate into the global economy, there are increased demands for human capital investments from national governments. In a more nuanced take on the *effects* of market integration for the poor, Nita Rudra (2008) argues that welfare states in the developing world have never traditionally served the poor, so while welfare states might be receding, those most harmed by this retrenchment are the middle classes.

Studies of NSPs have also argued that their growth is a response to market failures. Africa in particular has been said to be in a state of "permanent crisis" and has under-provided public services as a result (van de Walle, 2001). They suggest that non-state providers emerged as a result of market failures to provide forms of insurance and risk management for citizens across the developing world (Dercon, 2002; MacLean, 2002; The World Bank, 2003). Lauren MacLean (2010, 2011) suggests that after state retrenchment and market-oriented reforms in sub-Saharan Africa, citizens have turned to private providers and informal networks for social protection.

Reforming governments in the United States and Western Europe have also looked for private actors to serve as a "shadow state" when the state can no longer provide public goods (Wolch, 1990; Gottschalk, 2000). As a result, NSPs, particularly NGOs, already provide a myriad of welfare services in countries such as Britain, the Netherlands, and Sweden (Gingrich, 2011). In a study of the introduction of markets into public services across OECD economics, Jane Gingrich (2011) seeks to explain the variation in the types of markets introduced in advanced capitalist countries. She argues that the structure of markets will vary depending on existing partisan constraints, with left-wing parties introducing markets as a way to incentivize producers to control costs (as the example of the Affordable Care Act in the United States most recently exemplifies). Right-wing parties on the other hand will use markets to give power to new private producers and limit the role of the state. As they are limited by prior constraints, however, they can only do so for marginal producers.

On the surface, these explanation certainly carry weight in India where the bulk of NSPs in education outside of religious education has emerged *after* India liberalized its economy (see Chapter 2). It is therefore important to understand the role that market-oriented reforms and international integration has played in the growth of private education. The explanation is insufficient, however, as I argue that most of the

growth of *government* schools has also occurred *after* market-oriented reform.[4] While market-oriented reforms often led to cuts in public investment and state retrenchment in Africa and Latin America, the reality was vastly different in India. The Indian state has increased its investments in social programs and the number of responsibilities it takes on since it integrated into the global economy (Kapur, 2010*b*; Saxena, 2005*b*). While some have argued that global integration will lead to demands for greater social investment (Gift, 2014; Rodrik, 1998), there is little evidence that the increase in public investment investment was demand or society driven. I argue that the channel in India has not been through conditionality that has decreased state budgets for the provision of basic services, or ideology that has liberalized regulation around the provision of private services, but through greater spending that has allowed the Government of India and state-level governments to rapidly increase the amount of government schooling it provides.

Most importantly, these three variables — state capacity, democratization, and market-oriented reforms — all assume that the educational systems are largely static and only undergo changes from some external shock. None help us understand how educational systems gradually evolve to change their relative mix of public and private, like India and other developing countries have. Any explanation that helps us understand how countries change their relative mix of public and private investment in India must answer how these changes are also gradual instead of responding to large external shocks.

1.1.2 The Effects of Private Education

The second question turns the dependent variable around and asks what effects the growth of private education has had on political behavior and attitudes. This question is in essence one that asks when do "effects become causes" (Pierson, 1993)? Education, and exit to the private sector, can influence political behavior and attitudes in two ways. First, there can be direct effects within the school. The content of education, social capital constructed within school, and educational attainment can all change an individual's political orientation. Second, education can have indirect effects through the role that teachers and the education bureaucracy play in the wider community. Teachers are an important source of socialization as both the most educated members of communities as well as physical representatives of the state apparatus, while decisions made by government bureaucrats provide examples of state priorities.

Thinking about policy *change*, Paul Pierson (1993) argued that there were two potential avenues through

[4] NB: Throughout this dissertation I use government schools to refer to publicly provided *government* schools, rather than the more common term "public school". This is to avoid confusion with the British and Indian definition of public school used to denote a school that is privately owned but open to the public. Where I am quoting someone directly that uses the term "public school" I will note whether they are using American or British English vernacular.

which feedback from a policy to mass behavior could operate: resources and interpretive effects. By resource effects, Pierson argued that policies "create powerful packages of resources and incentives that influence the positions of . . . individual social actors in politically consequential ways," (1993, 610). Alternatively, Pierson suggested that new policies can influence "the manner in which social actors make sense of their environment," (1993, 610-1). Interactions with representatives of the state provide citizens with examples of how the state views its citizens (Soss, 1999). Government programs and agencies are often the first point of contact citizens have with the state and provide "lessons about how citizens and governments relate, and these lessons have political consequences beyond the domain of welfare agencies" (Soss, 1999, 364). Initial experiences with these representatives of the state can powerfully shape perceptions and future engagement with government. I consider both the material and cognitive effects that education can have in direct and indirect forms below.

Citizenship, Socialization, and Education

T.H. Marshall (1964, 81) claimed that when states provide broad-based education, they had "the requirements and the nature of citizenship definitely in mind". Eugene (Weber, 1976) saw a more coercive role for education in creating a singular French identity and argued that the growth of universal public education as helped create this identity along France's periphery. Generalizing from Marshall (1964) and Weber's (1976), Pritchett (2002) argues that most countries retain high levels of control over education as a means of instruction in national beliefs. In two Marxist takes on education, Paulo Freire (2000) and Bowles and Gintis (2011) argued that education were used as forms of social control and reproduction where dominant elites used the educational system to create hegemonic systems of control.

A large body of literature has attempted to better illustrate how education can create strong attachments of citizenship. Suzanne Mettler (2005) argued that the passage of the G.I. Bill allowed returning servicemen the opportunity to attend university. This in turn led to a high level of civic and political activism among beneficiaries, although it is not clear if this was a result of the content of education they received or a sense of citizenship and reciprocity engendered from the generosity of the G.I. Bill. Education can also change partisan beliefs. John Marshall (2016) found that an education reform that increased the school leaving age in Great Britain led to greater support for the Conservative party. He argues that the channel is an indirect one - with higher levels of education, individuals had higher lifetime earnings and wealthier individuals are

more likely to vote conservative. Hainmueller and Hiscox (2006) argue that college education provides an exposure to economic ideas and information that leads to higher support for free trade, a finding corroborated by Mansfield and Mutz (2009). Croke et al. (2016) argue that in non-democratic contexts, higher levels of education can lead to "deliberate disengagement" as more educated citizens are more cynical of politics in authoritarian contexts.

The more general case of the impact that education has on political orientations is to consider interactions with the entire welfare state as a site for potential political socialization. Joe Soss (1999) argued that different experiences with two welfare programs provided recipients with different lessons of the value the U.S. welfare system and, by extension, the U.S. government placed on its citizens. In a program that gave recipients little autonomy and case workers little discretion, recipients formed negative impressions of the state and the importance the state gave to them. By contrast a different program that gave recipients considerably more autonomy and case workers the authority to respond to client demands, recipients formed far more positive impressions of government.

Another example comes from the criminal justice system in the United States (Weaver and Lerman, 2010). Here Weaver and Lerman find that interactions with the criminal justice system serve to depoliticize citizens as "punitive encounters with the state foster mistrust of political institutions and a weakened attachment to the political process" (2010, 818). Relying on public opinion data from Sweden, Staffan Kumlin (2004) finds that the degree of spillover from welfare state experiences to evaluations of the political system at large depends on the type of welfare state institution encountered. If the welfare state institution is one that provides greater levels of empowerment for the end user *and* they have a positive experience with the service, they are likely to evaluate the political system more favorably.

In a two-step process from education to greater civicness, Jamie Bleck (2015) advances the idea of "linguistic brokers" in households that help the rest of the household engage in the political process. In post-colonial developing states where not all citizens speak the official language, such as Mali, Bleck (2015) argues that educated members of the household that speak French, the official language of Mali, help other members of the household navigate the demands of citizenship. Having these linguistic brokers allows them to more fully engage in the democratic process.

Many of these arguments can also be extended to other contexts. Kumlin (2004) argues that welfare state experiences matter because "European welfare state arrangements are typically more pervasive than

the American ones, reaching far into the personal realm of life…most citizens are regularly in personal contact with the results of politics," (2004, 9). This echoes claims made by Gosta Esping-Andersen (1990) who said that "the welfare state is becoming deeply embedded in the everyday experience of virtually every citizen" (1990, 141).

While we may be wary of porting the findings of policy feedback, that have largely been tested in industrialized economies, to less developed countries, these findings might still be relevant in countries like India. Although, as Lauren MacLean (2010, 241) suggests, developing countries might provide a stronger test of policy feedback as a result of their weaker state capacity, the state is often equally prevalent in developing countries, but in a different form than in industrialized countries. Although it does not approach the Weberian ideal-type found in advanced industrialized democracies, as Weaver and Lerman (2010) show, our analysis should not be restricted to simply positive experiences with the state. As I argue in the next section, the front-line functionaries of the Indian state play an important role in conveying information about the Indian state, and also acting as intermediaries between state and society. While much of the work reviewed in this section is concerned with the effects of education on the individual, this project is concerned more broadly with the effects of exits on households and society at large. It is a review of those works I turn to in the next section.

Front-Line Functionaries of the Education Bureaucracy

Much of the impact of the welfare state and experiences with the state are mediated by what have variously been called the "front-line functionaries" of the state or "street-level bureaucrats" (Handler, 1996; Lipsky, 2010). Michael Lipsky (2010) argued that these street-level bureaucrats, through the discretion they exercised at the individual level, had tremendous amount of power to influence the way that individuals experienced the state. The greater discretion individual bureaucrats have over a client, the more that decisions are left "open to the influence of prejudice, stereotype, and ignorance as a basis for determinations" (Lipsky, 2010, 69).

Much of the impact that front-line functionaries have is left implicit in the policy feedback literature (for some notable exceptions, see Soss (1999) and Weaver and Lerman (2010)), but as Kumlin (2004) notes, their ability to condition the lessons citizens take from welfare state experiences are crucial to understanding the effects of welfare policies. The levels of discretion bureaucrats have over education is broad and

affects a number of ways that households experience services. Although teachers do not have discretion over first-order issues such as admissions, they can influence deeper experiences with education such as how students and parents are treated once in school. The *entire* range of concerns over education I encountered during my interview research concerned some form of bureaucratic discretion. From how a parent's child was treated in school (Anonymous Interview, Visakhapatnam Distric, November 2013), to whether a village *sarpanch* (president) spent local funds on a boundary wall or to buy books for the school (Anonymous Interview, Medak District, October 2013), each respondent was reacting to the discretion teachers or politicians exercised over some element of their child's education.

In India, much access to the state is mediated through intermediaries. Teacher in particular play a large role in this as they are often the most educated representatives of the state at the village level and both their role as agents of the state, and relationship with higher levels of the state likely influence perceptions of ordinary citizens (Béteille, 2015, 947, 967). Teachers are also called on for two important state functions: the conducting of the decennial population census and the manning of poll-booths for elections (Béteille, 2015, 949).[5] This role for teachers is not unique to India — Larreguy, Marshall and Querubin (2016) also find that teachers are used as poll booth monitors and to mobilize voters in Mexico, too.

Education provision has also been used for partisan purposes. In India, Tariq Thachil (2011, 2014*a*,*b*) finds that volunteer service provision from the Bharitiya Janata Party (BJP) a right-wing party with a strong social service wing, was a deliberative strategy to attract poor voters. Through the establishment of schools and health centers in poor and indigenous villages, party service workers were able to embed themselves in communities and slowly convince voters to vote for the party. Here we see the front-line functionaries of an NSP, in this case a political party, serving a crucial role in service provision and spillovers to political attitudes. in this case, there is a deliberate attempt by the political party to convince voters of a particular choice.

Cammett and Issar (2010) find that in Lebanon, when religious organizations prioritize electoral goals, they will target out-group members to win electoral support. Again, service provision by non-state providers is used as a strategy to win over potential voters. This is not always the strategy however. The Future Movement, that does not prioritize electoral goals, does not target out-group members and has no electoral payoff from their service provision strategies.

[5] In my own fieldwork, I found that 85 percent of government teachers served one of these two roles in my sample villages.

Therefore, when thinking about the impact that education, in private and public forms, might have on political attitudes and behaviors, the role teachers and education bureaucrats play is central to any effects we might find. Teachers and education bureaucrats both structure relationships with the state, and in the private sector have been found to deliberately attempt to influence partisan beliefs.

Finally, politicians have used various features of the Indian education system to reward and punish bureaucrats, teachers, and voters. This has been done through the provision of public infrastructure (Wilkinson, 2006), rationing of teaching positions (Béteille, 2009), and school construction (Vaishnav and Sircar, 2013).

Although low on the levels of particularism, education has been used to reward supporters and sway swing voters. Steven Wilkinson (2006) argues that politicians will use infrastructural spending to entice swing voters. Looking at spending on education specifically, Vaishnav and Sircar (2013) find that politicians in the South Indian state of Tamil Nadu target swing voters in close elections, but otherwise reward core voters with greater levels of school buildings. Fagernäs and Pelkonen (2014) find that spending on discretionary education items, such as school books, increase in the year before a local election. This squares with the idea that politicians are likely to spend effort on highly visible inputs, such as school books and school buildings, and shirk on outputs that do not have immediately realized benefits such as quality (Mani and Mukand, 2007). Tara Béteille (2009, 2015) argues that teaching positions are not immune to the larger patronage mechanism of the Indian state (Wade, 1985). As desirable teaching locations are in short supply, politicians use teacher transfers as a form of control over teachers, by rationing and distributing cushy positions to the highest or best connected bidder.

Government schools and education infrastructure are used by politicians as a way to reward voters, teachers are used to monitor voters at the local level, and teaching positions are used to reward teachers. Citizens' interactions with the state are often mediated through teachers, and teachers otherwise provide examples of how to approach the state when they resort to intermediaries to demand particularistic benefits. Exit to the private sector, where teachers are not a part of these politicized networks, has the potential to alter or sever these relationships entirely. In the next section, I turn to formulating a theory on the relationship between the growth of private education, exit from government education, and downstream political effects.

1.2 The Argument in Brief: A Theory of Policy Feedback in Flailing States

In this section, I propose a theory that unites the two questions I posed in Section 1.1 and helps us understand the growth and subsequent effects of private education. Any theory that seeks to explain the growth of private services in general, and private education specifically, must be able to account for three facts. First, we cannot assume that the growth of private services are a response to state failures. Early literature on the growth of the private sector in the developing world suggested that private services emerged where the state was weak or private services were seen as the inverse of government services — where the public did not exist, the private would emerge in its place (Dercon, 2002; The World Bank, 2003).

This assumption is a non-starter in India (and other contexts) where the private sector emerged at the same time as the government was rapidly expanding its own offering (for an example from Kenya, see Brass (2014)). The literature on market-oriented reform has done a poor job of explaining variation in India and developing countries as a whole. While the opening to the market was expected to erode state capacity (Avelino, Brown and Hunter, 2005; Wibbels and Arce, 2003; Wibbels, 2006), the Indian state has actually *increased* its reach in the reform period - even enacting a number of large-scale poverty relief programs that have left few corners of the country untouched. Any explanation that accounts for the rise of the private sector must not simply embrace "a pluralist view of social welfare in which government, private [providers], charitable organizations, and families are simply alternative loci of social provisions" (Hacker, 1998, 130).

Second, any theory must account for an endogenous process of change. There is substantial sub-national variation in the provision of education in India that cannot be explained by exogenous shocks such as international integration (that affected the entire country equally) or democratization (which is a non-starter in India as the country has arguably been a democracy for its entire history), or the quality of bureaucracies, as we need to account for variations in their quality across the country.

Finally, theory must account for the changing nature of private providers. As has been noted elsewhere, there is tremendous variation in the form that private providers take, from religious organizations, small local entrepreneurs, and larger for-profit enterprises and they are also different from previous private service providers (Kushner, 2015). India has moved from a context where private education was either provided for wealthy elites or by religious groups, to a context where a broad range of private providers provide private education for high and low-income groups.

My argument, in brief, is that initial political choices made in the early 1980s allowed for the growth

of private education in the late 1990s and 2000s. I argue for a process of endogenous institutional change in which early choices led to policy drift and layering where formal rules remained largely unchanged, but in interactions with other parts of India's political economy, including moves to decentralize policy implementation and international integration, resulted in outcomes far different from those envisioned by the original policymakers (Hacker, 2005; Mahoney and Thelen, 2010*a*). Laws were either interpreted differently in the period between 1986 and 2000 (such as readings of the constitution on the responsibility of the state to provide education), or government efforts to provide public education had unintended consequences such as decreasing the costs of education labor that allowed low-cost private schools to emerge.

Specifically, I argue that the National Policy on Education, drafted in 1984 and introduced in 1986, encouraged greater expenditure on education, particularly from the Central Government, while also decentralizing education management. These two events interacted with India's integration into the international economy to allow for the rapid expansion but poor implementation of early education policy designed to universalize education in the late 1980s and early 1990s. In the Indian case, decentralization and market-oriented reforms have created what O'Donnell (1993) identified as the expansion of state *territoriality*, without a similar expansion of state *functionality*.

In other words, the Indian state has both expanded geographically into areas it had a weak presence prior to market-oriented reforms, and devolved government decision making to be closer to the average citizen. This has led to a situation where the Indian government now has a real physical presence for most people, but also a weak presence.[6] This has caused a number of problems that are well documented in the development literature. The front-line functionaries of the Indian state are often missing (Kremer et al., 2005; Banerjee and Duflo, 2006), and when present are doing a poor job (Das and Hammer, 2007). With decentralization has also come the extension of political patronage to the local level (Béteille, 2009, 2015) and charges of elite capture (Bardhan and Mookherjee, 2000).

These new opportunities resulted in a number of large education programs at the state and central level. These programs quickly increased the funding available for education infrastructure and labor available at the local level. To meet the rapid demand for new teachers, local-level governments were encouraged to hire contract, or temporary, teachers to meet these demands. With the increasing number of contract

[6] I am sensitive to critiques that political scientists often reify and anthromorphize the idea of the "state" (Nordlinger, 1987), but with that come real encounters with the state by real citizens that structure relationships of power and evaluations of the "state" (Oldenburg, 2005).

teachers, state governments faced increasing numbers of legal challenges from contract teachers challenging their working conditions. In departures from precedent, High Courts and the Supreme Court increasingly ruled in favor of state governments, normalizing the use of contract teachers. The realities on the ground forced various High Courts and the Supreme Court of India to tacitly acknowledge the use of contract teachers and sanction their use for government and private schools.

The Central Government mimicked these state-level programs at the national level through the introduction of the District Primary Education Programme (DPEP) and *Sarva Shiksha Abhiyan* (SSA), explicitly encouraging the greater use of contract teachers by local governments to quickly fill the demands of education. This process first created pressures to recognize contract teachers, then normalized their use through the expansion of government programs.

At the same time, India's activist Supreme Court expanded the ambit of education providers, by recognizing the importance of private schools in the universalization of education. In a series of court cases regarding the responsibilities of the Government of India to provide education, the Supreme Court of India argued that private providers were also an important part of India's education provision regime.

I argue that in middle-income democracies that have states bureaucracies that can provide basic state functions such as security, when providing citizen facing services such as health, education, and internal security, the state will be able to fully provide the *inputs* to these services, but will be unable to provide high quality *outputs* for these services. This is because the front-line functionaries of the state - teachers, doctors, and policemen - have incentives to shirk responsibilities and engage in activities other than their core competencies. This will lead to two outcomes. First, this shirking will result in poor public services. Second, it will also lead to citizen exit from the public sector to the private sector.

To understand the *effects* of the growth of the private sector, we must be cognizant of how the private sector emerged. As I have argued, the private sector did not emerge independently of the government and therefore the effects the private sector has on citizenship is not independent of the government sector. As (Hacker, 1998, 59) argues, we must "broaden [our] inquires to consider the constraints that the development of private market institutions create…for public policy making." Work on policy feedback from advanced democracies assumes the ability of the state to properly implement policy. That argument does not hold in India where the state has been described as "flailing" (Pritchett, 2009), and government programs are often imperfectly implemented (Kapur, 2010*b*).

Therefore, any behavioral effects of private schools will take place in a larger context of imperfect government expansion. While the infrastructure of government provision — schools and teachers — will be competing with private schools, the experiences of government provision — interactions with government functionaries and bureaucrats — will be different than those citizens experience with private services. Because of this, I expect we should see much stronger behavioral effects in perceptions and attitudes towards service provision and relative preferences for private and government service provision, and weaker effects for political participation.

Methodological Considerations

The first question of this project — why do we see such a large growth in private education despite a parallel growth in government education? — is explicitly an institutional question, while the second question — what are the effects of the growth of private education for citizenship? — is explicitly a behavioral question. This project seeks to combine these two approaches, the institutional and behavioral, to advance a larger argument. As Sven (Steinmo, 2015, 1) argued "human beings come to the institutions they inhabit with prior expectations and cognitive biases that affect how they will work within these institutions and adapt them to their local circumstances."

As the second question is explicitly behavioral, experimental methods are particularly well suited to answering this question. They provide us with clean causal estimates of a treatment, in my case the introduction of private education, on political behavior. To fully make sense of the results, however, we must understand the context in which this treatment emerges. Work in historical-institutionalism, particularly work on endogenous institutional change can help us make sense of the context by exploring the long-run emergence of policies and the potential range of their effects. For this, I rely on theories of policy drift and layering to explore the context in which private education, particularly low-cost private education, emerged in India. This combination will hopefully allow us to better understand when parts of our theory and findings can port to other contexts and which behavioral findings are context specific.

1.3 Overview of the Project

As I showed in 1.1, there are a number of competing explanations for the growth of private education. In Chapter 2, I divide these explanations into supply and demand side explanations for the growth of private schools. Under the supply side explanations, I argue we find rising incomes after economic growth and market-oriented reforms. On the demand side, we find the increasing returns to education and rising as-

pirations, as well as caste inequality. I argue that none of these are fully satisfactory for explaining either the timing or the location of private school growth in the late 1990s and early 2000s. In the case of rising incomes, I find there has been a weak relationship between income growth and private schools, suggesting that private schools do not necessarily grow in wealthier areas. With respect to market-oriented reforms, although the largest growth of private education occurred after market-oriented reforms, I argue that the relationship is more complicated than that provided in the literature so far. While private schools certainly benefited from market liberalization, the mechanisms run through a deterioration in the quality of government schools as well as the loosening of labor regulations to meet increased demand for teachers. Finally, the idea that rising aspirations and increasing returns to education are important in the growth of private education do not help us explain why we only see an increase in demand for *private* education, and not all forms of education. While the returns to education have changed dramatically, they have changed across the entire country and not necessarily in locations that have seen quicker growth in private schools. More likely is that the pressures on better education have been channeled to whichever is the more responsive education system, whether that be private or government provided. Finally, ethnic inequality helps us understand the initial stock of private education, particularly in the South. Ethnic inequality has remained largely invariant over time, however, and does not help us understand the change in private education. These four alternative explanations either help us understand the initial stock of private education, or the larger overall demand for private education, but not the specific location and timing in which it happened. In Chapter 3, I advance an argument that takes endogenous changes seriously.

This process also created large gaps between the reach of the Indian state, or what Guillermo O'Donnell (1993) called state "territoriality" - that increased tremendously in the late 1990s and early 2000s - and the ability of the Indian state to implement its education policies, or what I call state "functionality". This gap between reach and function allowed for the growth of private providers to "fill the gaps" (Helmke and Levitsky, 2004). In Chapter 4, I leverage assignment rules from one of the largest education programs in the world, and one of the programs implemented with foreign and domestic funding, the District Primary Education Programme (DPEP), to show that where there were gaps between state reach and state implementation, we see a greater growth in private schools. I construct a dataset of private school growth from 1986 using the Economic Census of India, the National Sample Survey (NSS), and the District Information System for Education (DISE) School Report Cards data. I find that in districts that implemented DPEP and

rapidly constructed schools and hired teachers, or districts where state territoriality was rapidly expanded and devolved to the local level, had no better educational outcomes, but also higher levels of private school growth. I use DPEP only as an illustrative program in that it allows for clean identification of its effects through clear assignment rules. Earlier state-level and subsequent national-level programs, such as the *Shiksha Karmi* Project (SKP) in Rajasthan, and *Sarva Shiksha Abhiyan* at the national-level, had similar goals as DPEP but do not allow for clean identification of effects. My theory suggests we would see similar effects after programs like the *Shiksha Karmi* Project *Sarva Shiksha Abhiyan* as we did after DPEP. I argue that together, this helps us better understand the supply side drivers of exit.

I am not the first to find evidence of co-location in India (Rangaraju, Tooley and Dixon, 2012), or abroad (Andrabi, Das and Khwaja, 2013; Lucas and Mbiti, 2012), but I am the first to argue that it is directly a result of the increase in state capacity, not other structural explanations such as inequality underlying exit. This is not to say that inequality is not important in understanding when and where people exit, but an exclusive focus on inequality, I argue, is incomplete in fully understanding exit in India.

Turning to the *effects* of the growth of private schools, I argue that the increased territoriality of the state conditioned the effects that state exit could have. If exit had occurred in a larger political vacuum, we would expect to see changes in political behavior. However, government teachers play various roles at the village level, including an important monitoring function of political subjects. With the increased reach of the state through the presence of schools and teachers in most villages across the country, citizens can little afford to exit in visible ways such as withdrawals from the political process. Attitudes, however, can and do change.

In Chapter 5, I leverage a field experiment that randomly distributed private school vouchers through a lottery process. Households that won the voucher lottery could send their children to private school for for four years with all expenses paid. Here, I find that private school vouchers have what the policy feedback literature calls "interpretive" effects, but do not have any "material" effects. I find that voucher winning households were more likely to hold pro-market beliefs that voucher losing households. Political participation, however, remained unchanged between treatment and control groups. Citizens' attitudes can and have been changed by state exit in ways favorable to the greater provision of private services in the future.

Finally, in Chapter 6, I provide what I believe are the scope conditions to my findings and contributions

to the larger literature on service provision in the developing world and the role of the private sector in service provision.

CHAPTER 2: SOME STYLIZED FACTS ON PRIVATE EDUCATION IN INDIA

In this chapter I present stylized facts on the growth of private education in India as well as contend with alternative explanations for the growth of private education derived from the literate on non-state providers and education investment. I divide alternative explanations into two forms: supply and demand side explanations. Under supply side explanations, I show that neither market-oriented reforms or economic growth do a good job of explaining the growth and distribution of private schools across India over the past thirty years. Under demand side explanations, although I find support for the idea that both inequality, measured here as caste inequality, and increasing returns to education are related to demand for private education, I argue that this does not explain the more recent growth, only a constant demand over the third year period I analyze.

I turn now to looking at broad trends in the growth of government and private schools across India over the last thirty years. As I argue that in Chapters 3 and 4 that the growth of private schools is closely related to the growth of government schools, it is instructive to trace the growth of government schools in India since independence.

I rely on school construction data from the District Information System for Education (DISE) school report cards. Each school across India is required to self-report a small number of questions on school infrastructure and staff. Most importantly for my purposes, the data contains the year the school was constructed. I take the modal answer to this question from ten years of school report cards from 2005 to 2014. This ensures that I have the most consistent answers for the entire survey period.

I plot the distribution of government school construction in Figure 2.1. The dotted lines in both Figures 2.1 and 2.2 represent the years that the National Policy on Education (NPE), District Primary Education Programme (DPEP) and *Sarva Shiksha Abhiyan* were introduced in 1986, 1994, and 2002 respectively. There appear to be two distinct periods of government school construction: in the early post-Independence period between 1955 and 1965, and then in a later post-liberalization period after 1996 that has tapered off in more recent years but had its peak between 1996 and 2006. As has been much noted (Weiner, 1990), there was little activity in government school construction between 1965 and 1994.

Turning to private school growth, Figure 2.2 presents the same plot as Figure 2.1 with private school construction figures. There was little growth in private schools until the beginning of the 1980s when private schools begin to increase their numbers, culminating with a rapid increase in growth in the early

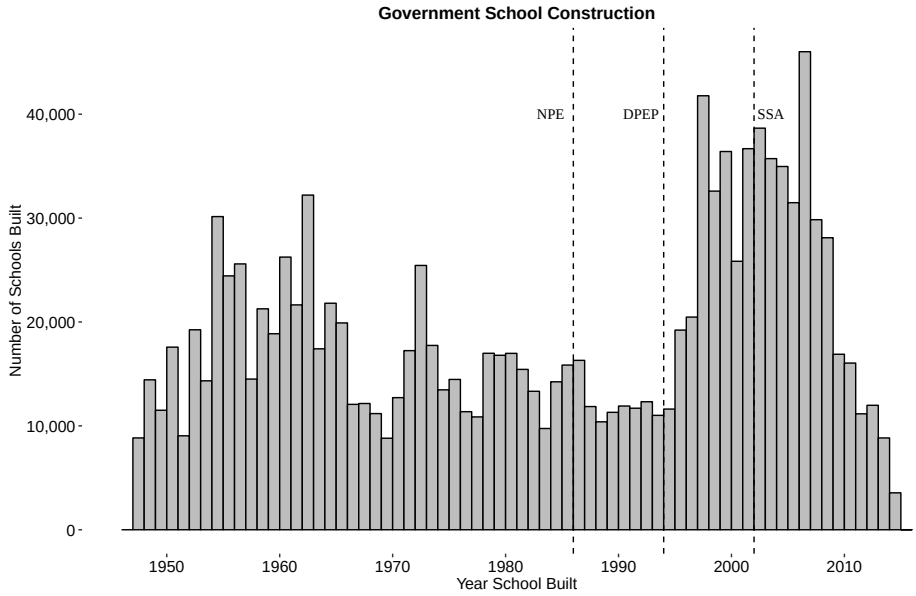

Figure 2.1: Government School Growth

The dotted lines represent the three major policy changes in Indian Government education policy. The National Policy on Education (NPE) was released in 1986, the District Primary Education Programme (DPEP) was implemented in 1994, and *Sarva Shiksha Abhiyan* (SSA) was implemented in 2002.

2000s. This then begins to taper around 2005.

Next, I turn to the distribution of growth of government and private schools across states. In Figure 2.3, I plot the number of government schools per 10,000 residents by state since independence.[7]. The number of government schools increases monotonically in every state with the exception of Kerala and, to a lesser extent, Tamil Nadu, two cases that warrants further discussion. As is to be expected, we see a discontinuous jump in the number of schools per capita in states that received DPEP in 1994.[8]

With respect to Kerala, and to a lesser extent Tamil Nadu, both states have been characterized by a strong presence of locally controlled private schools, with Tamil Nadu also having a large number of religious, particularly, Christian schools (Mathew, 2016). These were early bargains made between large religious minority groups and state governments to allow for a degree of autonomy for religious groups in their management of schools and is similar to countries such as The Netherlands and Belgium that allowed for the management of subnational diversity by granting educational autonomy for minority religious groups

[7] In the rest of the project I use the number of schools per 10,000 school-aged children. However, I do not have school-aged children population data going back to 1947, so instead I use the total state level population as a proxy

[8] For a full list of states and districts that received DPEP, see Appendix B.

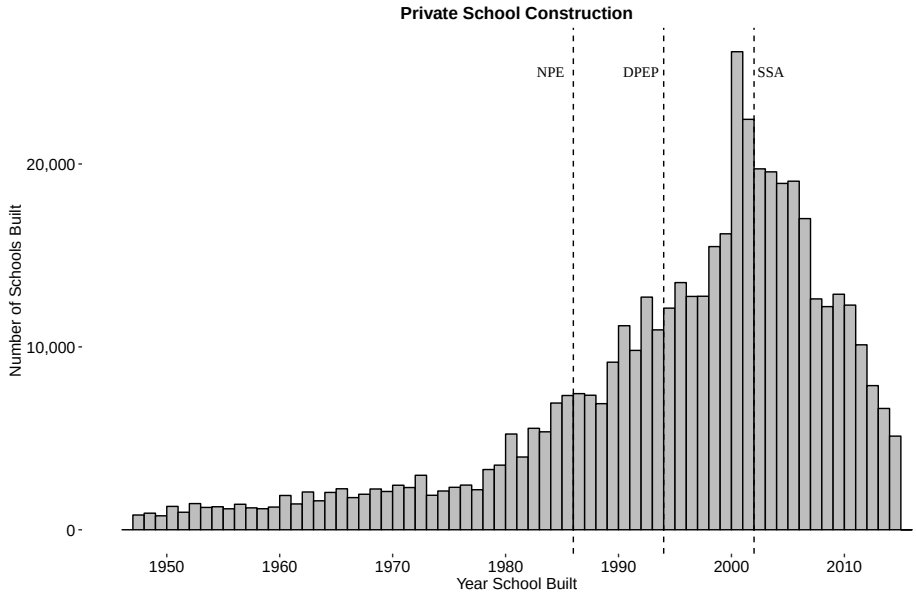

Figure 2.2: Private School Growth

The dotted lines represent the three major policy changes in Indian Government education policy. The National Policy on Education (NPE) was released in 1986, the District Primary Education Programme (DPEP) was implemented in 1994, and *Sarva Shiksha Abhiyan* (SSA) was implemented in 2002.

(Ansell and Lindvall, 2013).

Next, in Figure 2.4 I plot the same data for the number of private schools per 10,000. Again, we see a similar pattern to that in Figure 2.2 in which most states saw an increase in private schools beginning in the 1980s. However, a number of states and territories, namely Goa, Kerala, and Pondicherry have had consistently higher percentage of privately run schools relative to other schools. There are two potential explanations for this. First, as I mentioned previously, Kerala has always granted local control to schools and most of these schools are privately managed but receive most of their funding from the state government (Aggarwal, 1999; Mathew, 2016).[9] Kerala at least confirms, at the subnational level, Ansell and Lindvall's (2013) findings that countries with high levels of religious diversity also decentralize control of schools to private religiously affiliated groups at the local level. The second explanation is similar to the first in that the four states with large numbers of private schools are also states with a strong Catholic missionary presence and Christian religious minorities. Although the data does not allow me to disaggregate what religious group private schools are run by, it is likely that many of the private schools in these states are run by

[9] In India, these schools are known as "private aided" schools and are akin to charter schools in the United States.

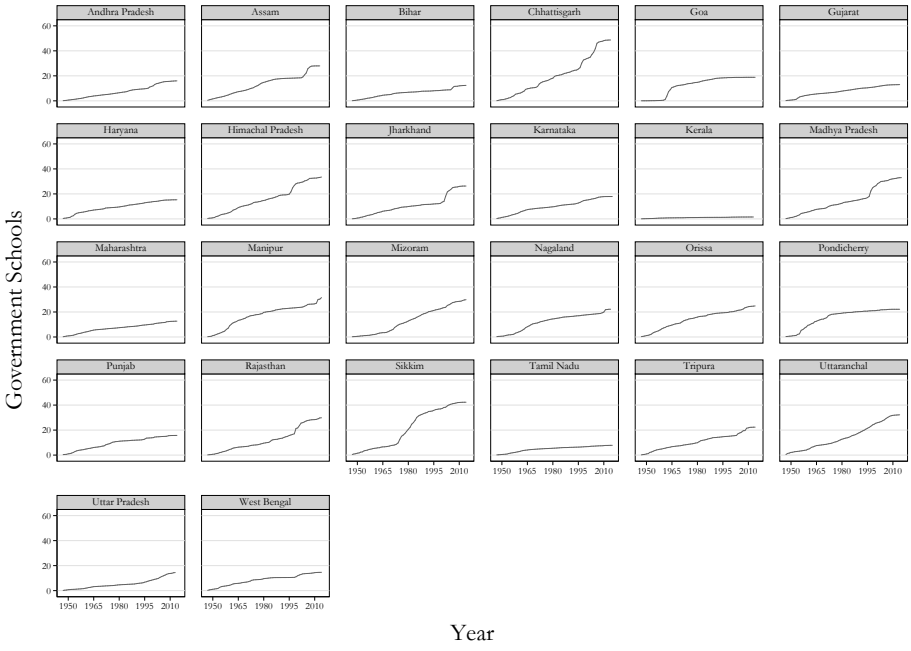

Figure 2.3: Government School Growth by State

Each panel presents the number of government schools per capita between 1947 and 2014. The plot exclude all union territories as well as Meghalaya for lack of data.

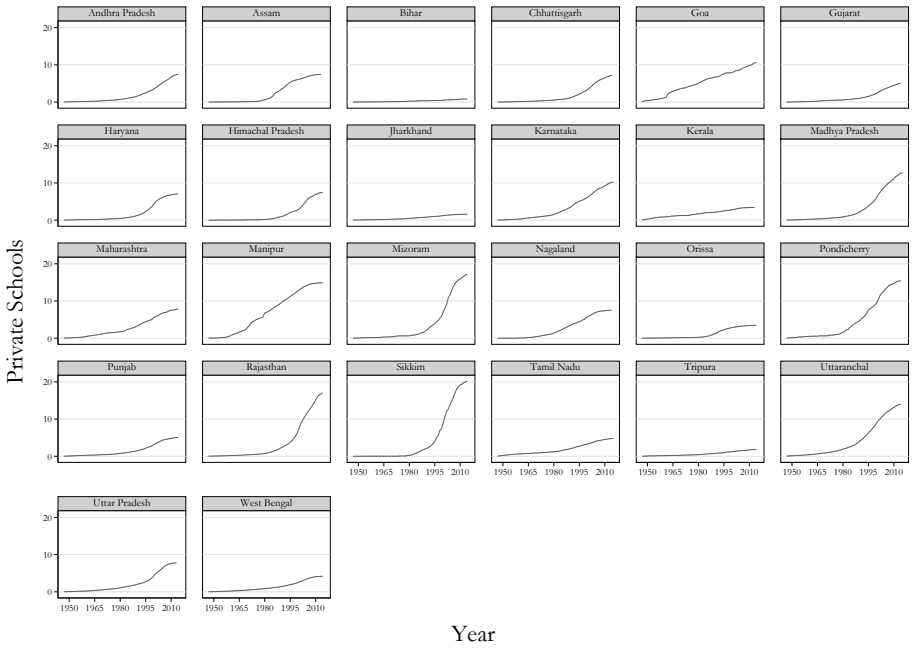

Figure 2.4: Private School Growth by State

Each panel presents the number of private schools per capita between 1947 and 2014. The plot exclude all union territories as well as Meghalaya for lack of data.

Christian religious organizations.

There are also states, such as Bihar, Jharkhand, Orissa, West Bengal in the East that have seen little growth in private education. These states are in general poorer than the average, and in the case of West Bengal, have also been very hostile to the establishment of private schools for ideological reasons (Aggarwal, 1998). Indeed, for a brief period in the 1970s and 80s, it was illegal to establish new private schools in West Bengal (Aggarwal, 1998).

Given the government and private school landscape across India presented above, I now turn to four alternative explanations for the growth of privately run schools across India — economic growth, global market integration, increasing returns to primary education, and caste inequality — and suggest that the supply side explanations are incapable of explaining exit to the private sector, while the demand side explanations help us explain some of the initial demand for private education, but does not explain the increase we see over time.

2.1 Alternative Explanations

From the literature review in Chapter 1, there are a four alternative explanations to contend with: the catering to newly wealthy citizens after rapid economic growth, the retrenchment of the state following market-oriented reforms, increasing demand for private schools as a response to increasing returns to education in a rapidly growing economy, and the growth of private schools as a response to societal inequalities. I deal with each explanation in turn and assess its potential for explaining the temporal and geographic growth in private schools across India. I divide the explanations into supply and demand side explanations, with supply side explanations coming from government or private sector attempts to change the level of education provision in the country, either explicitly through greater investment or lobbying, or unintentionally through state-retrenchment. Demand side explanations are society centered and result from individual level demands for greater or different forms of education.

2.1.1 Supply Side Explanations

Economic Growth

The most obvious alternative explanation for the growth of private education across India are the growth of private schools as a response to the rising incomes since India liberalized its economy. The country has grown at a rate of about nine percent between 2003 and 2007 and at a slower but still impressive rate prior to that. With these rising incomes, some have suggested that the new elite have different aspirations (Kapur, 2010*a*), and some of these aspirations are manifested through demands for private and English language education (Mathew, 2016). Additionally, with India's integration into the global economy, some have argued that those most harmed by this integration, the middle classes, were those that most benefited from India's limited welfare state (Rudra, 2008). In turn, they would also have the financial means to exit the state once public services worsened. There are two related, but slightly distinct, ways to view the effect on private education that comes from rising incomes. The first is a supply side response that comes from private providers attempting to capitalize on the newly wealthy middle and upper classes. The second is greater demand for private education as a result of greater returns to education. I separate these two explanations into demand and supply side explanations given the different source they emerge from. I deal with the supply side explanation here before looking at the demand side explanation in Section 2.1.2.

As a first cut at this explanation, I plot the relationship between state-level GPD per capita (Net State Domestic Product per capita or NSDP per capita) and the aggregate number of private schools per 10,000

residents in Figure 2.5 and NSDP per capita and the percentage of private schools relative to the total number of private schools in a state in Figure 2.6. Each panel in the plots presents a cross-section of every year for which data is available from 1978 to 2012. The solid gray line represents the line of best fit of a univariate regression between NSDP per capita and private schools per capita.

While it is certainly true that rising incomes have empowered new social classes and are likely changing social and economic aspirations, the relationship between wealth and demand for private education has always consistently been strong. The wealthy have *always* resorted to private education. This, however, does not show up in aggregate level indicators. While there is a positive relationship between Net State Domestic Product (NSDP - a state-level measure equivalent to national GDP figures for individual states within India) and the number of private schools, at least for the number of schools per capita, this relationship is not always positive. There is a stronger relationship between the percentage of total schools that are private and NSDP per capita in Figure 2.6, but much of this is driven by the state of Kerala that appears as one outlying point hovering at around 60 percent private schools in all years.

Although there is sometimes a relationship in Figures 2.5 and 2.6, the figures might also hide more than they reveal at the individual level. As Rajiv Gandhi stated in 1986, "good education [is] available to those people who have not just adequate resources but plenty of resources. If you are lacking that, if you cannot afford seven thousand or ten thousand rupees a year [85,600 to 122,000 USD in 1986 dollars] to educate your child from the primary to secondary level," (World Bank, 1997, 16). This astronomical figure was often only available to the wealthiest citizens prior to market-oriented reforms. As late as 1997, the official rhetoric on primary education in India still suggested that private education was largely the purview of the urban wealthy.

This also does not square with accounts that exit to the private sector is now occurring at all socio-economic levels (Mathew, 2016; Tooley, 2009; Rangaraju, Tooley and Dixon, 2012). The new class of private schools that have emerged are deliberately targeting lower income households at price points that are affordable to all but the poorest. There is no good reason why the rich as opposed to the poor should exit from the state as is sometimes assumed (Kumar, Priyam and Saxena, 2001). With the evolution of education policy came the decentralization of power and control of education to the local level. In other contexts, this has led to capture of local-level institutions by local elites (Bardhan and Mookherjee, 2000; Reinikka and Svensson, 2004).

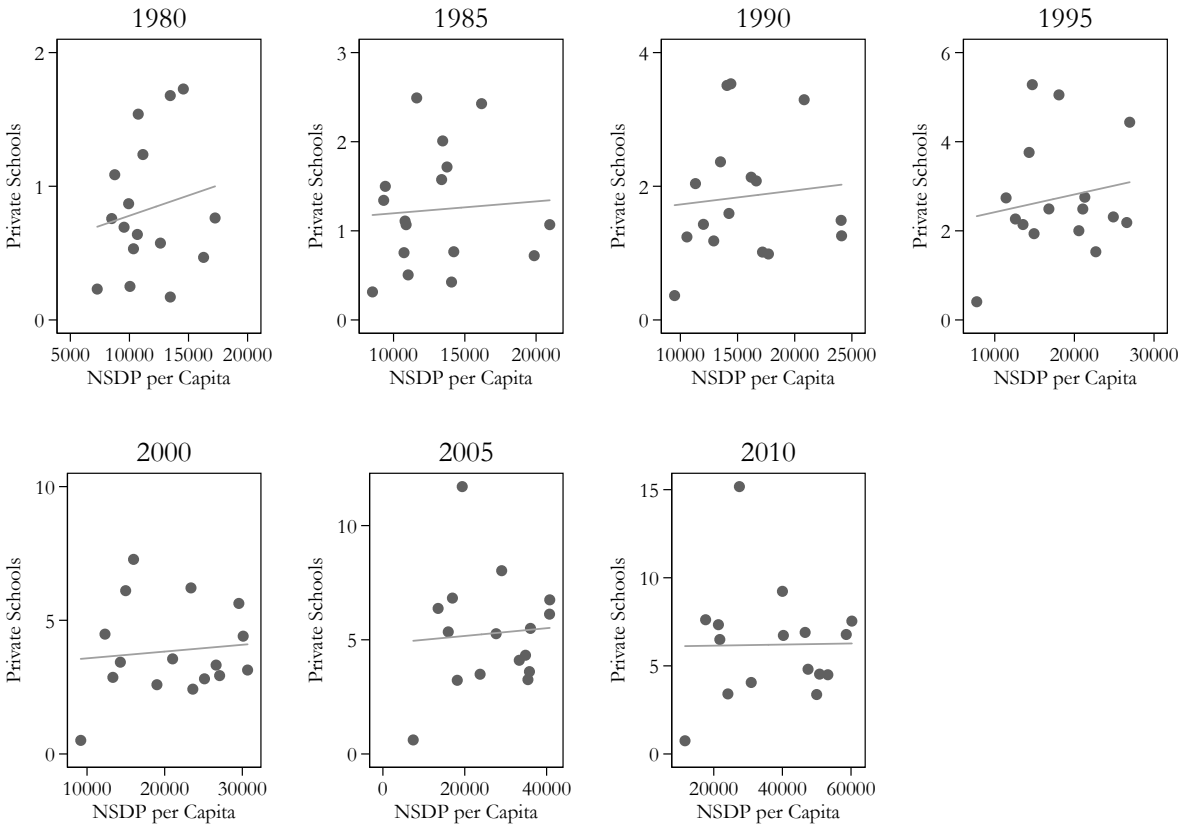

Figure 2.5: NSDP and Private Schools per 10,000

Each point represents the relationship between the number of private schools per capita and the Net State Domestic Product per capita (NSDP per capita) at the state level. The solid gray line represents the line of best fit for a univariate regression of NSDP per capita on the number of private schools per capita. Each panel represents a separate year for which data is available from 1978-2012.

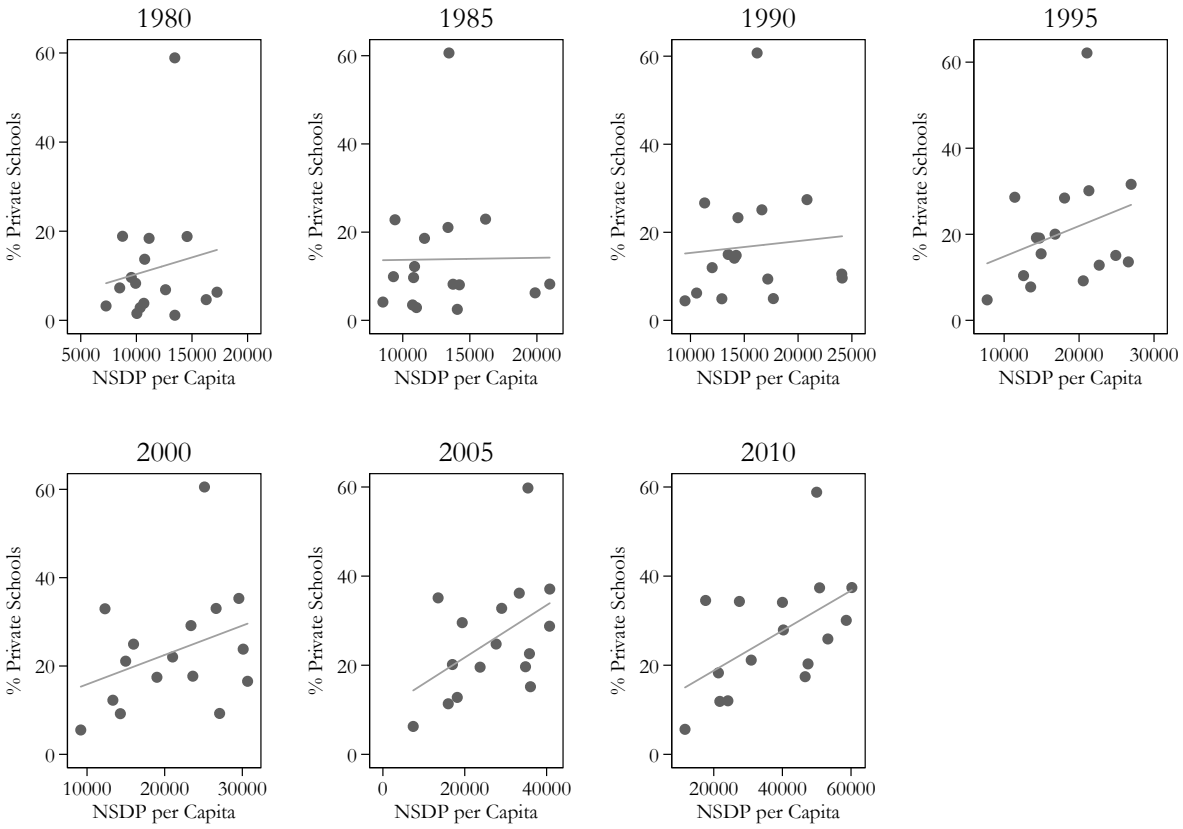

Figure 2.6: State-Level GDP and Private Schools as Percentage of All Schools

Each point represents the relationship between the percent of private schools relative to the total number of private schools the Net State Domestic Product per capita (NSDP per capita) at the state level. The solid gray line represents the line of best fit for a univariate regression of NSDP per capita on the number of private schools per capita. Each panel represents a separate year for which data is available from 1978-2012.

It is surprising that there is a weak relationship between economic growth and the number of private schools at the state-level in India. Unfortunately, the data available does not allow me to disaggregate this any further, but it is unlikely that this relationship is subject to an ecological inference problem as other studies have merely confirmed the relationship I see at the state-level (Mathew, 2016; Tooley, 2009; Rangaraju, Tooley and Dixon, 2012). India's rapid economic growth over the past twenty years does not help us explain any of India's growth in private schools over the past thirty years.

Market-Oriented Reform, Global Market Integration, and the Fiscal Crisis of the Indian State

A second alternative supply-side explanation for the growth of private provision of education surrounds global market integration. With greater integration into global markets, national governments will have less "room to move" in domestic policy making (Mosley, 2000),[10] and also allow for foreign investment in private education. International market integration represents a trade-off between pleasing international capital markets and domestic budgetary concerns, of which government education expenditure is one. This problem is accentuated by late integration into the global economy that has long been suggested to be even more constraining for late-comers (Wibbels, 2006). Furthermore, with increasing global market integration has seen the entrance of international private actors such as Pearson Schools in the financing and administration of low-cost private schools in urban areas (Dixon, 2013; Tooley and Dixon, 2003).

There was also a common wisdom within Indian academic and policy circles that education spending had decreased since structural adjustment programs began (Jha et al., 2008; Shariff and Ghosh, 2000).

This argument does not hold much weight in India for a number of reasons. First, global market integration in the late 1980s and early 1990s coincided with an *increase* in public goods investment, particularly in education and health care (see Figure 2.1 and Chakrabarti and Mistree (2013)). This squares with the compensatory mechanism to global market integration proposed by Polanyi (1944) and Rodrik (1998). There are two ways that this might have functioned in India. First, with the disruptions caused by global market integration, groups that stood to lose from this integration are likely to demand greater redistribution from their government to compensate them for their material losses. Second, with increasing integration, national and state governments might have seen an increasing need for providing human capital. It is likely that the second mechanism is driving investments in India - rhetoric beginning from the National Policy

[10] Manmohan Singh, Finance Minister at the time, declared that India's "room for maneuver, to live on borrowed money or time, does not exist any more" (Singh, 1991).

on Education in 1986, as well as separate work by Chakrabarti and Mistree (2013) suggests that this is the case.

Second, global market integration provided India with new opportunities to finance human capital provision. Although structural adjustment programs were believed to reduce the size of the public sector, and indeed did so in Africa, East Asia, and Latin America (Kaufman and Segura-Ubiergo, 2001; MacLean, 2011; Rudra and Haggard, 2005; Segura-Ubiergo, 2007), in India, access to international financial institutions allowed for greater means to finance social investments. The District Primary Education Programme (DPEP) between several state-level governments and the World Bank allowed for increased state-level financing of education. This pattern has continued with *Sarva Shiksha Abhiyan* that has been financed in large part by the World Bank.

Third, the *rhetoric* around human capital provision and global market integration has turned to one of providing workers for the global economy. While in other cases, either business groups (Ansell, 2010; Kosack, 2009, 2012, 2014), or labor groups (Gift, 2014) have been seen as an important interest groups lobbying for education, it is not clear where the pressures came from in India. This helps explain some of the increase demand for education in the East Asian tigers and some sub-Saharan countries post-global integration (Thachil, 2009). Moreover, the nature of education provision in India — high-skilled education embodied in the Indian Institutes of Technology (IIT) and Indian Institutes of Management (IIM) — was present long before India integrated into the international economy (Rudolph and Rudolph, 1972). This, again, was the type of education best poised to take advantage of India's comparative advantage of opportunities in the international economy: labor scarce, capital rich high-skilled service sector jobs.

Globalization and market-oriented reforms certainly had a role to play in private education provision in India, but not in a way typically recognized by existing scholarship. Global market integration allowed India, and in particular state-level governments, to *increase* the financing and provision of education. By opening to foreign markets and borrowing from international financial institutions, India was able to increase the total money dedicated to education. Global market integration also compelled domestic leaders to increase human capital provision to be able to "derive the maximum benefit from the assets already created" (Government of India, 1986).

2.1.2 *Demand Side Explanations*

Increasing Returns to Education

The most important demand side explanation for the increase in private education over the past 30 years is simply the increasing returns to education across India.[11] Using National Sample Survey Data, Vatta and Sato (2012) estimate a series of Mincerian wage functions from 1983 to 2010 and show that the returns to education, particularly for female workers, has been increasing since market liberalization.[12]

To see if the increasing returns to education might be driving the demand for private education, I proceed in a couple of steps. First, I calculate the average district level return to primary education in each year for which I have Economic Census data (1990, 1998, and 2005) using unit-level data from the National Sample Survey. Individual level estimates are presented in Table A.1 in Appendix A. I plot distributions of the average returns to primary education for each year in Figure 2.7. There are two points to note from Figure 2.7. First, the returns to education have been increasing since 1990. Second, the returns have also been compressing, suggesting decreasing inequality for those with a primary school education.

I now turn to the relationship between returns to education and demand for private schools. In Figure 2.8, I plot the relationship between the return to primary education and the number of private primary schools at the district level in 1990, 1998, and 2005. As is to be expected, there is a strong positive relationship between the returns to education and the number of private primary schools in a district. This bivariate relationship is positive and significant in every year in the sample and, if we remove districts in Kerala that have large number of private schools but lower returns to education, this relationship is only strengthened.

There is one important point to note with this relationship, however. There has always been a positive relationship between returns to education and demand for education. Although Figure 2.7 shows that the returns to education have been increasingly quite dramatically over the last 30 years, it has been increasing across all of India, and inequalities in returns have been decreasing over time. While the returns to education certainly explain demand for private schooling in the cross-section, it cannot help us explain the relationship

[11] There is also credible evidence that increasing employment opportunities might also *decrease* demand for education, as Atkin (2016) has found in Mexico as a result of the growth of manufacturing jobs, and Shah and Steinberg (2015) and Steinberg (2015) have found as a result of the introduction of the National Rural Employment Guarantee Scheme (NREGA) in India.

[12] I calculate Mincerian wage functions for the National Sample Survey unit-level rounds that coincide with the three rounds of the Economic Census data in 1990, 1998, and 2005. I present the results of these in Appendix A. As the rounds that correspond to these years does not have wage data, I use consumption data instead. Although I do not divide these wage functions by gender and urbanity, I find similar results to Vatta and Sato (2012), where the premium on higher levels of education is increasing. Indeed, in 2005, there is no premium on anything below a primary education.

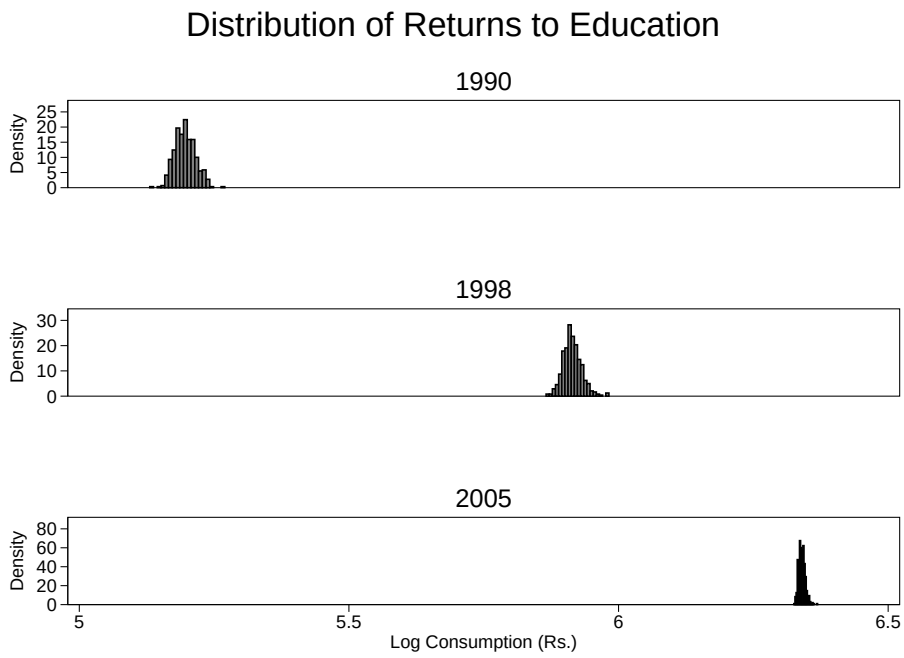

Figure 2.7: Distribution of District Level Average Returns to Primary Education.

Panel 1 presents the district level returns to primary education in 1990. Panel 2 presents the district level returns to education in 1998. Panel 3 presents the district level returns to education in 2005. All data uses unit-level data from the National Sample Survey. The data uses consumption data instead of earnings data as those three rounds of NSS data did not include earnings data. The individual level regressions which this data is plotting is presented in Table A.1 in Appendix A.

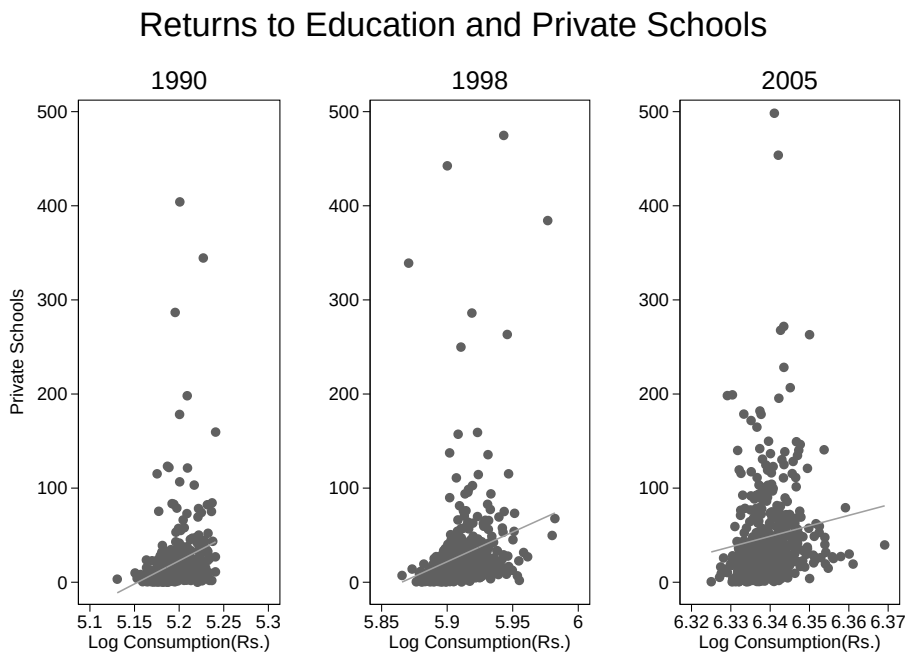

Figure 2.8: The Return to Education and Number of Private School.

Panel 1 presents the relationship between the return to primary education and private primary schools in 1990. Panel 2 presents the same information for 1998. Panel 3 presents the same information for 2005. Returns to primary education are calculated using unit-level data from the National Sample Survey in the respective years. The data uses consumption data instead of earnings data as those three rounds of NSS data did not include earnings data. The individual level regressions which this data is plotting is presented in Table A.1 in Appendix A. The number of private schools are taken from the District Information System for Education school report cards data.

we see in Figures 2.2 and 2.4. I now turn to another popular explanation for demands for private education: caste inequality.

Caste Inequality

The idea that inequalities would drive exit to private schools is prevalent in both the popular and scholarly literatures. Speaking in Parliament in 1985, Dharam Pal Singh Malik, the parliamentarian from Sonepat constituency in Haryana suggested that "[Different castes] go on building their assets and they run [private schools] in the name of their castes such as a Jat school, Gaur Brahmin school or a Vaish school," (Motion Re: Challenge of Education — A Policy Perspective, 1985, pg. 352). Speaking immediately after Dharam Pal Singh Malik, Girdhari Lal Vyas argued that "we see that the children of the big people in society study in the public [private] schools," (Motion Re: Challenge of Education — A Policy Perspective, 1985, pg. 365).

These popular sentiments have also found empirical support in India pre-liberalization (Weiner, 1990), and contexts as diverse as Kenya (Lucas and Mbiti, 2012), and Pakistan (Andrabi, Das and Khwaja, 2008). Myron Weiner (1990) suggests as early as the late 1980s that the upper and middle classes have exited to private schools. Indeed, one of the strongest critiques of the second National Policy on Education in 1986 was its heavy emphasis on *Navodaya Vidyalas* or "Model Schools" that were government run elite schools believed to cater to the middle classes (Resolution Re: National policy on Education, 1986). In Kenya, Lucas and Mbiti (2012) find that in districts with high levels of economic inequality, the elimination of government school fees led to a general exit of wealthier students to private schools. Suggesting a different mechanism, Andrabi, Das and Khwaja (2008) suggest that it is actually the poor that exit to private schools as government schools have been captured by elites to serve their own interests.

While I cannot directly test the relationship between private school prevalence and income inequality as there is no good representative dataset on income inequality, I can test a similar relationship for the Indian context on caste inequality. Below, in Figure 2.9, I plot the relationship between caste fractionalization and the number of private schools in a district.[13] Figure 2.9 suggests that the relationship between caste frac-

[13] I calculate caste fractionalization using a Herfindahl-Hirshcmann index that uses the following formula:

$$\text{Caste Fractionalization} = \sum_{i=1}^{N} s_i^2$$

where s_i is the share of the total population belonging to caste i. I first calculate the village level caste fractionalization index using

tionalization and private schools has been growing stronger with greater levels of fractionalization leading to greater number of private schools.

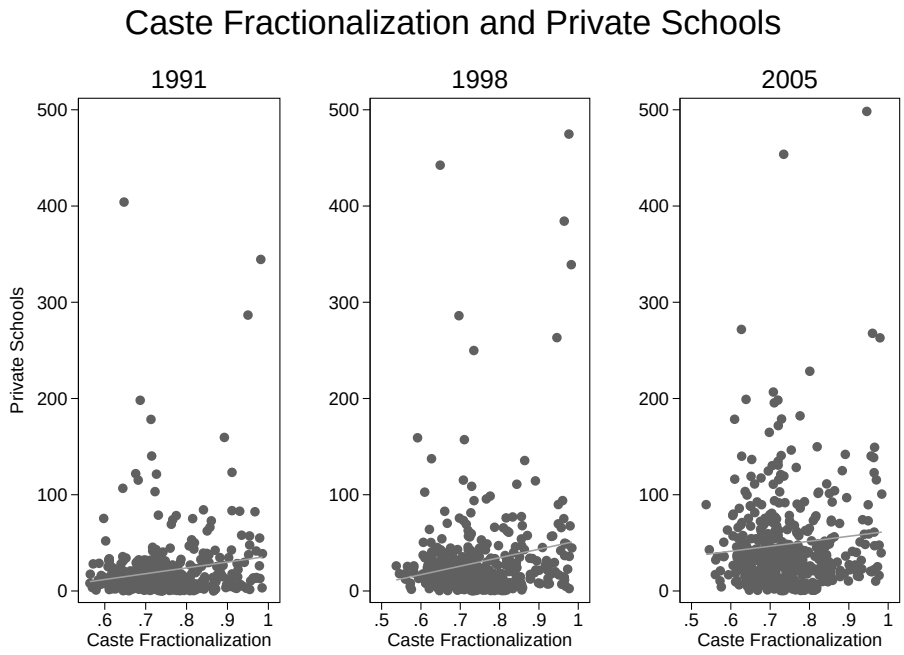

Figure 2.9: Caste Fractionalization and Private Schools

Panel 1 presents the relationship between caste fractionalization and the number of private schools per school-age children in 1991. The correlation coefficient for Panel 1 is .156 . Panel 2 presents the relationship between caste fractionalization and the number of private schools per school-age children in 2001. The correlation coefficient for Panel 2 is .097 . Panel 3 presents the relationship between caste fractionalization and the number of private schools per school-age children in 2011. The correlation coefficient for Panel 3 is .085 . The solid gray line represents the line of best fit of a regression of caste fractionalization on the number of private schools per 10,000 school-aged children in a district in each year.

This suggests that private schools locate in districts that have greater levels of caste homogeneity and the relationship is only growing over time. The results contradict the conjectures of Members of Parliament as well as the academic work on private schools such as Andrabi, Das and Khwaja (2008); Lucas and Mbiti (2012) and (Weiner, 1990). The relationship holds for the entire period for which I have caste fractionalization data and appears to be getting stronger. it does not, however, necessarily explain the *growth* of private schools - there has always been a negative relationship between caste fractionalization. The relationship between caste fractionalization cannot be dismissed out of hand and in subsequent chapters I will test this

census counts on the total number of schedule castes, scheduled tribes and other castes. I then take the district level mean of the village level caste fractionalization. A value of 1 on the index suggests that everyone in a village is from the same caste, and a value of 0 suggests that everyone in the village is from a difference caste.

along with my preferred explanation of a growth of state territoriality.

One major problem with this explanation as applied to India is that caste fractionalization is largely invariant over time and the largest growth in private education over the past thirty years has been over time as opposed to across space. While caste fractionalization does a good job of explaining early private school penetration in states such as Kerala, where local private control of schools was used as a way of maintaining religious harmony, it does not help explain later growth.[14]

Religious Diversity

A subset of the argument that we should see greater private financing of education in locations with greater levels of inequality is a similar argument by Ansell and Lindvall (2013) that countries with high levels of religious diversity will see a large amount of local and private control of education. As I have suggested earlier, this is certainly true for states such as Kerala that have high levels of religious diversity. Many schools in Kerala are privately managed and this is likely a concession to religious, particularly Christian, groups. This phenomenon, however, appears to only be a Christian one, as other states with high levels of religious diversity such as Punjab, West Bengal, and Bihar do not have high levels of private investment in education. While there is evidence that other religious groups, such as Hindu service organization (Thachil, 2011, 2014*a*), rely heavily on private schools, too, this relationship does not manifest itself in the data, likely because they are often the religious majority and are not threatened as a religious minority.

2.2 Conclusions

In this chapter I have presented some stylized facts on the changes in Indian education since Independence and presented four plausible counterarguments that could potentially explain the growth of private education in India. Although all the explanations certainly have validity in the cross-section - i.e. they can help us understand why some districts have more private schools than others in one time period - none can help us explain the *growth* in private schools over the last thirty years.

The explanation that rests on economic growth, while likely true, does not explain the increasing growth in private education over the last thirty years, nor does it account for the type of private education that is increasingly catering to low-income populations. The explanation that argues that global market integration results in less "room to move" and a race to the bottom in public investment does not hold in the

[14] And this is despite some arguments that Kerala's primary identity is not caste or religious based, but rather around a central national identity (Singh, 2010).

Indian case. India has seen greater investment in education since international integration and liberalization, and this has often been a direct result of this integration as it allowed state-level governments to borrow from international financial institutions and development agencies. While returns to education have been increasing over the past thirty years, they have been increasing everywhere, and have been increasing most dramatically in the poorest districts. The final alternative explanation that argues that greater inequality leads to more exit is certainly a plausible explanation, and the effects of inequality have been growing in the post-market reform period. I will argue that this is not sufficient, however, to explain all the exit to the private sector and my preferred explanation on the growth of state territoriality without a growth in state functionality does a better job explaining the growth we do see.

In the next chapter, I trace the evolution of Indian education policy since 1986 that I argued is a critical juncture in Indian education policy. The newly elected Rajiv Gandhi government introduced a second National Policy on Education that redefined Indian education policy over the next thirty years. I argue that it is here that we should look for the beginning of the officially sanctioned growth in private education.

CHAPTER 3: POLICY DRIFT & LAYERING IN INDIAN EDUCATION POLICY: FROM UNIVERSALIZATION TO PRIVATIZATION

3.1 Introduction

As I showed in Chapter 2, there were few private schools in India in the early 1980s. What private schools existed were either targeted at the elite or private-aided schools in the South that emerged out of bargains between religious minorities and state governments looking to maintain communal harmony. By the early 2000s, the situation had changed dramatically, with a huge growth in private schools across the country. On top of this, most private schools are now private unaided schools that cater to low-income households. How can we explain this change? Over the next two chapters I provide two explanations, one long-run (in this chapter) and one short-run (in Chapter 4), that help us understand the rapid growth in private schools in the 1990s and 2000s.

Here I argue that part of the growth of private schools in India can be explained by "policy drift" that both reduced the quality of the government offering and opened the space for low-cost private schools to operate.[15] By "policy drift" "rules remaine[d] formally the same but their impact change[d] as a result of shifts in external conditions" (Mahoney and Thelen, 2010*b*, 17). There was little change in the formal rules of the game and the institutions of education in India saw few changes at the apex level.[16] Actors inside and outside the country, however, provided opportunities for the half-hearted compliance of formal rules. The centralization of education financing and international integration provided greater financial resources, while an increasingly activist Court system reacted to this and carved out space for private actors. With the large increase in resources also came problems of capacity and implementation that the Indian state was unable to meet and gave the courts and civil society organizations greater impetus to challenge rulings in court.

The election of the Rajiv Gandhi led Congress government in 1984 and, more specifically, the passage of the National Policy on Education (NPE) of 1986, marked the beginning of a slow-moving and endogenous process that laid the foundation for the growth and normalization of low-cost private primary education. Using archival records of policy debates around the drafting and passage of the NPE in 1986, official Indian

[15] The idea of "policy drift" and endogenous policy change has been developed by a number of institutionalist scholars, including work by Hacker (2004); Mahoney and Thelen (2010*b*) and Streeck and Thelen (2005).

[16] By institutions, Douglas North (1990) provides a useful working definition when he defines institutions as "the rules of the game in a society or…the humanly devised constraints that shape human interaction" (1990, 3).

government and international aid and financial institution documents from 1984 to 2016, Supreme Court cases legislating on education as well as secondary sources, I argue that Indian policy on education drifted from a policy that attempted to increase access and enrollment to education through government schools to policy that tacitly recognized and normalized the role of private schools. Decreasing quality and legal rulings that reduced the costs of labor and normalized private schools combined to create conditions favorable for the growth of private education, particularly low-cost private schools independent of the Indian Government.

I spend the rest of this chapter tracing the various stages of this argument and test the argument regarding the gap between state territoriality and state functionality in Chapter 4. Here, I argue that the NPE of 1986 allowed for two developments. First, it allowed for education to remain on the concurrent list of the Indian constitution which opened the door for increased funding for education.[17] This dramatically increased the financial outlay on education and, combined with the opening of the Indian economy to foreign investment, allowed international aid and lending institutions to become involved in the planning and financing of education in India. This rapid increase in funding as well as international development organization involvement in education created pressures for the rapid hiring of new teachers that neither state bureaucracies or treasuries could keep up with. To solve this problem, the Central and various state governments turned to irregular or "para" teachers to fill the labor shortage, normalizing the use of lower cost teachers. This normalization, later codified into law, allowed low-cost private schools to also hire low cost teachers and helped drive their growth.

The second development was that the NPE signaled to civil society organizations and Courts that challenges to states inability to provide education would receive a sympathetic hearing. The NPE explicitly called for greater involvement of civil society and private actors in the provision of non-traditional education. Over time, this allowed for coalitions from civil society, some involved in private education, to push for greater recognition of private education in official policy. Although these efforts eventually backfired, with the Government and Courts *increasing* regulation on private actors through the Right to Education Act in 2009, the Government of India finally began paying attention to the role that private actors play in education in India. This culminated with the normalization of private actors in the education service provision through Section 12.1C of the Right to Education Act of 2009.

[17] In the case of conflict between Central and State government policy for an item that appears on the concurrent list, it is Centrla policy that prevails (Pandey, 2000, 15).

Since 1986 there have been a series of major policy reforms and legislation, including the NPE in 1986, the District Primary Education Program (DPEP) in 1994, *Sarva Shiksha Abhiyan* (Education for All or SSA) in 2001, the 86th Amendment to the Indian Constitution in 2002, and finally the Right to Education Act in 2010.[18] Although this flurry of legislative, legal, and policy activity would suggest large swings in the *content* of Indian education policy, especially in light of the lack of attention paid to education prior to 1986, I argue that the legacies of the NPE can be found in more recent education pronouncements and very little has formally changed. In the next sections, I provide an overview of the various education policies, beginning with the NPE in 1986, progressing through DPEP in 1994, which I also evaluate empirically in Chapter 4, and on to more recent education policies such as SSA and more recent government efforts to redraft the NPE in the third National Policy in Education in 2016.

3.2 Policy Drift in Indian Education Policy from 1986-2010

Upon his landslide election in 1984 following his mother's assassination, Rajiv Gandhi quickly education an important plank of his administration. He created the Ministry of Human Resource Development out of the Ministry of Education and the new ministry combined the old Ministries of Culture, Sports, Youth Affairs, Women's Welfare, Integrated Child Development, and Censorship of Films with the intention of incorporating all elements of human capital development under one umbrella ministry.[19] He also appointed Narasimha Rao as his first Minister of Human Resource Development. Rao was previously the Education Minister for the State of Andhra Pradesh, one of the states with the most liberal policies for private provision of primary education (Aggarwal, 1999, 25).[20]

Gandhi announced his intentions to draft a new National Policy on Education to replace the first NPE of 1968 early in 1985.[21]. The early thinking on the new NPE could only be thought of as "more of the same" as much of the language in Gandhi's broadcast to the nation in early January mimicked the first NPE from 1968. There is one hint, however, of what was to come when it was suggested that the "most important suggestion being that the education must be employment oriented".[22] This suggested a re-orientation of education policy in India from one that was still seen in terms of nation-building as highlighted by this

[18] SSA is now the government program used to implement constitutional guarantees provided in the RTE act.

[19] Narasimha Rao, Minister of Human Resource Development, Motion Re: Challenge of Education — "A Policy Perspective", 319-322

[20] In an important note for the future of Indian education policy, Narasimha Rao later became Prime Minister of India in the early 1990s when India fully liberalized its economy and plans were drawn up for the signing of DPEP with international financial institutions.

[21] Rajiv Gandhi, Broadcast to the Nation, 5th January, 1985; Parliamentary Written Answers, December 5, 1985, 179-180.

[22] MP Mool Chand Daga Parliamentary Oral Answers, January 24, 1985, 3-4.

quote from Rao on the floor of parliament "It is our endeavour that the product of our education system would be self-confident individual with a *strong commitment to democratic values and secularism, concerned with the emergence of a nation united in purpose from amongst people speaking different languages, professing different religions, pursuing a variety of life styles*," [Emphasis added].[23] The demands of education in India prior to the second National Policy on Education were a nation building one, similar to France during the 19th Century (Weber, 1976) or during the evolution of print capitalism in Europe (Anderson, 1983). As the 1986 National Policy states, "The National Policy of 1968…aimed to promote national progress, a sense of common citizenship and cultural, and to strengthen *national* integration [emphasis in the original]" (Government of India, 1986), an unsurprising goal for a post-colonial state with high levels of religious and linguistic diversity.

Responding to this rhetoric Myron Weiner (1990, 7) scathingly argued that "[s]ince independence the government of India, every commission appointed by the government, the ruling Congress party, all opposition parties, and all state governments have advocated…establishing compulsory universal, primary education for all children up to the age of fourteen," yet had failed to do so. I diverge from his interpretation and argue that the NPE presented a slow shift from the past through which Indian education policy re-oriented itself by centralizing education funding and decentralizing education administration. First, the NPE presented a commitment from the Prime Minister to focus on education. It was the first time since Independence that the head of government had so clearly focused on education. With this renewed focus also came real action: the Central Government increased its expenditure on education while also encouraging investments in education from state-level governments and foreign sources. This was also facilitated by a prior centralization of education policy making through the Forty-Second Amendment of the Indian Constitution that moved education from the state to concurrent list in 1976.[24] The NPE also laid the groundwork for subsequent education policies such as the DPEP, *Sarva Shiksha Abhiyan* and Right to Education Act.[25]

The second NPE, however, shifted the focus on education policy to improving human capital for an economy being integrated into an increasingly competitive world. In the words of the NPE, "[India] has

[23] Motion Re: Challenge of Education — "A Policy Perspective" (320)

[24] Government responsibilities in India are divided into State, Concurrent, and Central lists, with each designating what level of government is responsible for each level of education. By moving education from the State to Concurrent lists, the Central Government was establishing a commitment to education that had no exited previously.

[25] Indeed, much of the text of the Right to Education Act is drawn directly from the NPE.

reached a stage in its economy and technical development when a major effort must be made to derive the maximum benefits already created and to ensure the fruits of change reach all sections," (Government of India, 1986). Among other goals, the second NPE sought to "lay special emphasis on the removal of disparities and to equalise educational opportunity," by increasing the number and reach of elementary education, providing a greater number of teachers in schools, hiring teachers from disadvantaged groups, and improving school infrastructure (Government of India, 1986). This move brought it more inline with the idea of education as a form of human capital in which governments can make investments to compensate for the likely private under-investment (Becker, 1994). This also marked the beginning of the shift of education from secondary and tertiary education to primary education (Singh, 1988).

3.3 A Renewed Commitment to Education

Prior to the second NPE the Central Government had been hesitant to interfere with state-level governments in their educational choices, allowing some states to lag far behind in their provision of education (Weiner, 1990, 56). This led to less than optimal financial outlays as "[s]tates provided virtually all investment and recurrent cost financing. Most states accorded low priority to primary education…Efforts to improve primary education were limited to small-scale pilot programs in a few states" (World Bank, 1997, 198). The National Policy on Education led to the Central Government expanding both its leadership and financing role in basic education, particularly through centrally sponsored schemes (World Bank, 1997).

This increased role for the Central Government would have likely not been possible without the increasing centralization of education policy. In 1976 Indira Gandhi passed the Forty-Second Constitutional Amendment that moved a number of subjects, including education, from the State to Concurrent list. While the 42nd Amendment was part of a larger project of centralization of power under the Emergency government rather than a deliberate focus on education, the National Policy on Education and subsequent policies were a deliberate attempt by the Indian government to centralize certain features of education, such as the construction of some schools, as well as some of the financial responsibility for education provision (Government of India, 1986; Tilak, 1997). It was not until the National Policy of Education in 1986 that this was more than lip-service.

This centralization allowed for a number of things: it vested Parliament with the authority to legislate on education and allowed it to set national policies on education (World Bank, 1997, 195), while also allowing the Central Government to establish educational standards. Most importantly, this centralization resulted

in a shift in the burden of financing of education from state governments to the Central government (World Bank, 1997). While recognizing that previous levels of educational investment had been chronically low, the NPE called for raising education funding to six per cent by the Seventh Five Year Plan, and higher from the Eight Plan forward (Kolhatkar, 1997, 122).[26] This financial outlay, however, was not to be borne solely by the public purse. The NPE also argued that "[r]esources, to the extent possible, will be raised by mobilising donations, asking the beneficiaries communities to maintain school buildings and supplies of consumables" (Government of India, 1986). The original draft of the NPE sought to charge fees to parents so they understood "the value of education" (Deva, 1985), although this language was quickly removed in the face of opposition from most legislators (Resolution Re: Draft National Policy on Education-1986 (332-333). The most explicit calls for private sector actors was in vocational and secondary and tertiary education, especially in the Programme of Action (Ministry of Human Resource Development, 1992), but there was no mention of private financing of education in the final version of the NPE that were presented on the floor of parliament.

Drafted by Narasimha Rao, the former Chief Minister of Andhra Pradesh and contemporary Minister of Human Resource Development, the 1986 NPE took matters of implementation seriously (Sitapati, 2016, 69). There were two main policy outcomes of the second NPE: the establishment of District Institutes of Education Training (DIETs) and Operation Blackboard. The DIETs were that were designed to deal with a backlog of untrained teachers (Batra, 2013), but were also an early example of the decentralization of education administration that would have larger repercussions in later education policy. Operation Blackboard was a major drive to provide all primary schools in India with better educational infrastructure, including blackboards, books and other teaching equipment, and a second teacher in schools that only had one. Viewed in terms of the last goal, Operation Blackboard appears to have a mixed record (Chin, 2005; Dyer, 1996). An unintended consequence of the second NPE in general and Operation Blackboard in particular was the large amount of the education budget now dedicated to teachers' salaries that accounted for 95% of State-level expenditures on education (Dyer, 1996). This last point created an important legacy for the NPE and subsequent education policies across India that has had large consequences for Indian education policy, particularly the entrance of private actors.

The National Policy on Education of 1986 set in motion a number of processes that began to lay the

[26] It is important to note that these lofty targets have never been met, with education expenditure hovering at around four per cent of GDP (Mangla, 2015*b*).

foundations for implementation gaps in Indian education policy that I later argue allowed for private school growth. It institutionalized the centralization of education policy making and, more importantly, Central government expenditures on education. Central government expenditure allowed for significantly higher levels of expenditure on education that, with India's later opening to foreign funding and decentralization of education management meant that India was channeling far more resources to the local level than it had previously. It also began the decentralization of education administration to lower tiers of government that often lacked the capacity to absorb new resources.

In the next section, I show that this increase in education funding from domestic and foreign sources created a rapid increase in demand for labor and provision of education that allowed for the hiring of low-cost teachers in both the government and private sector. While India's opening to external financing, ideas, and interactions is certainly important for the growth of private education, many of the foundations for the increasing role of private providers were laid far before India liberalized its economy in the 1990s with the passage of the National Policy on Education in 1986 and Central government commitment to funding government education.

3.4 Creating Facts on the Ground: The Legacies of the National Policy on Education

The introduction of the NPE, decentralization of education management, introduction of Operation Blackboard, and renewed focus on education since 1986 created the conditions for the first stage in drift in Indian education policy. The NPE had as its ultinmate goal the universalization of education and the NPE and actors involved with its drafting encouraged state governments to also expand education, while liberalization and integration into the international economy allowed for even more increased funding for education. While this resulted in a move, still ongoing, to universalize primary education, there were several steps before national level policies that influenced the direction that policies such as the District Primary Education Programme (DPEP) would take.

The efforts to universalize education across India began nationally with the DPEP, but this legacy can be traced earlier. The opportunity emerged as a result of four factors. First, India's liberalization and opening to international financial institutions allowed the Central Government and state level governments to enlist international development organizations for development projects. Market liberalization also created a belief among policy makers that India needed educated workers for its labor force, and the government should take an active role in addressing this shortage of workers. Second, "epistemic communities" in

international education began to have a large influence on Indian education policy making, particularly after the Jomtien World Conference on Education for All in 1990. Third, with the policy centralization begun with the NPE, the Central Government began to take a more active role in education policy making. Fourth, broader moves to decentralize management of public services, particularly through the 73rd and 74th constitutional amendments, created demands to decentralize education administration. I address all these factors in turn before providing details on the policy that emerged out of this confluence of events: The District Primary Education Programme (DPEP).

While Operation Blackboard left management and administrative legacies on Indian education policy, the next major legacy of the National Policy on Education had larger repercussions on the sources of funding and hiring practices of subsequent education programs across the country. With tacit encouragement from the Central Government (especially the Minister of Education, and later Prime Minister, Narasimha Rao, who had been a Member of Parliament from Andhra Pradesh beginning in the late 1970s), several states across India introduced state-level programs to expand access to basic education (Sitapati, 2016).[27] These programs had two important features. First, with India's increasing integration into the international economy, that began slowly at first in the 1980s but gained full speed in the early 1990s, and accompanying budget deficits, states were encouraged to seek financing from international development organizations. Second, with the rapid expansion of education came a rapid demand for labor to fill newly opened teaching positions. As a result, state governments turned to contract or "para" teachers to fill these posts. Contract teachers were hired on a temporary basis at salaries much lower than their regular counterparts that were hired under Central Government salary structures. I summarize these state-level projects in Table 3.1 and expand on their influence below.

Scheme	State	Year	Para-Teachers	Foreign Funding
Andhra Pradesh Primary Education Programme	Andhra Pradesh	1984	No	ODA[28]
Shiksha Karmi Project	Rajasthan	1987	Yes	SIDA[29]
Mahila Samakhya	Uttar Pradesh, Gujarat, and Karnataka	1989	No	NEDA[30]
Bihar Education Project	Bihar	1991	Likely yes	UNICEF[31]
Lok Jumbish Programme	Rajasthan	1992	Yes	SIDA[32]
Uttar Pradesh Basic Education Program	Uttar Pradesh	1993	Yes	World Bank[33]
Education Guarantee Scheme	Madhya Pradesh	1997	Yes	No[34]

Table 3.1: State-Level Education Programs 1984-1997

[27] The states that introduced major education programs, Andhra Pradesh, Rajasthan, Uttar Pradesh, Bihar, and Madhya Pradesh represent roughly 50 percent of the total population of the country at the time.

The state-level programs coincided with India's larger integration into the international economy. Liberalization allowed for Indian state governments to borrow from international financial institutions and development organizations for development projects (Kirk, 2005, 2010; Wu, Kaul and Sankar, 2005). In the spirit of structural adjustment, the World Bank also sought to re-orient its lending from propping up insolvent state enterprises such as state electricity boards and expanded its lending to "development" oriented projects such as health, education, and rural development (Kirk, 2005, 79). At the same time, India was concerned that structural adjustment programs would lead to cuts on social services, so sought to protect certain sectors — one of them being education. To protect these sectors, for the first time the Indian government allowed state governments to borrow from abroad to finance education (Sankar, 2007). Prior to this, different states could invest different amounts on education depending on their respective priorities.

Liberalization also coincided with the end of single-party rule at Centre and created what Yogendra Yadav (1999) called "India's Third Electoral System" where federalized coalition governments at the Centre became the norm.[35] This has resulted in a situation where large national parties such as the Congress and BJP have entered into political alliances with state and regional parties to maintain power. While the Central government had policy interests in "second stage reforms" of public services (Naim, 1994), it felt it could no longer coerce coalition partners to do its bidding and used financing from the World Bank and other development organizations as leverage to have state-level governments implement reforms the Centre wanted (Kirk, 2010). As the state government in Andhra Pradesh often provided support to coalition governments at the Centre, The World Bank knew that "the state's political clout made it harder for the Centre to rescind support for the focus states program once it was set in motion" (Kirk, 2010, 46).

On top of this increase in international financing, the increasing centralization of education funding begun after the NPE also led to an increase in Central funding to the states for education and auxiliary programs like the Midday Meal Scheme that provided a cooked meal in schools for children (Jha et al., 2008). The Central government began to use Centrally Sponsored Schemes as a way to maintain control

[28]Sources: Ayyar (2008); Kumar, Priyam and Saxena (2001); Lacey, Cooper and Torrance (1993).
[29]Sources: Ayyar (2008); Ramachandran (2001, 2003).
[30]Sources: Ayyar (2008); Priyam (2015).
[31]Sources: Ayyar (2008); Govinda and Josephine (2005); Kumar, Priyam and Saxena (2001).
[32]Sources: Kumar, Priyam and Saxena (2001); Priyam (2015).
[33]Source: Kumar, Priyam and Saxena (2001).
[34]Source: Gopalakrishnan and Sharma (1998); Leclercq (2002, 2003).
[35]Notwithstanding the most recent 2014 elections that saw a single party gain a majority at the Centre, although they had previously entered into a pre-electoral alliance with a number of parties.

over state finances and discipline state governments (Saxena, 2005*a*, 3-4).[36] This increasing centralization was a two-way street, however, with the states also looking to reduce their fiscal burdens. States began to rely more on Centrally Sponsored Schemes (CSS) and transfers from the Centre to make up for shortfalls in their own budgets (Dreze and Sen, 2002; Jha et al., 2008). In one particularly salient example, the Chief Minister of Andra Pradesh had the entire DPEP program in the state of Andhra Pradesh transferred to Central responsibility, as this reduced the state of Andhra Pradesh's debt burden to the Central government and World Bank to zero (Saxena, 2005*a*, 8-9).

The first state-level project to focus on the universalization of education in India was the Lok Jumbish project in Rajasthan. Inspired by the National Policy on Education focus on women's education, Lok Jumbish sought to reduce gender disparities in education. One of the notable features of Lok Jumbish was the engagement of NGO groups in helping the government provide education (Bordia, 2000, 316, 320). The novelty of Lok Jumbish and then the Bihar Education Project in Bihar, the Basic Education Project in Uttar Pradesh, the Andhra Pradesh Primary Education Programme (APPEP), and the *Shiksha Karmi* and *Mahila Samakhya* programs were that they were all sponsored by foreign donor agencies (Rao, 1998, 11). This represented a change in financing as much of the earlier expenditure on education from the Central Governments in the late 1980s and early 1990s "crowded-out" state spending on education as it was mainly on infrastructure provision and teacher training and did not seek to complement state-level provision (Sankar, 2007, 4). This allowed state governments to shift education budgets for other purposes, not radically changing the amount spent on education.

This large influx of foreign and Central government financing to state-level governments posed a problem for overmatched state governments and local bureaucracies. First, many state bureaucracies felt little ownership over the programs and showed little political commitment over their functioning (Saxena, 2005*a*). One of the results of the increasing use of CSSs and centralization of development in the 90s was that with the increasing centralization of funds came a reduction in monitoring from the Centre to the local level (Saxena, 2005*a*, 10). As Naresh Saxena (2005*a*) argues, "[m]ost schemes follow a blue print and top-down approach, with little flexibility given to field staff." He is critical of CSSs for being distance from

[36] It is important to note that the process of using CSSs "to pass [state] legislation…without obtaining State' agreement" (Saxena, 2005*a*, 6) began much earlier under the Indira Gandhi government. However, like the Forty-Second Constitutional amendment and its later uses, while Indira's motivations were to maintain greater control over recalcitrant state-level governments, their use under the Gandhi and Rao administrations were to promote investment and development in sectors that state governments would otherwise ignore - a claim that rings true as far as education is concerned (Weiner, 1990).

the recipients and unable to monitor their implementation for lack of staff. Functionaries at the World Bank, however, continued to believe that local level institutions were strengthened by the influx of money from external donors (World Bank, 1997, 204).

In some cases, the Central government bypassed the States entirely and sent money directly to the district level (Jha et al., 2008, 137). This money flowed directly from central government to district level organs like the district education officers (Jha et al., 2008, 136) - put heavy pressure on these bodies to receive a lot of money they did not receive before. Although most of financing for primary education came from the states, there was a large decline from previous decades where almost all of education financing came from the states, moving from 93 percent of total expenditure to 75 percent of total expenditure (Jha et al., 2008, 110). The increased financing of education from the Central Government and international organizations along with a focus on decentralization begun with the establishment of DIETs through the NPE, resulted in new responsibilities and financing for local bureaucracies and forced the implementation of education programs to pass through what Kapur and Mukhopadhyay (2007) called "the eye of the needle" of local bureaucracy where capacity is lowest and implementation ability the weakest.

Along with an increasing reliance on the Central government for the financing of education, state governments engaged in cost-cutting measures to relieve strained state budgets. The largest one was the appointment of temporary, or para, teachers to fill vacated teaching posts. With the Seventy-Third Constitutional amendment, functions such as teacher recruitment were devolved to panchayats (Sharma, 1999), the lowest level of Indian government, and panchayat governments were encouraged to hire para-teachers (Jha et al., 2008, 111). While there was a hiring freeze in the regular teaching force that mimicked the overall public bureaucracy (Kapur, 2010*b*), the new state-level education programs circumvented this public hiring freeze by hiring teachers through temporary contracts as it allowed them to reduce costs without reducing the *quantity* of education (Béteille and Ramachandran, 2016; Dreze and Sen, 2002; Jha et al., 2008; Robinson and Gauri, 2011). In the most dramatic example, during the EGS, the state of Madhya Pradesh reportedly stopped hiring regular teachers and only hired contract teachers (Fyfe, 2007; Robinson and Gauri, 2011). Para-teachers were hired for a fixed term for under a year and paid less than regular teachers and emerged as states began to rapidly expand school infrastructure and needed teachers to fill empty school posts (Béteille and Ramachandran, 2016; Govinda and Josephine, 2005). Govinda and Josephine (2005) trace their genesis

to the Himachal Pradesh Volunteer Teacher Scheme started in 1984,[37] but they were adopted by five large state governments as they attempted to rapidly expand access to education.

The use of para-teachers in foreign-funded programs began in the 1980s with the *Shiksha Karmi* and *Mahila Samakhya* programs to try and reach adult learners and drop-outs (Robinson and Gauri, 2011, 5), two of the explicit goals of the NPE. While early projects did not always employ para-teachers, later programs began to follow the earlier models and employ a greater number of para teachers. The use of para-teachers increased in 1990s to meet various needs, including improving student-teacher ratios, staffing new schools, and replacing existing teachers — all but the last explicit goals of DPEP and later SSA. For example, the EGS in Madhya Pradesh "guaranteed the provision of a teacher, her or his salaries, training of teacher, teaching-learning material and contingencies to start a school *within 90 days wherever there was a demand from a community*" [Emphasis Added] (Gopalakrishnan and Sharma, 1998, 2546). It took the Central Government some time to recognize the existence and widespread use of para-teachers, as their first mention in an official policy document was in 1999 (Government of India, 1999; Govinda and Josephine, 2005).

Although none of these programs explicitly engaged private actors, in the next section I will argue that the increased financial resources for education and local-level implementation as well as the increasing use of para-teachers set the foundations for two important pillars on which private education in India was built: the widespread use of low-cost labor, and implementation gaps where private schools could thrive. The greater use of para-teachers led to the court system to hear a greater number of cases against the use of para-teachers brought by teachers themselves, and their later legitimization.

Over this period, the Government of India has also significantly devolved a large number of functions to the local level. This began seriously with the passage of the 73rd and 74th amendments to the Indian constitution that formally recognized the *Panchyata Raj* and Local Administrative Bodies as the third, and most local, level of administration in India.

The decentralization of political selection and devolution of administrative power over issues such as education greatly increased the number of political units responsible for the operation of something basic like a school. As others have shown, the proliferation of administrative units can reduce government capac-

[37] Although this is likely their earliest implementation, this program differs from the ones I mention in Table 3.1 on a number of dimensions. First, the Himachal Pradesh program was not designed as a program to fulfill the promise of "education for all", but rather to complement the existing teaching cadre. Second, unlike six of the seven program I reference in Table 3.1 that were funded by international development organizations, the Himachal Pradesh program was funded from the state coffers. Himachal Pradesh has also often been a leader in implementing education programs and the bureaucracy is marked by an ability to quickly adapt to changing circumstances (Mangla, 2013, 2015*a*).

ity and accountability (Escobar-Lemmon and Ross, 2013; Grossman and Lewis, 2014). In India specifically, it has created what Lant Pritchett (2009, 4) called a "flailing state" and described as a situation where "the national level [institutions] remain sound and functional but this head is no longer reliably connected via nerves and sinews to its own limbs". One of the impacts of this decentralization of political and administrative power was to overwhelm the ability of the local level education bureaucracy to engage in education policy making. In a survey conducted by the World Bank soon after the passage of DPEP, The World Bank found that District Education Officers (DEOs), ostensibly the new face of decentralized education management and support where spending *less* time on instructional support after decentralization reforms and DPEP than they had been before (World Bank, 1997, 204). This was often corroborated by my own interviews with DEOs across Andhra Pradesh who were often frustrated because they were office bound and merely paper pushers, dealing with the larger politics of teachers and schools rather than the administration and education taking place in schools.

Decentralization also created problems of coordination between the political and bureaucratic arms of the state that previously had little interaction with each other. While panchayat governments previously had little power, they now had to coordinate across multiple levels of panchayat governments and with newly empowered district level education bureaucrats, creating a Gordian knot of administrative and political responsibility (World Bank, 1997, 204).

These programs would largely have been a footnote if they did not have influence beyond their states. However, the Central Government and World Bank explicitly used the examples of district level programs to implement what was at the time the largest education program in the world,[38] the District Primary Education Programme (DPEP). In a process of policy diffusion from state-level programs, DPEP *explicitly* drew from the programs in Table 3.1, especially *Lok Jumbish* in Rajasthan and APPEP in Andhra Pradesh (The World Bank, 1994*b*). One of the ways in which the Central Government and the World Bank mimicked the implementation of local government programs was precisely through the hiring of contract teachers. States were often encouraged to hire contract teachers with DPEP, and later, SSA funds (Béteille and Ramachandran, 2016; Govinda and Josephine, 2005; Robinson and Gauri, 2011).

As policies diffused upwards from state-level programs to national-level implementation, the features of these earlier programs were quickly integrated into DPEP. Policies encouraged in the NPE and implemented

[38] This has now been surpassed by the program that replaced DPEP in 2002 *Sarva Shiksha Abhiyan*.

in state-level programs now became national-level policies. While the formal rules governing education in India had changed little since the NPE, it had now been extended to the largest education program in the world with international organization support from the World Bank. Interacting with larger changes to India's governance structure, such as the decentralization of governance to panchayat governments, policy had effectively "drifted" from attempting to universalize education to relying on para-teachers and local-level bureaucracies to implement universal education. I argue that these two features, the reliance on para-teachers and local-level bureaucracies, led to the next stage in this drift: challenges in the court systems that further institutionalized this service regime.

3.5 Reacting to Facts on the Ground: The Judiciary and Codifying Spaces for Private Schools

The next stage in the drift in Indian education policy represented a move from the expansion of government education services to involvement from civil society and the Courts in legislating on this expansion. In this section I argue that the Indian courts were reacting to facts on the ground created by state-level education programs and later expanded by DPEP and SSA, but that in these reactions, they further consolidated a service regime that facilitated private education.

In this section, I focus on three cases that I believe were particularly important to the growth of the private sector across India: *A. Sundarambal vs. Government of Goa and Daman and Diu* in 1988, *Mohini Jain vs. State of Karnataka* in 1992, and *Unni Krishnan vs. State of Andhra Pradesh* in 1993. All three were brought forward as public interest litigation and used the courts to legislate in favor of a larger group of people.[39] The increasing activism of civil society through the legal system was facilitated by the rise of "public interest litigation" (PIL) that began in 1978.[40] The Courts facilitated the rise of private schools in two ways; first, public interest litigation, particularly through the cases of *Mohini Jain* and *Unni Krishnan*, the Courts created incentives for the Indian state to cut back on the quality provision of services (Supreme Court of India, 1988, 1992, 1993).

[39] These are the paradigmatic examples from education. See Khosla (2010) for a larger list from housing, education, and health.

[40] Public interest litigation abandons the requirement of standing "that litigation be carried on by an aggrieved person" (Neuborne, 2003, 502). Beginning in the late 1970s, the Indian Supreme Court began to take a more expansive view of standing "to meet the needs of a developing country" ((Craig and Deshpande, 1989; Neuborne, 2003, 358) and *Fertilizer Corporation Kamagar Union* v Union of India AIR 1981). Instead, any individual or group who has suffered no legal injury can bring a case to the court on behalf of an aggrieved party if it was felt that a right was violated (Khosla, 2010, 743). The Courts began to hear a greater number of public interest cases in India as it was felt that many of the poor are unlikely to be in a position to seek justice from the Courts. It has opened the Courts to hearing cases on rights to housing, education, healthcare and a host of other developmental issues that were never previously present, although some commentators have argued that the Courts have been less sympathetic to public interest cases in recent years (Bhushan, May 1-7, 2004).

After the state-level programs I highlight in Table 3.1 began to increasingly rely on para-teachers, the move at the local and state-level was also supported in the Courts. The Indian Supreme Court and High Courts have increasingly sided in favor of the use of para-teachers (Robinson and Gauri, 2011). The landmark case, however, was the case of *A. Sundarambal* where the Supreme Court argued that para-teachers in the private and public sectors are not "skilled or unskilled" labor, but part of a "noble vocation" (Supreme Court of India, 1988). This definition as a "noble vocation" is important as it excludes teachers from being defined as "workmen" under the Industrial Disputes Act of 1947 and are not subject to the protections of this act, or to the wage scales under the Central Government's Central Pay Commission.

This interpretation allowed for the Supreme Court and various High Courts to legislate in favor of State governments and private schools that chose to employ contract teachers at low wages. As a result, "the Supreme Court, while sympathetic to contract teachers claims in the 1980s, began to more frequently deny petitions for regularization, equal pay, and other labor rights starting in the 1990s. Today the Court appears far more likely to deny than accept a petition brought by contract teachers, and to favor the government's power to hire teachers as it desires" (Robinson and Gauri, 2011, 4). Although an exact count of how many contract teachers are employed by the various State governments and Central government in India is difficult, estimates put their number at about 500,000 in 2005 (Fyfe, 2007, 5). With the freedom to hire para-teachers, the Central and State governments began to take notice and recommended them as part of official policy and recommendations for education programs (Ministriy of Human Resource Development, 1999).

The increasing normalization of para-teachers, and legislation in favor of employers of para-teachers instead of employees, did not escape the notice of private schools particularly low-cost private schools. By the 2000s, private schools began to move into rural areas and hire contract teachers and enjoy the cost savings that this contract allowed (Robinson and Gauri, 2011, 7). The cost savings from employing para-teachers is substantial, with regular teachers being paid anywhere from ₹5,000-8,000 per month, while para-teachers are paid around ₹1,000 in rural areas (Fyfe, 2007, 6-7).

The various Courts of India were forced to adjudicate on labor laws regarding teachers as the hiring of para-teachers became common practice in government schools as a result of state-level education programs. The facts created by various state-level programs – namely the increasingly common use of para-teachers – alongside Courts more friendly to liberalizing labor laws, created a situation that normalized the hiring

of para-teachers in laws. Private schools jumped on these laws to make widespread use of para-teachers. Although they are not called "para-teachers" in the private school system, their contracts and hiring practices closely resemble those of para-teachers in the government system (Dixon and Tooley, 2005; Jain and Saxena, 2010; Tooley and Dixon, 2005). These have allowed private unaided schools to maintain costs low and expand to rural areas where they previously could not operate due to cost considerations.

The next set of legislation that the various courts in India were called on to adjudicate were on the Government's commitment to providing education. One of the largest spaces that the PIL movement opened was for the guaranteeing of social rights. The original drafting of the Indian Constitution clearly differentiated between "Fundamental Rights" in Part III of the Constitution, such as the right to life and personal liberty, and "Directive Principles of State Policy" in Part IV, of which education was one. Whereas judicial enforcement is guaranteed for Fundamental Rights, the Directive Principles of State Policy are not enforceable in any Court but "are nonetheless fundamental to the governance of the country [and the State has] an obligation…to comply with these principles when making laws," (Craig and Deshpande, 1989, 357).

The cases most often brought under PIL involved situations where the government failed to follow through on its duty to enforce well-established legal norms (Khosla, 2010; Mehta, 2010; Neuborne, 2003). This "rights-based approach" empowered "prospective recipients to make legal claims on promised benefits, and has emerged as a mechanism to make the state more accountable," (Kapur and Nangia, 2013, 10). As Pratap Mehta (2010) argued, "a rights-based approach is necessitated by a backdrop of serious state failure." In short, with respect to education, the cases most likely to be brought to courts using PIL were those cases where the Government failed to properly implement its programs. On top of this, the way these cases were adjudicated, rights were only extended to *eligible* recipients as opposed to all citizens in the country. So to provide one example, the right to housing was only adjudicated to citizens who would have otherwise been eligible for a government housing program - citizens ineligible for this program would not fall under the right to housing (Khosla, 2010).

The Supreme Court also began to remove the barriers between Parts III and IV of the Constitution, arguing that the minimum requirements to the right to life also involved a number of directives in Part IV of the constitution such as education and housing (Craig and Deshpande, 1989; Khosla, 2010; Neuborne, 2003, 362-3). This in turn allowed for the Courts to hear challenges to the "Right to Education", previously unenforceable by the courts system. These came to a head with the cases of *Mohini Jain* and *Unni Krishnan*

in 1992 and 1993 respectively. In *Mohini Jain*, the Supreme Court held that the "right to education flows directly from the right to life,"[41] while *Unni Krishnan* confirmed the ruling from *Mohini Jain* and reaffirmed that the right to life included the right to education.[42]

There are two important points to note in support of a process of policy drift. First, although both *Mohini Jain* and *Unni Krishnan* dealt with claims against tertiary education institutions denying access to education, the Courts interpreted the cases broadly and argued that they should apply to primary and secondary education institutions, particularly those mentioned explicitly in the Indian Constitution ("all children until they complete the age of fourteen years"). This allowed for a larger movement pushing for the right to education to be enshrined in the Constitution. Second, the right was also interpreted broadly in terms of *where* the service was provided, with both government and private facilities falling under the ambit of the rulings. In *Mohini Jain*, the Court argued that "[w]hen the State Government grants recognition to the private education institutions it creates an agency to fulfill its obligation under the Constitution. The students are given admission to the educational institutions — whether state-owned or state-recognized — in recognition of their "right to education" under the Constitution." These two features allowed for an expansive reading of jurisprudence that allowed civil society actors and actors within subsequent governments to begin to mobilize around the passage of the Right to Education Act of 2009.

What this series of legislation did, especially as related to the eventual passage of the Right to Education in 2009, was codify and normalize private schools in Indian law and include them as part of India's education provision regime. While the NPE in 1986 made no mention of private schools as an important pillar upon which India could meet its commitment to universalizing education, the last two major policy pronouncements on education policy by the Indian government, the Right to Education Act and the draft of the third National Policy on Education in 2016, have made frequent reference to the role that private schools play in fulfilling India's commitment to universalizing education. While the Right to Education sought to regulate private schools and also bring them under greater government sanctioning, the other effect that provisions like Section 12.1(c) had was to normalize the idea of private schools as part of the larger service provision landscape in India.

[41] Mohini Jain v. State of Karnataka (1992).
[42] Unni Krishnan v. State of Andhra Pradesh (1993).

3.6 Conclusions

The Government of India has largely been successful in attempting to universalize education. There are more children in school today than there were at the beginning of market-oriented reform, literacy in India has increased dramatically, most villages in India have a primary school. The *way* that this has been achieved, however, has deviated from the intentions of the policy, deviations that have implications for subsequent policy making in India. Borrowing from the institutionalist literature, endogenous institutional changes have led to informal institutions responding by providing close, but qualitatively better, substitutes to those provided by the state. These institutions, in the form of recognized and unrecognized private schools, have "filled in gaps" by "facilitating the pursuit of individual goals within the formal institutional framework," (Helmke and Levitsky, 2004, 728).

In the words of Paul Pierson (2003), the process that first created the conditions in which private schools could operate, and then normalized them through legal codification, was a "big, slow-moving, and…invisible" process of endogenous institutional change. Actors within the state, civil society, and Indian courts slowly modified the existing rules of the game from a system that privileged the public supply of education that then opened space for private actors, and later began to normalize and institutionalize them with greater regulation. This process exhibits features of policy drift, where, for the most part of the period under study (1986-2009) "rules remain formally the same but their impact changes as a result of shifts in external conditions" (Mahoney and Thelen, 2010*b*; Hacker, 2005, 17).

The starting point for this process can be traced to the introduction of the National Policy on Education in 1986 by the Rajiv Gandhi government. The National Policy set in motion three processes. First, it established a Central Government, and later international development organization, commitment to financing education. Second, it formalized the non-formal provision of education labor through non-formal education policies. Third, it began the decentralization of education management through the creation of DIETs.

The Courts system in turn reacted to these new facts created by education policies. Challenges to the use of para-teachers became more frequent, and over time, the Courts sided in favor of the Central and State governments that used para-teachers (Béteille and Ramachandran, 2016; Robinson and Gauri, 2011). Challenges to the inability of the state to provide education were also brought to Courts, and the Courts interpreted this failure broadly by including the private sector as a key actor in India's education provision

regime (Khosla, 2010). These rulings both normalized the private sector, and ensured that a key input for low-cost private schools — labor — was justified by the Courts system, too.

This renewed commitment to education, however, put India on a path of primary education provision that accentuated a disjuncture between the size and reach of the state on one hand, and the proper functioning of the state on the other. Through the centralization of education policy and financing, India was able to credibly commit to providing and expanding education. However, through the decentralization of the management of education, the lofty objectives of the central government were left unfulfilled at the local level. This in turn provided an opening for the low-cost private sector to enter. In Chapter 4 I show that the growth of government primary schools led to the growth of the private sector.

While I have looked at the long-run implications of endogenous institutional change, in Chapter 4, I empirically test the impact that one particular policy, DPEP, has had on the growth of private schools. There, I leverage the assignment rules of DPEP to study the effects this program that both decentralized education provision and rapidly increased the funding of education at the local level had on the private sector response.

CHAPTER 4: FRIENDS OF THE STATE? STATE CAPACITY AND PRIVATE SCHOOL GROWTH IN INDIA

In Chapter 1, I argued that private services in low-income democracies are dependent on the prior growth and expansion of state capacity for themselves grow. There, I argued that the rapid expansion of state "territoriality" without a accompanying expansion of state "functionality" (O'Donnell, 1993, 1358) in education service provision leads to private sector entry. This rapid expansion of "territoriality" without concomitant expansion of "functionality" has created what Pritchett (2009, 3) has colorfully called a "flailing" state where "the capability of the Indian state to implement programs and policies is weak." This gap between the intent and the execution of the Indian state has opened space for what Helmke and Levitsky (2004, 729) call "substitutive informal institutions" where these institutions "achieve what formal institutions were designed, but failed, to achieve." I suggest here that in the realm of education those informal institutions take the form of private schools that seek to fill gaps in state provision.

In this chapter, I test that proposition empirically by exploiting the introduction of a major education program, the District Primary Education Programme or DPEP, in 1994 that sought to increase funding for primary education and increase local state capacity in the provision of primary education by decentralizing education decision making and increasing resources for primary education. I use a variety of data sources and empirical methods and find that, on the whole, in districts that DPEP was introduced we see a growth in government schools, or state territoriality, but no improvement in the educational outcomes DPEP was supposed to address, or no improvement in state functionality. This in turn I argue resulted in a faster growth of private education in districts in which DPEP was introduced. As in Chapter 1, I suggest this is for two reasons. First, the rapid decentralization of school decision making extended the *reach* but did not extend the *capabilities* of the Indian state. Second, private services, particularly private services catering to low-income communities, require inputs from the state on both the demand and supply side to thrive. In this chapter I find that private schools tend to co-locate in districts with a large growth in government schools. In the rest of the chapter, I provide greater context on the District Primary Education Programme and what we should expect to see after the introduction of the program, outline the data sources I use, and present the results that support my theory.

As I outlined in Chapters 1 and 2, India has enacted a number of significant primary education policy reforms since 1986 - including the second National Policy on Education (NPE) in 1986, the District Pri-

mary Education Program (DPEP) in 1994, *Sarva Shiksha Abhiyan* (SSA or Education for All) in 2004, and The Right to Education (RTE) Act in 2009 - that have rapidly expanded government provided primary education. This legislative activity over the past 30 years marks a profound shift from the first thirty years of India's independent history when, aside from a few empty promises in the Constitution of India (Weiner, 1990), the Government of India found little time for education. The increased activity is all the more surprising given that the early 1980s also saw India slowly opening to the world economy, an action that was early thought to lead to constrained government budgets, reduced policy space, and reduced social spending (Kaufman and Segura-Ubiergo, 2001; Rudra, 2008; Wibbels and Arce, 2003).

While the intentions of these policies have certainly been noble, the *results* of these policies, however, have been far from policy makers stated intentions. While on one hand, the Indian government has been very successful in increasing access and availability of free, public, primary education, the unintended consequences of these policies have served to undermine government policy. The quality of government provided primary education in India is poor and constantly declining (ASER, 2015*a*), government teachers are often absent or exert low effort while present (Banerjee and Duflo, 2006; Chaudhury et al., 2006), and, most importantly for this chapter, the demand side response over the past thirty years has been to abandon the public sector for low cost private schools (Tooley, 2009; Rangaraju, Tooley and Dixon, 2012).

This chapter argues that exit from the government sector has been most pronounced in areas where, paradoxically, the government has been most successful at fulfilling central government policy and increasing access to primary education. Using three waves of the Economic Census of India from 1991, 1998, and 2005, and school construction data from the school report cards collected by the District Information System of Education (DISE) at the National University of Education Planning and Administration (NUEPA) I construct a district-level panel of school construction from 1986 to 2002 as well as a richer panel from three waves of the Economic Census of India in 1990, 1998, and 2005. I find that the largest growth in private schools was in locations that also saw the greatest expansion in primary public education. I suggest that this is a result of two factors. First, we cannot understand the expansion of private schools without understanding government politics towards private education. I argue here that private school growth was a direct response of government school expansion.[43] The rapid expansion of government schools resulted in

[43] I use the term "government school" to refer to schools that would be called "public schools" in the U.S. and "state schools" in the U.K. and the term "private school" to refer to what are called "public schools" in India and the U.K. and "private schools" in the U.S.

a concomitant decline in government school *quality*. The Government of India focused on increasing access without a similar focus on quality, leading to flight from the public sector. Second, this was occurring over a period where the Indian economy was growing at an average of 6 percent per year, rapidly increasing rural incomes. This increased flow of money changed both material capabilities as well as aspirations, aspirations that were often manifested in demands for primary education.

I leverage the introduction of DPEP, not as the only source of growth in state capacity in Indian education policy over the last 30 years, but as an example of increasing state territoriality I argue has been occurring in India. Because of DPEP's clear assignment rules, I can provide cleaner causal evidence of increases in state capacity leading to greater private school growth. In Section 4.4.6, I test the more general proposition that private schools tend to co-locate in areas with greater number of government schools and find the results are stronger there, although the causal interpretation is more muddled.

In Figure 4.1, I plot the ratio of private schools to all schools by district and by the three main types of private schools in India: aided, unaided, and unrecognized schools.[44] Kerala and Tamil Nadu in the South, and the area around Delhi in the North have the largest concentrations of private schools. The Keralan and Tamil private schools are likely Catholic schools or locally-managed schools that are also supported by the Government of India (and this is further confirmed by the ratio of aided schools in the top-right panel of Figure 4.1 that suggests that Kerala and Tamil Nadu as well as Maharashtra have the most number of private schools that receive aid from the Government of India). This pattern, however, masks both the *nature* and *growth* of private schools across the country since 1986.

In Figure 4.2, I plot the *growth* of private schools since 1986 when the second National Policy on Education was drafted. Here we see that Kerala and Tamil Nadu had large ratios of private schools before market-oriented reforms and continue to do so today. The fastest growth in private schools, however, occurs in districts that had a low initial stock of private schools, particularly in the West and Andhra Pradesh[45] Most of the fastest growth of private schools comes from unaided schools that receive no financial assistance from the government. This again squares with my larger argument that the expansion, but not deepening, of state capacity leads to greater private school entry. Without a highly capable state (that likely existed

[44] Aided private schools are schools that receive financial support from the Indian Government, unaided schools receive no support and as a result have fewer restrictions on curriculum and hiring practices, and unrecognized schools are schools that have not been recognized by the Indian Government.

[45] The bottom right-hand panel of 4.2 suggests that Andhra Pradesh has seen the fastest growth in *unrecognized* schools. I am hesitant to draw too many inferences from the data on unrecognized schools however, as the DISE school report cards data is self-reported and likely undercounts the number of unrecognized schools across the country.

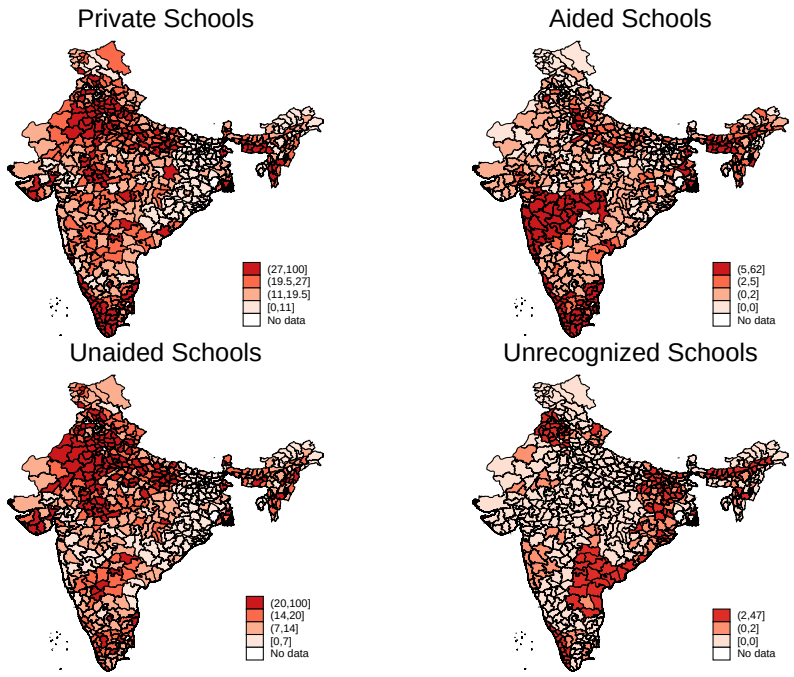

Figure 4.1: Private Schools as a Percentage of All Schools in 2013

in Kerala and Tamil Nadu prior to market-oriented reforms), private schools cannot formally rely on the government for financial support.

In the section that follows, I outline the main goals of the District Primary Education Programme that I leverage as an education program that greatly expanded state capacity by decentralizing school administration and providing a greater level of school financing, but did not increase local-level capacity to manage primary schools.

4.1 Context: The District Primary Education Programme

In 1994, the Government of India signed a Memorandum of Understanding (MOU) with The World Bank and The European Commission to finance and provide technical support for DPEP (The World Bank, 1994*a*). While the Government of India had significant input and direction in determining the nature of the program, the financing from the two IFIs allowed the Government of India to spend considerably more money on public education than it had previously (Tilak, 1997). Additionally, the move to seek external financing also allowed *state* level governments to finance the program through borrowing, a financing measure previously closed to states (Tilak, 1997; Kirk, 2005, 2010). These two features allowed for DPEP to be

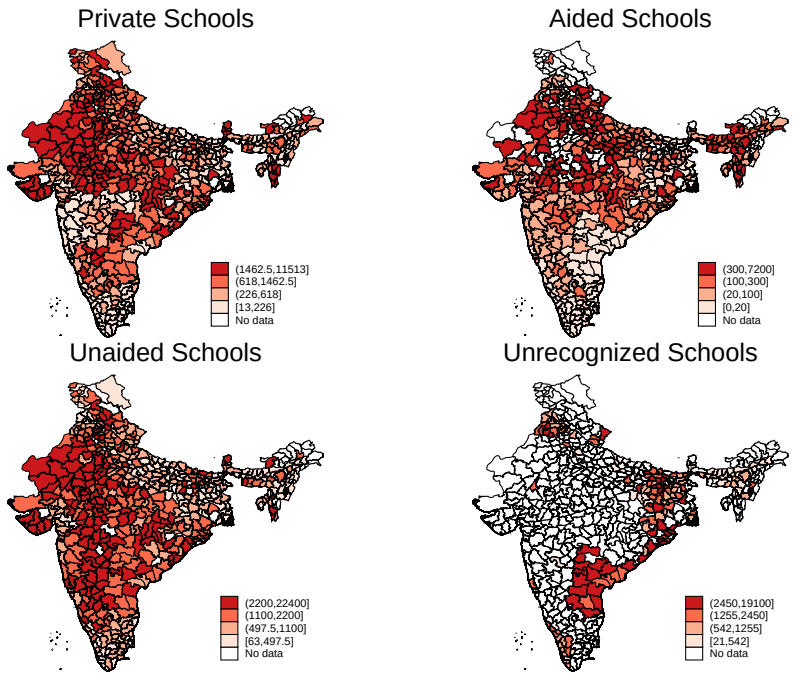

Figure 4.2: Growth in Private Schools 1986-2013

one of the biggest education programs in the country's history, while also being sustainable (Rao, 1998).

DPEP had a number of goals in mind when implemented, including reducing gender differences in enrollment, reducing primary education dropout rates, raising literacy rates, and provide access to primary education for all children. As the program was intended to decentralize the management of implementation of education programs, how this was achieved was left up to individual districts (Singh and Sridhar, 2005, 3863). Considerably financing was provided to the district level to increase local-level capacity to implement the program, but the actual implementation was left up to states and districts to decide.

The main strategies of DPEP were to decentralize education planning and administration by having districts formulate plans for education rather than district plans being derived from state-level plans, increase teacher professionalization, increase the number of teachers in government schools, and improve school-level infrastructure, either by constructing new schools or improving already existing school-level infrastructure (Rao, 1998). All these were conducted with the eventual goal of increasing schooling and literacy for previously disadvantaged groups such as women, and scheduled castes and tribes. Because of this very specific goal, districts with low female literacy were deliberately targeted to receive DPEP funding.

The program was initially implemented in 39 districts across seven states, eventually expanding to 192 districts across 17 states, or 40 percent of India's districts and 17 of India's 32 states and territories at the time. Figure 4.3 shows the districts that received DPEP funding across India.[46] To be included in the program, a district had to have a female literacy rate below the national average calculated the 1991 population census (Rao, 1998), although states could also include districts that were above the mean female literacy cutoff at their individual discretion.

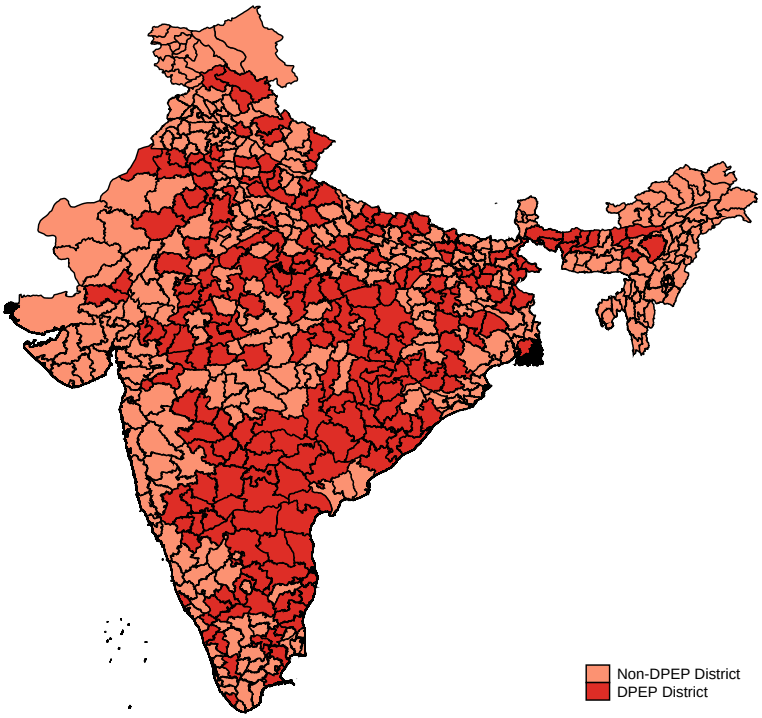

Figure 4.3: DPEP Districts

For my purposes, the implementation of DPEP allows me to leverage a program that greatly expanded state capacity to the local level through greater focus and resources. This provides me with an opportunity to see what happens when the Indian state explicitly attempts to increase *and* extend state capacity to the local level with greater financing and penetration. We can look at the growth of private education *after* the implementation of DPEP by looking at the effects of DPEP on the districts that received program financing against districts that were excluded from the program. Given both assignment rules to the program (the literacy cut-off) and a long time-series I have constructed of school construction, I can use a number of

[46] A complete list of districts and states included in DPEP is provided in Appendix B.7.

methods to estimate the effect of the program, that I primarily identify as an expansion and extension of state capacity, on the growth of private services in education. I turn to this now and provide greater details on how districts were assigned to DPEP and how I leverage these assignments rules to understand the growth in private services.

4.2 Hypotheses

For the purposes of this chapter, DPEP had two primary goals in mind. First, DPEP sought to increase state "territoriality" by ensuring that every child in DPPE districts had a school within reasonable walking distance. This often required building schools in villages where they did not previously exist. This leads to hypothesis one:

- H_{1A}: Districts that received DPEP should see a greater number of government schools built after DPEP was implemented.
- H_{1B}: Districts that received DPEP should have fewer villages without a government school.

At the same time, as a result of the Gordian knot of administrative and political responsibilities created by DPEP along with the low levels of state capacity at the local level in India, I argue that DPEP should have seen no increase in state "functionality". While responsibilities for school management were decentralized to the local level, this was done without increases in resources or training for local level actors to carry out these tasks. I test this through the following hypotheses:

- H_{2A}: Districts that received DPEP should have no better overall literacy or educational outcomes after DPEP was implemented.

Given that DPEP specifically targeted minorities groups including woman, scheduled castes, and scheduled tribes, we can also test these effects more directly, leading to the following hypotheses:

- H_{2B}: Districts that received DPEP should have no better female, SC, and ST literacy after DPEP was implemented.

Finally, I argue that as a result of an increase in state territoriality without a accompanied increase in state functionality, we should see a private sector response in an attempt to substitute for poor state performance (Helmke and Levitsky, 2004). This leads to a set of hypotheses on the private sector response:

- H_{3A}: Districts that received DPEP should see a greater number of private schools built after DPEP was implemented.

- H_{3B}: Districts that received DPEP should have fewer villages without a private school.

In short, my argument progresses in three stages. I argue that large scale education programs in India to date have increased the size and reach of the state (or state territoriality) without necessarily increasing the ability of the state to properly carry out its functions (or state functionality). This gap, between the presence but lack of function of the Indian state, has allowed for private providers to step in to provide services to substitute for poorly functioning state services. In the next section, I present the data sources I use to answer these questions and operationalize the variables I use to answer these questions.

4.3 Data & Methods

My main data comes from the School Report Cards (SRC) collected by the District Information System for Education (DISE),[47] and three waves of the Economic Census of India conducted by The Indian Ministry of Statistics and Programme Implementation (MoSPI) in 1990, 1998, and 2005.[48] I supplement these data with district level demographic and infrastructure data from the population census of the India, a census of village-level infrastructure collected concurrently with the census, and the National Sample Survey, an annual smaller survey of demographic information and provide more details on these datasets below.

4.3.1 District Information System for Education

I use school construction data from the DISE school report cards data that includes the year that all *recognized* schools were established.[49] The school reports card data is a self-reported survey of school-level infrastructure and labor including the number of students, teachers, and funds received from Central Government Schemes such as *Sarva Shiksha Abhiyan*. Each school is required to report what year they were established every year they report data. I take the modal answer they provide over the ten years DISE has been collecting data (2005-2015) and use this as the year of school construction.[50] The school-level data

[47] The School Report Cards datasets is also increasingly commonly used in comparative and longitudinal studies of Indian education. See Fagernäs and Pelkonen (2014), Khanna (2015*b*), and Vaishnav and Sircar (2013).

[48] The Economic Census has been an increasingly common dataset used in comparative and longitudinal studies of India, particularly for its attempt to be a complete count of economic activity in India. See Novosad and Asher (2012); Harriss-White (2013), and Iyer, Khanna and Varshney (2013) for other uses.

[49] Unlike the Economic Census, DISE school report cards data does not included a complete count of all schools. As data is self-reported, the incentives for unrecognized schools to report to DISE are low and the data includes a very small number of unrecognized schools, likely those seeking recognition in the near future.

[50] Although most schools report the same construction date across each wave in the DISE data, through errors of coding or administration, there are sometimes differences between survey waves. Given that I often have ten years of observations for some schools, taking the modal answer to this question helps correct most errors.

contains twelve million school-year level observations. I first collapse this data to the school-level and then further collapse this data to the district level to include a count of the number of schools in every district across India since Independence in 1947.[51] I only use the district-level panel from 1986 as the period after the drafting of the second National Policy on Education provides a different political economy to the period prior.

4.3.2 Economic Census

The Economic Census is a complete count of all business establishments in India "engaged in [the] production or distribution of goods or services other than for the sole purpose of own consumption," located within the geographical boundaries of the country except those engaged in crop production (MoSPI). Most importantly for my purposes it is different from other administrative data sets in India in that it is a complete census of all enterprises in the country (unlike the Annual Survey of Industries), and covers all enterprises in the formal *and* informal sector (unlike self-reported data on schools from the District Information System for Education (DISE)). This means that I will have a complete count of all formal and informal schools in India - a more comprehensive account of the private sector that will account for the many unrecognized schools that a dataset such as DISE would miss. As I argue, this feature is especially important in the later periods as many of the schools in India during this time were smaller, unrecognized schools that would not have been recorded in datasets designed to collect official or self-reported data on education.

I use data at the district level from the three waves of the Economic Census. Data from the Economic Census is provided at the firm level, but I collapse firms to create counts at the district level so that the district is my unit of analysis.[52] The Economic Census contains a small amount of information, but most importantly for my purposes, asks whether an economic enterprise is privately owned and in what sector the enterprise operates in. This allows me to identify all education institutions in 1990 and 1998, and all primary schools in the latest round in 2005. While the inability to specifically identify primary schools in the first two waves could be problematic, most of the educational institutions identified in the 2005 wave were primary schools, a pattern I have no reason to believe was any different in the early period. I provide scatter plots of the correlation between Economic Census waves and data from DISE in Appendix Section B.5.

[51] Future iterations will geographically match the pincode data included in DISE data to legislative assembly boundaries to include this at the electoral district level.

[52] Future iterations will geographically match villages across census waves and collapse the data to the electoral district level to test the political effects of DPEP, too.

The timing of the survey waves is also appropriate for my purposes as the Economic Census was conducted in 1990, 1998, and 2005 and the policy period I am interested begins just after the first economic census and finishes just before the final economic census as is shown in Figure 4.4. As I am interested in testing the effects of a program introduced in 1994, I can compare outcomes between 1990 and 1998, and 1990 and 2005 respectively through a regression discontinuity framework.

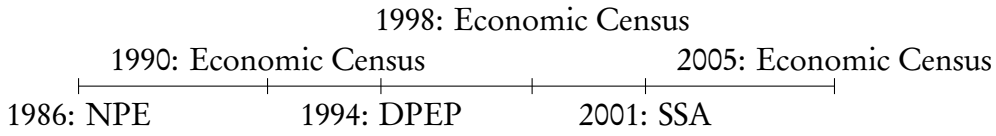

Figure 4.4: Education Policy Timeline and Data Availability

4.3.3 Population Census and Village Directories

I supplement these data with data from the population census of India and the village directories conducted in 1991 and 2001. The population census contains information on basic demographic data at the village level including population and literacy levels aggregated at the village level. The village directory contains information on basic village amenities, also at the village level. For this chapter, I use population data from the population census and information on the number of government schools from the village directories all aggregated to the district level.

To construct the dataset, I first match the 1990 Economic Census with the 1991 Population Census and Village Directories, and the 1998 and 2005 Economic Censuses with the 2001 Population Census and Village Directory at the district level.[53] The district-level panel provides approximately 375 district-years. I then merge this data at the district level with the DISE school report cards data.

4.3.4 Annual Status of Education Report

Finally, I also use district level test score data from the Annual Status of Education Report (ASER) in 2007. ASER is a large education NGO that conducts an annual nationwide test of reading, writing, and math ability. The survey is a short questionnaire that collects basic demographic details on the parents of the children as well as how children score on a series of reading and arithmetic tests. For reading, children are

[53] Future iterations of this chapter will provide data at the assembly constituency level as my fieldwork and secondary sources suggest this is the level at which relevant decision on education policy are enacted in terms of fund *distribution* (as opposed to budgeting).

asked to identify letters, words, paragraphs, and entire stories. For math, children are asked to identify numbers from 1-9, 10-99, conduct basic subtraction and division. All tests are conducted in the vernacular language of the village.[54] Tests are conducted at the household, instead of the school, level to capture all in-school and out of school children and all children in a sample household between the ages of 6-14 are tested. Data is representative at the district level.

I use this data to test hypotheses on state functionality and only include children enrolled in government schools to see the effects of DPEP on changes in learning in government schools. Unfortunately, as the first nationally representative and publicly available set of ASER data is from 2007, I am unable to conduct a robustness check for this data in Appendix B.

I provide summary statistics of the various datasets I use below. In Table 4.1, I provided summary statistics of the variables used from the economic census, in Table 4.2, I provided summary statistics of the variables used from the DISE school report cards data, and in Table 4.3, I provided summary statistics from data used from the census of India.

[54]The ASER test also conducts a test of English reading comprehension, but I do not use this data as it would skew results to districts in which English is the vernacular language.

	Full Sample					DPEP Districts					Non-DPEP Districts				
	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
1990 Economic Census:															
Government Schools	1,500	1,018	99	8,497	369	1,533	918	189	4,690	170	1,471	1,098	99	8,497	199
Private Schools	480	513	1	3,297	352	441	427	1	3,297	161	512	574	4	3,108	191
Villages with Government School (%)	59	24	8	100	369	59	24	8	97	170	60	24	9	100	199
Villages with Private School (%)	19	21	0	100	369	17	19	0	97	170	20	23	1	100	199
1998 Economic Census:															
Government Schools	1,712	1,157	0	8,272	376	1,788	1,088	91	5,452	175	1,645	1,213	0	8,272	201
Private Schools	604	564	0	3,250	376	537	453	5	2,463	175	662	641	0	3,250	201
Villages with Government School (%)	66	19	0	100	376	67	19	4	99	175	66	19	0	100	201
Villages with Private School (%)	18	16	0	100	376	16	13	2	72	175	19	18	0	100	201
2005 Economic Census:															
Government Schools	1,669	1,288	100	8,775	372	1,836	1,392	223	8,775	175	1,521	1,171	100	6,066	197
Private Schools	561	740	7	5,851	372	589	726	7	5,729	175	535	754	19	5,851	197
Villages with Government School (%)	68	20	17	100	372	69	20	17	100	175	68	19	23	100	197
Villages with Private School (%)	23	19	2	100	372	24	19	2	100	175	23	19	4	100	197

Table 4.1: Summary Statistics: Economic Census Variables

	Full Sample					DPEP Districts					Non-DPEP Districts				
	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
1990 DISE:															
Government Schools	1,702	1,176	148	8,561	375	1,814	1,208	172	7,431	175	1,604	1,141	148	8,561	200
Private Schools	294	345	0	3,059	375	237	218	0	1,294	175	345	421	2	3,059	200
1998 DISE:															
Government Schools	2,024	1,364	176	9,720	375	2,244	1,486	198	9,720	175	1,832	1,219	176	8,762	200
Private Schools	478	474	1	4,146	375	424	335	1	1,699	175	525	565	8	4,146	200
2005 DISE:															
Government Schools	2,468	1,660	186	10,951	371	2,738	1,764	214	10,951	175	2,228	1,526	186	9,237	196
Private Schools	750	709	4	6,375	371	715	562	4	2,976	175	782	819	11	6,375	196

Table 4.2: Summary Statistics: DISE Variables

	Full Sample					DPEP Districts					Non-DPEP Districts				
	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
1991 Census:															
Population (1,000s)	1,590	890	0	7,511	373	1,683	833	31	4,955	175	1,508	931	0	7,511	198
Population 5-11 (1,000s)	211	132	0	1,088	373	224	121	4	729	175	199	141	0	1,088	198
Villages with Government School (%)	75	18	21	100	372	74	17	28	100	175	75	18	21	100	197
Literacy (%)	36	13	10	85	372	32	10	10	77	175	40	15	15	85	197
Female Literacy (%)	24	15	3	84	372	19	12	5	74	175	29	17	3	84	197
SC Literacy (%)	31	14	8	78	360	26	10	9	71	168	35	15	8	78	192
ST Literacy (%)	29	18	0	122	357	23	14	0	79	167	34	19	0	122	190
2001 Census:															
Population (1,000s)	1,841	1,034	33	8,610	372	1,956	974	33	5,811	175	1,738	1,076	78	8,610	197
Population 5-11 (1,000s)	253	162	4	1,238	372	278	159	4	910	175	231	162	8	1,238	197
Villages with Government School (%)	79	16	24	100	372	80	15	36	100	175	79	17	24	100	197
Literacy (%)	50	12	22	85	372	47	10	24	78	175	52	13	22	85	197
Female Literacy (%)	39	14	12	84	372	35	11	14	75	175	42	15	12	84	197
SC Literacy (%)	45	14	12	81	372	42	11	13	77	175	47	15	12	81	197
ST Literacy (%)	37	14	0	81	354	35	13	0	80	167	39	15	0	81	187
2011 Census:															
Population (1,000s)	2,071	1,211	32	9,694	371	2,209	1,125	32	6,181	175	1,947	1,273	84	9,694	196
Population 5-11 (1,000s)	264	199	3	1,264	371	289	204	4	1,158	175	241	192	3	1,264	196
Villages with Government School (%)	86	14	2	100	371	87	14	2	100	175	86	14	35	100	196
Literacy (%)	59	10	28	89	371	56	8	28	83	175	62	10	38	89	196
Female Literacy (%)	51	12	22	89	371	47	10	22	82	175	54	13	28	89	196
SC Literacy (%)	56	12	29	85	371	53	9	30	79	175	59	13	29	85	196
ST Literacy (%)	49	12	22	86	355	47	10	23	78	168	52	13	22	86	187

Table 4.3: Summary Statistics: Population Census Variables

Next, I provide basic differences between DPEP and non-DPEP districts in the number of government (Table 4.4) and private schools (Table 4.5, as well as changes in literacy rates (Table 4.6). Table 4.4 shows that while DPEP districts had a greater number of government schools in the pre-DPEP period, they also saw a growth of approximately 115 government schools after DPEP was implemented, and this difference is statistically significant.

	DPEP Status		
	Non-DPEP	DPEP	Difference
Mean government schools pre-DPEP	1263.81	1351.75	87.94
	(17.93)	(17.81)	(25.47)
Mean government schools post-DPEP	1482.47	1686.04	203.57
	(21.57)	(22.77)	(31.45)
Change in mean government schools	218.66	332.47	115.63
	(27.85)	(28.31)	(40.11)

Notes: Standard errors in parentheses.

Table 4.4: Difference in Government Schools Between DPEP and Non-DPEP Districts

Table 4.5 conducts the same exercise for private schools and we find that DPEP districts had fewer private schools before and after DPEP, although the difference in difference estimate is not significant.

	DPEP Status		
	Non-DPEP	DPEP	Difference
Mean private schools pre-DPEP	267.39	179.13	-88.26
	(7.75)	(4.20)	(9.27)
Mean private schools post-DPEP	430.30	339.81	-90.49
	(11.72)	(7.29)	(14.41)
Change in mean private schools	162.91	159.51	-2.23
	(13.77)	(8.08)	(16.77)

Notes: Standard errors in parentheses.

Table 4.5: Difference in Private Schools Between DPEP and Non-DPEP Districts

Finally, Table 4.6 looks at changes in literacy rates between DPEP and non-DPEP districts in 2001 and 2011, the two years in which literacy data exists. Here again we find lower levels of literacy in DPEP districts, and while this gap has narrowed, the difference-in-difference estimate is not significant.

4.3.5 Operationalization of Variables

From the Economic Census, the main variable of interest is the number of private schools in a district in each wave of the census. The Economic Census identifies whether an enterprise is privately or publicly owned and the industry a firm is involved in. I code all privately owned firms engaged in primary education as private primary schools. From the DISE SRC data I use the year schools were established to create a panel

	DPEP Status		
	Non-DPEP	DPEP	Difference
Mean literacy pre-DPEP	40.34	31.67	-8.67
	(1.04)	(0.79)	(1.33)
Mean literacy 2001	52.38	46.53	-5.85
	(0.91)	(0.73)	(1.19)
Change in mean literacy 1991-2001	12.04	14.86	2.82
	(1.38)	(1.07)	(1.78)
Mean literacy 2011	61.84	55.80	-6.04
	(0.75)	(0.63)	(0.99)
Change in mean literacy 1991-2011	21.51	24.14	2.63
	(1.28)	(1.01)	(1.66)

Notes: Standard errors in parentheses.

Table 4.6: Difference in Literacy Rates Between DPEP and Non-DPEP Districts

from Independence in 1947 to 2014 of the number of government and private schools per district. I divide the number of schools in both the economic census and DISE SRC data by the number of school-aged children in the district estimated from district-level estimates from the National Sample Survey. From the ASER data, I construct a summary index of the level that children achieve on the various elements of the survey, using a summary index designed by Anderson (2008) to aggregate related variables.

I conduct a number of analyses to overcome the limitations of each individual dataset. First, I use a difference-in-difference design using the data on school construction from the DISE SRC data. Second, I use a fuzzy regression discontinuity design using the district-level cutoff for the implementation of the District Primary Education Programme (DPEP). Third, I conduct a time-series-cross-sectional analysis using district-years as the unit of observation in the panel.

4.3.6 Difference-in-Difference Analysis

For the difference-in-difference analysis, I use the year schools were established to create a district-year level panel of the number of schools per district. I divide districts into those that received assistance under DPEP and those that did not.[55] I limit my analysis to the period between the second National Policy of Education (1986) to the introduction of *Sarva Shiksha Abhiyan* (SSA) in 2002 as this provides eight years of observations before and after DPEP was introduced in 1994, as well as providing a clean theoretical start and end point for analyzing the effects of DPEP. As I argue in Chapters 1 and 2, the National Policy on Education changed the political economy of education in India where there was a greater focus on primary education, as well as a decentralization of education management across the country. While SSA had similar goals to DPEP,

[55] For a complete listing of districts that received DPEP funds, see Appendix Section B.7.

SSA universalized the program across the country, which does not allow for clean identification of districts that received greater education funding.[56]

For the time trends in government and private school growth by DPEP and non-DPEP districts, I plot the number of government schools by the number of school-aged children in Figure 4.5 and the number of private schools by the number of school-aged children in 4.6.[57] Figure 4.5 confirms the original goals of DPEP: districts that received DPEP funding saw an increase in the number of government schools *after* DPEP and DPEP had the intended effect of nearly eliminating the government school access gap between DPEP and non-DPEP districts. There is a sharp growth in government schools post-DPEP beginning in 1996 that leads to greater government school construction for the entire DPEP period.

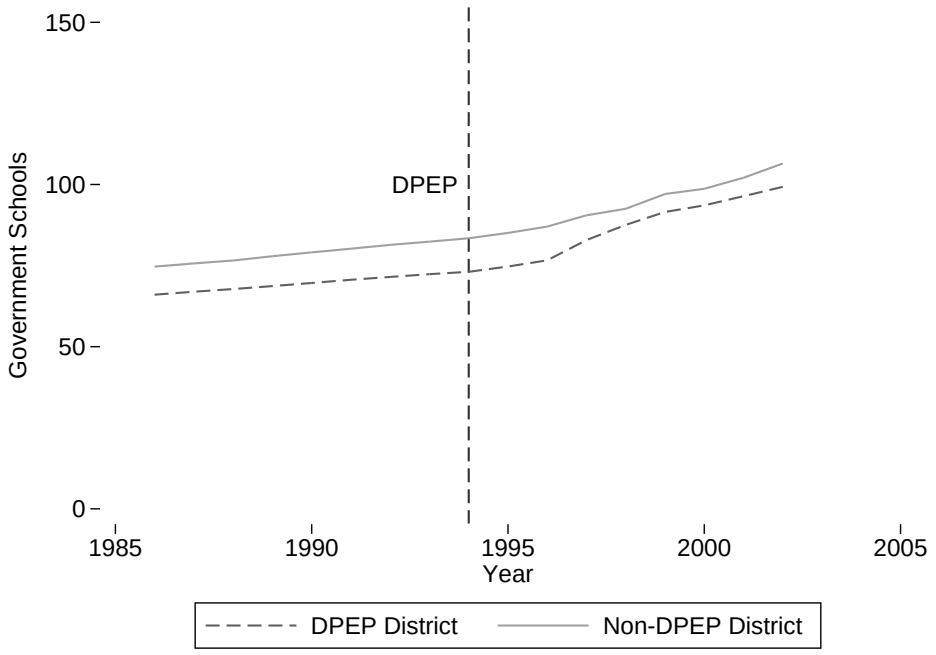

Figure 4.5: Difference-in-Difference: Government Schools

The dashed line represents the average number of government schools per school-aged children in districts that received DPEP funding by year. The solid line represents the average number of government schools per school-aged children in districts that did not receive DPEP funding by year. The horizontal vertical line at 1994 represents the year DPEP was signed.

Moving from the growth of government schools, to private schools, DPEP also saw a "crowding-in" response from private schools. Figure 4.6 suggests that districts that received DPEP funding began with

[56] For a separate attempt to identify the effects of SSA at the sub-district level, see (Khanna, 2015*a*).
[57] I provide a test of the parallel trends assumption in Appendix Section B.1.

a lower baseline number of private schools. After receiving DPEP, however, the gap between DPEP and non-DPEP districts in the number of private schools per district narrows to nearly zero. Although the post-DPEP break is not as dramatic and slightly later, subsequent analysis shows that there was a private school response to the introduction of DPEP. The later response is to be expected as the private school response should be delayed by a couple of years after the government school response.

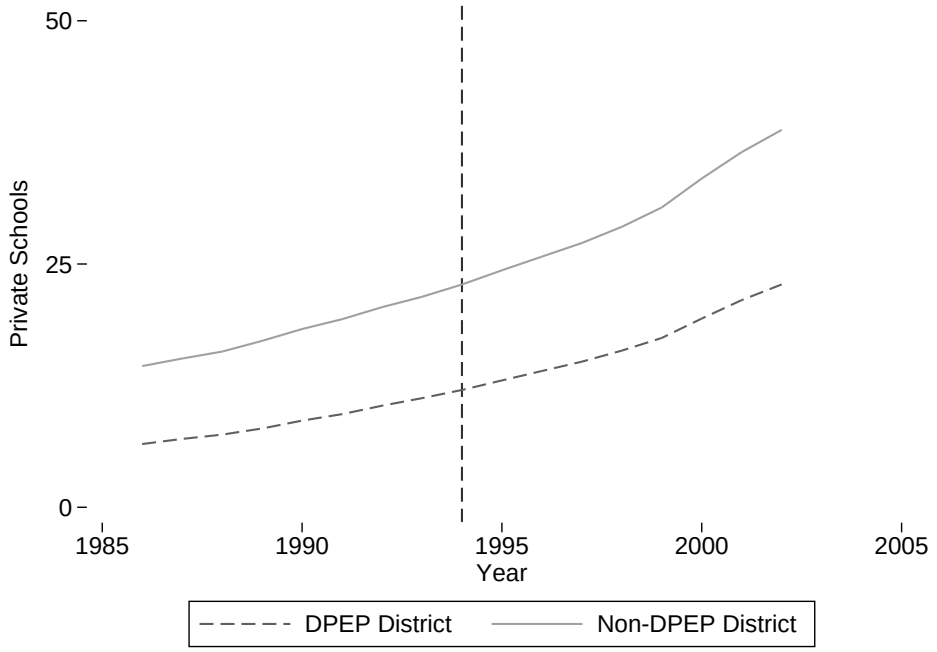

Figure 4.6: Difference-in-Difference: Private Schools

The dashed line represents the average number of private schools per school-aged children in districts that received DPEP funding by year. The solid line represents the average number of private schools per school-aged children in districts that did not receive DPEP funding by year. The horizontal vertical line at 1994 represents the year DPEP was signed.

To unpack the difference-in-difference results more formally, I fit the following equation:

$$Y_{i,t} = \beta_0 + \beta_1 \text{DPEP District}_{i,t} + \beta_2 \text{Post-DPEP}_{i,t} + \beta_3 \text{DPEP District x Post-DPEP}_{i,t} + \epsilon_{i,t} \quad (4.1)$$

where $Y_{i,t}$ is the number of government or private schools in district i and year t, DPEP District$_{i,t}$ is a dummy for whether district i received DPEP funding in 1994, Post-DPEP$_{i,t}$ is a dummy indicator for observations years after DPEP was implemented in 1994, and DPEP District x Post-DPEP$_{i,t}$ is an interaction

term that takes the value of 1 for districts that received DPEP and the observation year is after DPEP was implemented.

Our coefficient of interest is β_3 that I argue should be positive for both government and private schools. With government schools, DPEP was to increase the number of schools in previously under-served districts. With respect to private schools, if my theory that private services require strong state capacity to thrive is correct, we should see a greater increase in private services in districts that received DPEP, a program specifically designed to increase state capacity.

4.3.7 Regression Discontinuity Design

I also use a fuzzy regression discontinuity (RD) design, using the literacy cutoff for DPEP eligibility as the running variable to understand the local impact of receiving DPEP funds on government and private schools in 1998 and 2005.[58]. The running variable for the RDD is the 1991 district-level female literacy rate that determined which districts were eligible for DPEP funds. As not all districts below the average female literacy rate were selected, and some states were allowed to include districts that were above the mean female literacy rate at their discretion, I employ a fuzzy RD design instead of a sharp RD design. The fuzzy RD design is essentially a two-stage-least-squared estimate in which the first stage is a dummy for assignment regressed on the literacy cutoff, and the second stage uses the predicted values from this regression to estimate the distance from the cutoff on our outcomes of interest Imbens and Lemieux (2008).[59].

There is little possibility that states and districts can manipulate the literacy cutoff as the literacy rates are derived from the 1991 population census conducted by the Census of India, an independent Central Government agency. Additionally, the literacy rates come from 1991, three years before the borrowing agreement for DPEP was signed, and long before the planning for DPEP began. While there was certainly discussion on the criteria for inclusion in DPEP (see for example (Ministry of Human Resource Development, 1992, 37)), this was never explicitly discussed as being based on female literacy or what the precise cutoff would eventually be.

4.3.8 Time-Series-Cross-Sectional Analysis

Given that I employ a fuzzy RD design, I also use the same dataset from the fuzzy RD design to conduct a time-series-cross-sectional analysis. Imbens and Lemieux (2008) suggest that as the running variable does not perfectly predict assignment to treatment and the results from a fuzzy RD are local to the cutoff, to

[58] These two years correspond to the data availability in the Economic Census

[59] Robustness checks for assumptions around the fuzzy regression discontinuity design are presented in Appendix B

use the same data to run a more general analysis on the full range of data. Here, I take the number of government schools as a predictor for the number of private schools in a district. For this I estimate the following time-series-cross-sectional equation:

$$Y_{i,t} = \beta_0 + \beta_1 \text{Government Schools}_{i,t} + \gamma \mathbf{X}'_{i,t} + \delta_t + \theta_i + \epsilon_{i,t} \tag{4.2}$$

where $Y_{i,t}$ is the number of private schools per 10,000 school-aged children in a district, Government Schools$_{i,t}$ is the number of government primary schools in village i at time t, $\mathbf{X}'$i is a vector of controls, δ_t and θ_i are time and district fixed effects.[60] The controls include controls a district level population control, district average consumption from the national sample survey, district level fertility rates, caste fractionalization,[61] and a lagged indicator of the number of private schools per 10,000 school-aged children.

4.4 Results

I present my results in three sections. The first stage presents results on state territoriality and shows that state territoriality has increased measured as both the reach and size of the Indian state. Second, I look at state functionality: Has the ability of the state to properly implement its policies improved? Finally, I look at the private sector response.

4.4.1 State Territoriality

In this section I present results on both the reach of the state, measured as the percentage of villages with a government school in a district and the average distance to a school, and the size of the state, measured as the number of schools in a district normalized by the number of school-aged children in a district.

4.4.2 Reach of the State

The first part of my argument suggests that large-scale programs, such as DPEP, served to extend the *reach* of the Indian state to locations it did not reach previously. As I outlined previously, I suggest this means

[60] Hausman tests between fixed and random effects estimators show no difference in estimates between fixed and random effects and suggest using fixed effects.

[61] I include caste fractionalization to test an argument made by Ansell and Lindvall (2013) that argues that more fractionalized countries should see a greater investment in private education. I define caste fractionalization using a Herfindahl-Hirschmann index of group concentration commonly used to construct measures of ethno-linguistic fractionalization. I use the following formula:

$$\text{Caste Fractionalization} = \sum_{i=1}^{N} s_i^2$$

where s_i is the share of the total population belonging to caste i. I first calculate the village level caste fractionalization index using census counts on the total number of schedule castes, scheduled tribes and other castes. I then take the district level mean of the village level caste fractionalization. The measure is then the probability of any two randomly selected people in a district being from the same caste. A value of 1 on the index suggests that everyone in a village is from the same caste, and a value of 0 suggests that everyone in the village is from a difference caste.

that the Indian state had a government school in more villages across the country.

In Figure 4.7 I plot a regression discontinuity plot of the percentage of villages within a district that had at least one government school, using the DPEP literacy cutoff as the discontinuity to evaluate the impact of DPEP. As we can see from Figure 4.7, districts to the left of the DPEP cutoff (in other words, those villages that received DPEP) had a higher percentage of villages with at least one government school.

The regression discontinuity results, show the discontinuity plots for 1998 using DISE school report cards data on the left and Economic Census data on the right. The bottom two panels show the same information using the 2005 wave of DISE school report card data and the Economic Census instead. The x-axis represents the distance from the literacy cutoff for receiving DPEP funds which was set at the district mean levels of female literacy (39.3 percent) in the 1991 population census. Observations to the left of the cutoff represent districts below mean levels of levels of literacy, although not all observations to the left of the cutoff received DPEP funds.[62]

I explore this relationship more formally in Table 4.7. Here we find that although the relationship between DPEP and government schools is negative in all estimations (a negative relationship between the literacy cutoff and government schools suggests that DPEP districts had a higher percentage of villages with government schools) as in the regression discontinuity plots, only the 1998 analysis using the Economic Census finds significant results. Depending on the year and dataset used, DPEP led to between a 0 and 20 percent difference in the percent of villages with at least one government school. The relationship trends to zero the further we move from DPEP in 1994, suggesting that the effect was a local one to the introduction of DPEP. Although not always significant, this suggests that DPEP met one of its intended goals to ensure that all children had at least one government school in their village. In data four years after DPEP in 1998, districts that received DPEP were 20 percent more likely than non-DPEP districts to have at least one government school in their village.

4.4.3 Size of the State

I also look at the absolute size of the Indian state through both a difference-in-difference analysis as I have yearly data on the number of schools in a district, and a regression discontinuity design that exploits the same assignment rule used above. Looking first at the difference-in-difference results, these confirm our

[62] To implement the regression discontinuity estimations, I use the Stata package provided alongside Calonico, Cattaneo and Titiunik (2014*b*) and Calonico, Cattaneo and Titiunik (2014*a*). I restrict the estimation to two polynomials, following the recommendation of Gelman and Imbens (2014).

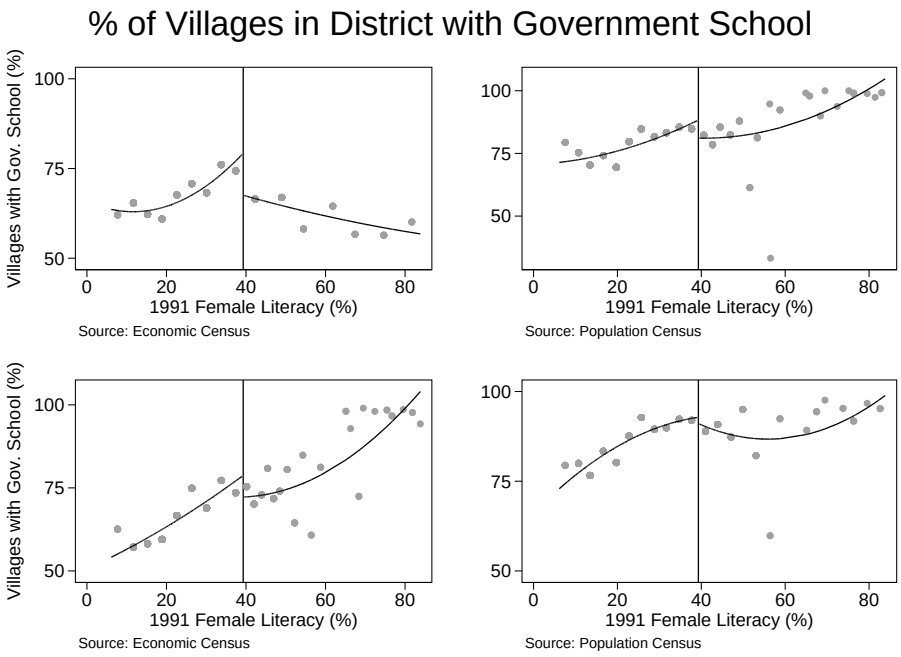

Figure 4.7: Villages with Government Schools Around DPEP Literacy Cutoff

The effect of DPEP funding on the percentage of villages with government schools in a district. The literacy cutoff for receiving DPEP funds is 39.3 percent. The points show the average percent of villages with a government school in a district within a small bin of the literacy margin. The lines are the second-order local polynomial best-fit lines fit separately on each side of the cutoff. The top left panel presents results using the economic census in 1998. The top right panel presents results using the population census in 2001. The bottom left panel presents results using the economic census for 2005. The bottom right panel presents results using the population census for 2011. The plot is based on the procedure developed by Calonico, Cattaneo and Titiunik (2014*b*).

	% of Villages in District with Government School			
Literacy Cutoff	-19.71***	-1.32	0.00	-0.65
	(7.49)	(5.60)	(4.85)	(3.30)
Observations	376	372	372	371
Year	1998	2001	2005	2011
Data Source	Economic Census	Population Census	Economic Census	Population Census

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Table 4.7: Regression Discontinuity Estimates of DPEP on Villages with Government Schools

expectations of the original DPEP policy. From Table 4.8 we can see that while DPEP districts had greater numbers of schools before the program period and all districts saw an increase in the number of schools, the coefficient on DPEP District x Post-DPEP show that districts in which DPEP was implemented saw a much larger increase in the number of government schools per 10,000 school-aged children after program implementation. All the columns present poisson regressions as the number of government schools per 10,000 school-aged children represent a count with significant numbers of zero observations, particularly in the early years. The first column presents results with no additional covariates, while column 2 includes district fixed effects, column 3 includes year fixed effects, column 4 includes both district and year fixed effects, while column 5 includes district and year fixed effects as well as district time trends. Looking at the most demanding specification in column 5, DPEP districts saw an increase of 1 government school per 10,000 children per year.[63]

	Government Schools per 10,000 School-Aged Children				
DPEP District x Post-DPEP	0.049	0.049***	0.049	0.049***	0.016**
	(0.036)	(0.010)	(0.036)	(0.010)	(0.008)
DPEP District	-0.127***	0.002	-0.127***	0.002	-0.155***
	(0.025)	(0.031)	(0.024)	(0.019)	(0.017)
Post-DPEP	0.183***	0.183***	0.357***	0.357***	0.066***
	(0.025)	(0.007)	(0.056)	(0.018)	(0.018)
Constant	4.370***	4.646***	4.315***	4.591***	4.686***
	(0.017)	(0.019)	(0.038)	(0.019)	(0.010)
Observations	7480	7480	7480	7480	7480
Districts	478	478	478	478	478
District FE	No	Yes	No	Yes	Yes
Year FE	No	No	Yes	Yes	Yes
District Trends	No	No	No	No	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Table 4.8: Difference-in-Difference: Government Schools

Next, I turn to regression discontinuity estimates that compare districts near the DPEP literacy cutoff threshold. In Figure 4.8 I present the effect of receiving DPEP on the total number of government schools normalized by the number of school-aged children in a district. The results here differ slightly from both the difference-in-difference results presented above as well as the regression discontinuity estimates presented in the section on state reach. Districts just below the DPEP literacy cutoff had more government schools than districts just above the DPEP literacy cutoff, and this relationship holds irrespective of the dataset used.

[63] To calculate the effect size, I calculated the marginal effect of the coefficient of DPEP District x Post-DPEP from the poisson regression point estimate.

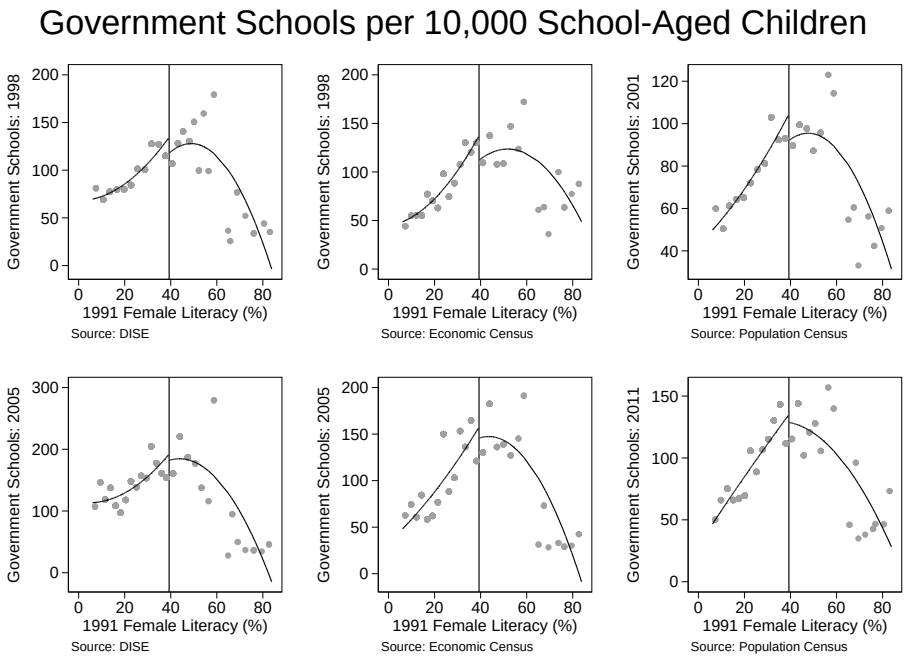

Figure 4.8: Government Schools Around DPEP Literacy Cutoff

The effect of DPEP funding on the number of government schools in a district. The literacy cutoff for receiving DPEP funds is 39.3 percent. The points show the average number of schools in a district within a small bin of the literacy margin. The lines are the second-order local polynomial best-fit lines fit separately on each side of the cutoff. The plot is based on the procedure developed by Calonico, Cattaneo and Titiunik (2014*b*).

In all six plots, districts to the left of the literacy cutoff, districts that received DPEP funds, had a greater number of government schools per 10,000 school-aged children in 1998, 2001, 2005 and 2011 than districts just to the right of the cutoff, although the relationship appears to be a small one. The plots also suggest that the RD estimates are noisy, a result that more formal testing confirms.

Turning to the more formal results that account for the fuzzy nature of the design, I present these results in Table 4.9. The fuzzy RD results are noisy in their point estimates of the number of government schools per 10,000 school-aged children. The columns present results in chronological order, with the first and fourth column presenting results from DISE data in 1998 and 2005 respectively, columns two and five from the 1998 and 2005 economic censuses, and columns three and six presenting results from the 2001 and 2011 population censuses.

	Government Schools per 10,000 School-Aged Children					
Literacy Cutoff	0.84	-54.57	-8.40	5.94	12.17	3.08
	(31.15)	(36.49)	(25.10)	(40.20)	(39.84)	(37.24)
Observations	371	372	372	371	372	372
Year	1998	1998	2001	2005	2005	2011
Data Source	DISE	Economic Census	Population Census	DISE	Economic Census	Population Census

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Table 4.9: Regression Discontinuity Estimates of DPEP on Government School Growth

While no dataset presents significant results, the results switch signs depending on the data source used, with point estimates ranging from an effect of DPEP of 55 more schools per 10,000 school-aged children using the economic census from 1998, to 12 fewer government schools per 10,000 school-aged children using the economic census from 2005.

To summarize the results for state territoriality, it would appear that DPEP reduced the number of villages that did not have at least one government school, and had mixed results on the absolute number of government schools depending on the method used. While the difference-in-difference estimates suggest that DPEP had a larger effect on the number of government schools, the more local regression discontinuity designs suggest that otherwise similar districts near the DPEP literacy cutoff show no difference in the number of schools built after DPEP. DPEP seemingly increased the reach of the state by building schools in villages that previously did not have any, DPEP had a more more effect on the effective size of the state. So while DPEP allowed the Indian education bureaucracy to reach villages it previously did not, this does not necessarily mean the size of the state also increased.

While largely confirming expectations, the results presented above also represent the "first-stage" in our expectations of the effects of DPEP. I turn to the second stage in my argument regarding state functionality. If my argument holds, we should expect that DPEP had little effect on the ability of the Indian state to execute its stated policies, in this case increase learning levels and improve literacy. It is these results I turn to next.

4.4.4 State Functionality

While DPEP might have increased the reach of the Indian state, I argue it did not increase the ability of state to accomplish its stated goals, namely improve literacy and learning levels. One of the specific goals of DPEP was to increase general levels of literacy, as well as specific literacy for women, scheduled castes, and scheduled tribes. In this section I test to see if this is true by looking at a general measure of learning from ASER test score data, as well as literacy rates in general and for the specific groups mentioned above.

As a first take, I look at results on a test score index created from ASER test scores. I present a plot of these results in Figure 4.9. There is a clear positive break around the cutoff, suggesting that districts above the DPEP literacy cutoff that did not receive DPEP actually had *higher* test scores than districts that did receive DPEP funding. Again, the graph plots local polynomials on either side of the DPEP literacy cutoff of receiving DPEP on an index of ASER test score data.

Again, testing these results more formally in Table 4.10 we find a small but positive coefficient being on the right hand side of the DPEP literacy cutoff, suggesting that districts that did not received DPEP had higher test scores than districts that did receive DPEP. However, the result is indistinguishable from zero.

	Test Score Index
Literacy Cutoff	0.02
	(0.09)
Observations	369

Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.10: Regression Discontinuity Estimates of DPEP on Test Scores

Finally, I look at results for the four variables DPEP was intended to improve directly: general literacy, female literacy, scheduled caste literacy, and scheduled tribe literacy. As I mentioned in Chapter 3, DPEP sought to reduce educational inequalities by targeting disadvantaged groups specifically. Here, I take the levels of general, female, SC, and ST literacy in the 2001 and 2011 population censuses and plot their relationship to the DPEP literacy cutoff in Figure 4.10. The top row of the figure presents results for 2001, and

Figure 4.9: Test Scores Around DPEP Literacy Cutoff

The effect of DPEP funding on an index of test scores in math, reading, and comprehension. The literacy cutoff for receiving DPEP funds is 39.3 percent. The dots show the average test score in ASER data within a small bin of the literacy margin. The lines are the second-order local polynomial best-fit lines fit separately on each side of the cutoff. The plot is based on the procedure developed by Calonico, Cattaneo and Titiunik (2014*b*).

the bottom row presents results for 2011. Solely based off the regression discontinuity plots, it appears that DPEP had no effect on the various literacy indicators.

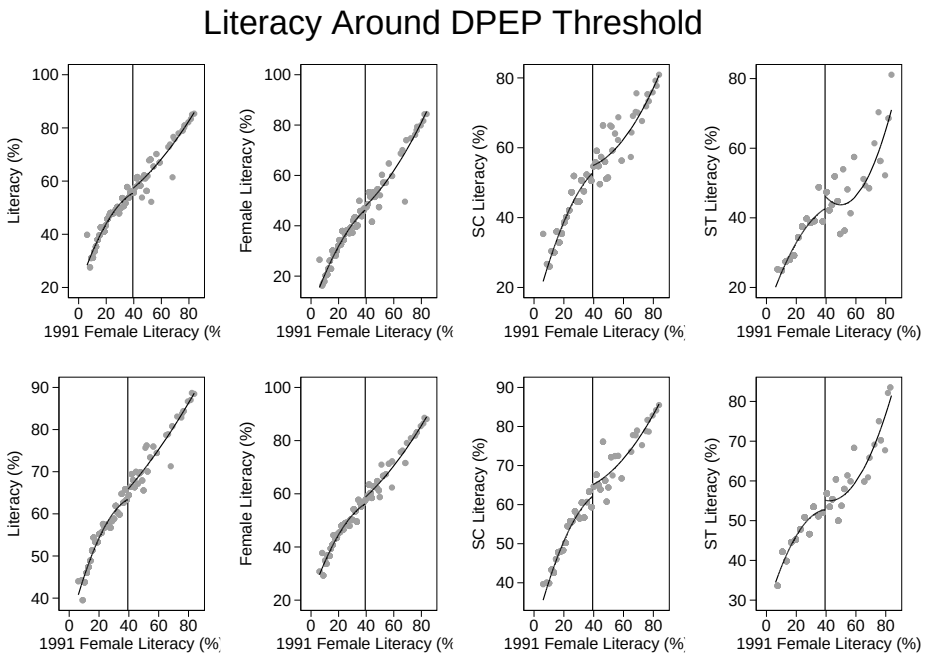

Figure 4.10: Changes in Literacy Around DPEP Literacy Cutoff

The effect of DPEP funding on district literacy levels. The literacy cutoff for receiving DPEP funds is 39.3 percent. From left to right, the panels represent total district literacy, female literacy, scheduled caste literacy, and scheduled tribe literacy. The top row presents data from the 2001 census, and the bottom row presents data from the 2011 census. The dots show the average literacy rate in 2011 within a small bin of the literacy margin. The lines are the second-order local polynomial best-fit lines fit separately on each side of the cutoff. The plot is based on the procedure developed by Calonico, Cattaneo and Titiunik (2014*b*).

Once again, I test this relationship more formally in Table 4.11 and find that the results support the visual evidence from the graphs. The effects at the discontinuity suggest that receiving DPEP resulted in a difference between -.88 percent for general literacy in 2011 to 6.65 percent for ST literacy in 2011. While none of these results are significant, all specifications except general literacy in 2011, suggest that at best DPEP had no effect on levels of literacy amongst the very populations it was intended to target.

In this section I have shown that DPEP, rather than improve literacy and educational outcomes for the very groups it targeted, at the very best has had no effect, and at worst might have made outcomes worst. I suggest that this is because DPEP had no effect on actual state *functionality* or the ability of the Indian state to successfully accomplish its goals. This presents the second part of my argument that leads to my final

	Literacy		Female Literacy		SC Literacy		ST Literacy	
	2001	2011	2001	2011	2001	2011	2001	2011
Literacy Cutoff	0.12	-0.88	1.51	0.33	3.30	3.01	6.23	6.65
	(2.18)	(1.63)	(2.72)	(1.97)	(2.83)	(2.49)	(6.41)	(6.87)
Observations	372	371	372	371	372	371	354	355

Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4.11: Regression Discontinuity Estimates of DPEP on Literacy

argument — that the gap between an increase in state territoriality and state functionality after DPEP — has allowed for a private school response to take advantage of the failures of the Indian state to adequately provide education. It is to these results I turn to in the following section.

4.4.5 Private School Response

Finally, I turn to the effects of DPEP on the private school response. As I argued earlier, the gap between state territoriality and state functionality should open a space for a private school response to cater to underserved populations. In Figure 4.11 I repeat the plot from Figure 4.7 for private schools by looking at the percentage of villages with at least one private school. As the Census of India only began collecting information on the number of private schools in the 2011 census, I only have data on private schools at the village level from the economic census in 1998 and 2005, as well as the population census in 2011.

As expected, there is a negative relationship at the discontinuity between receiving DPEP, suggesting that districts that received DPEP funding saw a greater increase in the percent of villages with at least one private schools.

When testing this more formally in Table 4.12, confirming the results from the plot, I find that the effect of DPEP is strongest in 1998, and wanes a little after this point. However, none of the specifications are significant, although all three have the same signs.

	% of Villages in District with a Private School		
	1998	2005	2011
Literacy Cutoff	-4.34	-0.83	-3.13
	(5.92)	(5.57)	(8.93)
Observations	369	366	365

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Table 4.12: Reggresion Discontinuity Estimates of DPEP on Percent of Villages with Private Schools

DPEP districts show a similar response with regards to private schools. Figure 4.12 plots the effects of the DPEP literacy threshold on the number of *private* schools per 10,000 school-aged children after DPEP.

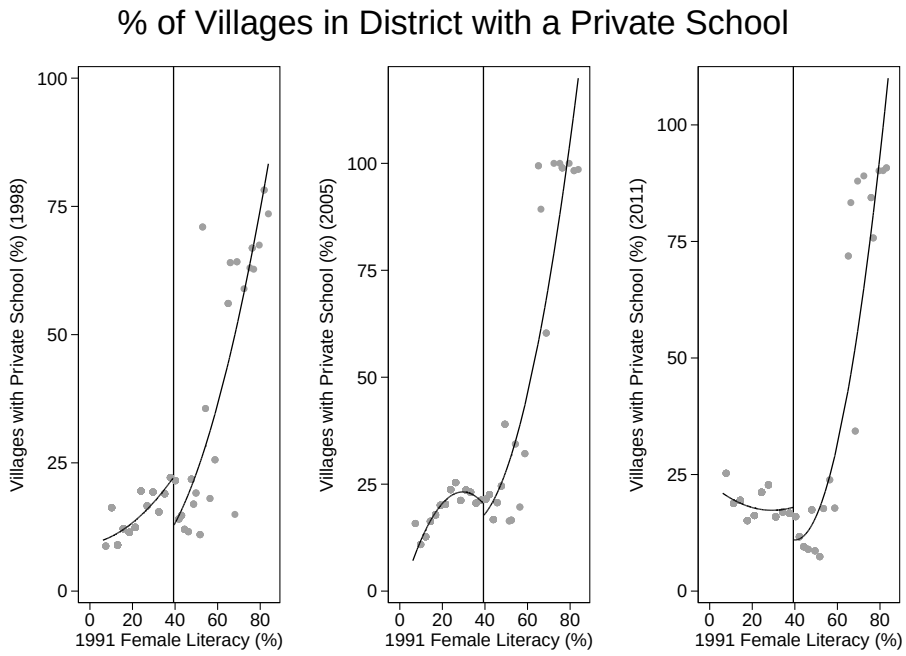

Figure 4.11: Villages with Private Schools Around DPEP Literacy Cutoff

The effect of DPEP funding on the number of villages with at least one private schools in a district. The literacy cutoff for receiving DPEP funds is 39.3 percent. The dots show the percentage of villages in a district with at least one private school within a small bin of the literacy margin. The lines are the second-order local polynomial best-fit lines fit separately on each side of the cutoff. The plot is based on the procedure developed by Calonico, Cattaneo and Titiunik (2014*b*).

In all time periods and data sources, we see a positive effect of receiving DPEP funds on a growth in private schools: receiving DPEP funds results in *more* private schools after DPEP was introduced.

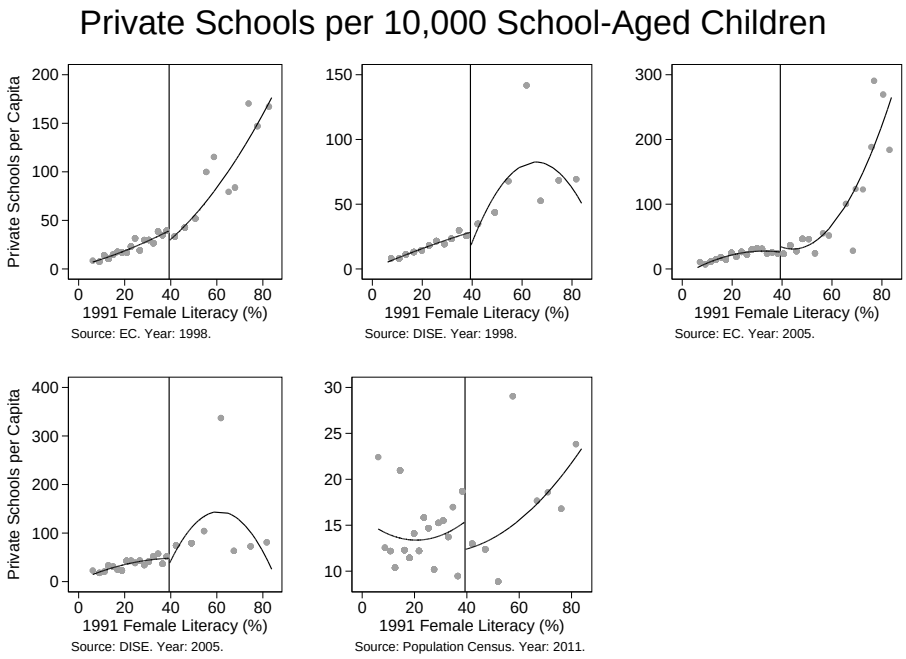

Figure 4.12: Private Schools Around DPEP Literacy Cutoff

The effect of DPEP funding on the number of private schools per 10,000 school-aged children in a district. The literacy cutoff for receiving DPEP funds is 39.3 percent. The dots show the number of private schools in a district within a small bin of the literacy margin. The lines are the second-order local polynomial best-fit lines fit separately on each side of the cutoff. The plot is based on the procedure developed by Calonico, Cattaneo and Titiunik (2014*b*).

I present these results more formally in Table 4.13 where the columns progress chronologically, relying on three different datasets to test the relationship between DPEP and private school growth. As the regression discontinuity plots suggest, there is a consistently positive relationship between receiving DPEP funds and private school growth, resulting in between 1 and 35 more private schools per 10,000 school-aged children in districts that received DPEP funding. None of these results are significant, however, so although the point estimates are large, I hesitate to read too much into them.

Finally, I turn to the more general case that uses a difference-in-difference estimator to look at receiving DPEP funding on the number of private schools in a district. This set-up is identical to that presented in Table 4.8 with the dependent variable changed. Again, we see an increase in the number of private schools in districts that received DPEP funding. From Table 4.14 the coefficient on DPEP District x Post-DPEP

	Private Schools per 10,000 School-Aged Children				
Literacy Cutoff	-17.02	-14.00	-1.49	-34.98	-0.54
	(11.14)	(13.15)	(7.98)	(31.12)	(9.70)
Observations	372	371	372	371	371
Year	1998	1998	2005	2005	2011
Data Source	EC	DISE	EC	DISE	Population Census

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Table 4.13: Reggresion Discontinuity Estimates of DPEP on Private Schools

show that private schools were far more likely to locate in districts in which DPEP was implemented (and by association where there was greater *government* school construction). The coefficient on all specifications is significantly different to zero and the effect is also large, as receiving DPEP funding led to between a 0 school per year increase in the most demanding specification with district and year fixed effects and district time trends in column 5, and 3 private schools per year increase in the remaining columns.

	Private Schools per 10,000 School-Aged Children				
DPEP District x	0.142**	0.142***	0.142**	0.142***	0.001
Post-DPEP	(0.072)	(0.021)	(0.072)	(0.017)	(0.009)
DPEP District	-0.712***	-1.480***	-0.712***	-1.480***	-2.296***
	(0.052)	(0.108)	(0.052)	(0.079)	(0.091)
Post-DPEP	0.513***	0.513***	1.029***	1.029***	0.190***
	(0.063)	(0.016)	(0.134)	(0.043)	(0.016)
Constant	2.913***	2.668***	2.645***	2.401***	2.730***
	(0.046)	(0.043)	(0.104)	(0.060)	(0.015)
Observations	7480	7480	7480	7480	7480
Districts	478	478	478	478	478
District FE	No	Yes	No	Yes	Yes
Year FE	No	No	Yes	Yes	Yes
District Trends	No	No	No	No	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Table 4.14: Difference-in-Difference: Private Schools

In this section I have shown that there was a small private sector response to the introduction of DPEP. Depending on the estimator used, the introduction of DPEP financing led to a greater number of villages with at least one private school and a small increase in the total number of private schools per school-aged children.

The difference-in-difference results confirm our expectations: in the first stage, DPEP, a large school financing, capacity building and decentralization program, greatly increased the number of government schools in districts that received DPEP funding. Although DPEP was not solely focused on school con-

struction, greater financial resources did result in greater numbers of government schools built after DPEP was introduced. Unfortunately, these increased financial resources did not lead to any noticeable improvement in educational outcomes, whether measured as literacy or independently measured test scores. In the third stage, we also observe a private school response. Greater public resources "crowded-in" private investment through the construction of a greater number of private schools.

Given the local nature of some of the tests presented above, in the next I use the full range of observations to explore the effects of DPEP more generally.

4.4.6 Time-Series-Cross-Sectional Analysis

Given the structure of the Economic Census data, I can conduct a more general analysis of the data using panel methods and test the idea that private schools co-locate in districts with more government schools. I also construct a three wave panel consisting of the Economic Census, DISE school report cards, and the population census in 1990, 1998, and 2005. Here, I run the estimation presented in Equation 4.2.

Results for this estimation are presented in Table 4.15. The odd-numbered columns report results using the DISE school report cards data, while even-numbered columns report results using Economic Census data. Looking at the most demanding tests in columns 5 and 6 that include a full battery of controls and time and year fixed effects, the coefficient on government schools is significant across all specifications suggesting that a growth in the number of government schools also leads to a growth in the number of private schools.

	Private Schools per 10,000 School-Aged Children					
Government Schools	0.005***	0.003***	0.003***	0.003***	0.003***	0.003***
	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)	(0.001)
Consumption (Rs.)			0.001***	-0.000	-0.000	-0.000
			(0.000)	(0.000)	(0.000)	(0.000)
Population			-0.000	-0.000	0.000	0.000
			(0.000)	(0.000)	(0.000)	(0.000)
Caste Fractionalization			2.621**	1.780*	0.627	-5.814***
			(1.070)	(1.075)	(7.016)	(0.838)
Fertility Rate			-0.836***	-0.301	-0.528**	-0.211
			(0.294)	(0.414)	(0.206)	(0.417)
L.Private Schools per 10,000			0.000	-0.009***	-0.002***	-0.010***
			(0.001)	(0.003)	(0.001)	(0.003)
Observations	1298	1279	788	788	788	788
Districts	433	434	394	394	394	394
Year FE	No	No	No	No	Yes	Yes
Data Source	DISE	Economic Census	DISE	Economic Census	DISE	Economic Census

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Panel corrected standard errors in parentheses.

Table 4.15: Time-Series-Cross-Sectional: Private School Growth

Similar to the difference-in-difference and regression discontinuity results, the panel methods presented above suggest that there is a private response to an increase in government schools. Although not an explicit test of DPEP, the results do test the impact of increase government provision of education as well as the idea that private schools "co-locate" with government schools. I find support for both of these ideas here, and again the effect is a large one.

4.5 Discussion

In Chapter 1, I presented a theory that argued that the private sector in India, particularly the private sector that caters to low-income households, follows an expansion of state capacity to fully operate. When the state increases its territoriality, or geographic presence, but does not also increase its functionality, or ability to fully implement its policies, I argue that this creates an opening for informal institutions, in this case private schools, to enter.

Here I have shown how that operates through the introduction of a major education program that increased state territoriality but did not also increase state functionality. Leveraging the introduction of DPEP, a major primary education program in India that sought to decentralize education provision and increase local level state capacity, I have shown that DPEP resulted in greater entry of private education providers in districts that received DPEP funding. This works in three stages. In the first stage, I showed that DPEP increased the reach of the Indian state by reducing the number of villages that did not have at least one government school. Although effects were not as strong, DPEP also increase the total number of government schools in a district. In the second stage, I show that receiving DPEP funding had no effect on the outcomes it was supposed to improve: literacy and learning outcomes. In the final stage, I show that DPEP districts also saw a private sector response with greater entry of private schools.

Depending on the estimate used, the effect of receiving DPEP funding is large. The difference-in-difference estimator show that districts that received DPEP funding received on average about 1 more school per 10,000 school aged children, while regression discontinuity estimates suggest that close to the literacy eligibility cutoff for receiving DPEP, the effect size could be as larger as 50 schools per 10,000 school aged children.

4.5.1 Data Limitations

The purpose of using these two finely grained but individually flawed data sets is to "triangulate" between data records (Lustick, 1996; Herrera and Kapur, 2007) to come to a more accurate accounting of what

was happening in this period. While the DISE data provides a long-term count of recognized schools and schools that wish to be recognized, the Economic Census data provides a closer account of schools that avoid recognition. Individually, both these datasets are flawed and likely do not provide an accurate count of either government or private schools. In the aggregate, these datasets are largely similar as I show in Appendix Section B.5 Figures B.10 through B.15, but to rely on either one independently is likely to lead to biased estimates.

Limitations to DISE Data

The District Information System for Education Data is collected through self-reporting of primary and upper primary schools across India. The survey is sent to all *recognized* schools in India that are registered with the Indian government. While this should include a complete sample of all official schools in the country, it has the disadvantage of missing many *unrecognized* schools. While unrecognized schools can still submit data to DISE, the number of schools that do out of the entire population is likely small. For example, the DISE sample finds that approximately two percent of the total schools reported in the DISE data are unrecognized schools. From my own experiences in the field and other accounts (see Mehta (2005) for a plausible lower bound), this is a severe undercount of the number of unrecognized schools relative to recognized schools. Finally, the DISE data was first collected in 2005. While data on the year schools were established is valuable, there is strong selection in schools that have survived to 2005 to report data. I am likely undercounting a number of private schools that opened before 2005 but then closed before DISE began collecting data.

A second concern is that as DISE data is self-reported by individual schools, there is reason to believe that there is correlation between what I am looking to measure (increases in state capacity), and reporting of my final outcome (the presence of private schools). This is most obvious from the reporting of unrecognized schools as displayed in Figures 4.1 and 4.2. There are only a couple of states, most noticeably Andhra Pradesh in the South, that reports a large number of unrecognized schools. This likely has nothing to do with the number of unrecognized schools in Andhra Pradesh relative to the rest of the country and rather with a greater focus on the the tracking and reporting to unrecognized schools by local-level officials across Andhra Pradesh. This correlation between individual state-level state capacity and the quality of the data provided is likely not present in the Economic Census data that is collected by the Census of India, a central

government agency (Kapur, 2010*b*). This provides a further reasons to triangulate between data sources and not rely on either the DISE or Economic Census data on its own.

Limitations to the Economic Census Data

The Economic Census provides a complete count of all economic activities in India that employ more than one person. While this complete count has the benefit over the DISE school-level data of being able to capture every school, whether recognized or unrecognized, there are two limitations to this data. First, the Economic Census is only collected every seven to eight years, beginning in 1990, leading to a limited panel of data from 1990, 1998, 2005, and when publicly available, 2012. Second, the data does not allow us to perfectly identify private schools for the first two waves of the data, collapsing all schools under "Education Institutions". I overcome this second issue by using the ratio of schools to all other educational institutions from the more restrictive labeling of schools in the 2005 wave and multiply all educational institutions by this ratio in the previous waves.

Missing 2012

Finally, the Census of India has conducted, but not released, a 2012 wave of the Economic Census. If my theory and the stylized facts of private school growth are correct, we should see an even greater number of private schools in the 2012 wave. This would suggest an *undercount* of the effects of the increase in state capacity on the growth of private schools in 2012. This is for two reasons: first, the greatest increase in the number of private schools has occurred between 2002 and 2012, the exact period I stop measuring in my difference-in-difference estimates. Second, 2002 saw the introduction of *Sarva Shiksha Abhiyan* which sought to expand DPEP to the entire country. If it is the rapid expansion of state capacity without any focus on the quality of that state capacity that is driving private school entry, then the even faster roll-out of SSA without the large amount of external financing that DPEP had should see an even larger private school response.

4.6 Conclusions

Using school construction data from the DISE school report cards, and three waves of the Economic Census of India, I have shown that private schools co-locate in districts that have seen an increase in state territoriality, but no related increase in state functionality. I leveraged the implementation rules of a large Government

of India primary education program, the District Primary Education Programme, designed specifically to strengthen state capacity at the local level and expand the provision of government education to look at the effects of an increase in state capacity on the growth of private services, in this case primary education. In most estimates, the effects are large, with an increase in between 1 and 50 new private schools per 10,000 school-aged children in districts that received DPEP funding, and a one-to-one government school to private school response. Some caution should be taken in interpreting these results, as not all specifications are significant.

Returning to my argument in Chapter 1, O'Donnell (1993) and Pritchett's (2009) suggestion that we can separate state capacity into its territorial and functional components reveals what happens when there is a rapid territorial expansion, but no subsequent increase in actual capacity. I suggest that these results can be explained by implicit government policy that has encouraged private schools to co-locate in areas with a lot of government schools. By providing complementary inputs to small and low-cost private schools such as free midday meals, school uniforms, and books, government policy has allowed small private schools to expand to places that economies of scale would have previously prevented them from operating. Private schools have also exploited the failure of government schools to provide adequate education. While the Government of India has rapidly expanded *inputs* to education, this has not been met with a related expansion of *outputs*, creating a gap that allowed private schools to thrive.

On the other side, rapid government school expansion from 1991 to 2005 has also resulted in a concomitant decrease in the quality of government schools that has driven exit from the government sector (ASER, 2015*b*). While the government has largely focused on increasing visible and easily measurable metrics of education, there is little evidence from several years of educational testing that this has led to increases in actual *learning* (Pritchett, 2013). In other words, the Government of India has provided both push and pull factors to encourage exit from the government sector. This paper has shown that these factors are strongest in areas where the government has paradoxically been most successful.

The Government of India has largely been successful in attempting to universalize education. There are more children in school today than there were at the beginning of market-oriented reform, literacy in India has increased dramatically, most villages in India have a primary school. The *way* that this has been achieved, however, has deviated from the intentions of the policy, deviations, that I later argue, have implications for subsequent policy making in India. Borrowing from the institutionalist literature, rapid formal institutional

changes have led to informal institutions responding by providing close, but qualitatively better, substitutes to those provided by the state. These institutions, in the form of recognized and unrecognized private schools, have "filled in gaps" by "facilitating the pursuit of individual goals within the formal institutional framework," (Helmke and Levitsky, 2004, 728).

CHAPTER 5: THE LESSONS PRIVATE SCHOOLS TEACH: USING A FIELD EXPERIMENT TO UNDERSTAND THE EFFECTS OF PRIVATE SCHOOLS ON POLITICAL BEHAVIOR

5.1 Introduction

Government services have often been found to act as important sites of political socialization. Through interactions with institutions and functionaries of the state, individuals learn important lessons about their worth as citizens and the functioning of democracy, form preferences over government services, and understand the value of political participation. At the same time, private actors are providing a greater number of basic services across the developing world (Cammett and MacLean, 2011). What then happens when governments no longer provide basic services and are replaced by private actors? Do private actors remove the link to this political socialization process? To answer these questions, I explore state exit in India, where citizens have increasingly turned to private organizations for basic services. Scholars have feared that as states cease to provide services and private actors emerge to fill the vacuum, citizens will become politically ambivalent as they no longer require the state to provide services (Hirschman, 1970; Ravitch, 2014). Despite the importance of these questions, making conclusive causal claims is difficult as the growth of private services tends to be historically contingent and highly endogenous to political outcomes. I use a randomized private school voucher program to overcome these problems and provide clear evidence on the effects of private schools on political socialization. I find that access to private schools did not depoliticize citizens as some have feared, instead shaping economic preferences by making citizens more comfortable with a greater role for the private sector in service provision.

Specifically, I leverage a randomized school voucher lottery to understand the political consequences of state exit. In 2008, households across five districts of Andhra Pradesh, a large state in South India, were offered the chance to enter a private school voucher lottery, and winners could send their child to a private elementary school for five years. I returned five years later and employed a number of methods, including an original survey of 1,200 households that entered the lottery, 30 semi-structured interviews with program participants and education bureaucrats in Andhra Pradesh, and participant observation of government and private schools to test the effects of private services on political outcomes. I find that households that sent their children to private schools become more comfortable with paying out of pocket for other services that

are currently provided by the government, which I take as evidence of increasing comfort with the private sector. Additionally, conditional on perceiving their school to be of a high quality, households are also open to a greater role for the private sector in service provision and employment. Political participation – measured either by voting, a number of more costly partisan actions, or associational group membership – does not differ between treatment and control groups. I argue that while exit from government services has an effect on mass publics, it is on economic preferences, and not political behavior. Evidence suggest that this is driven by two factors: access to new networks through which to make political demands, and belief in private providers as permanent economic actors. In short, state exit matters politically, but in terms of preferences more than participation.

These findings are important not only for what they tell us about the Indian case, but what they reveal about private service provision more generally. While social science has traditionally assumed that the state is the primary provider of basic services (Post, Bronsoler and Salman, 2015), the private sector is increasingly an important service provider both in the U.S. (DiIulio, 2014; Morgan and Campbell, 2011*a*,*b*), and in the developing world (Cammett and MacLean, 2011). My estimates allow me to speak credibly about the effects of such shifts across a range of political outcomes, and have implications for those interested in service provision, market-oriented reforms, privatization, and political behavior more generally.

How, then, does this work? In the next section, I draw from literatures on policy feedback, political clientelism, and education and politics in India, as well as my own semi-structured interviews and participant observations conducted concurrently to the survey to generate testable predictions on how the private provision of education could have an impact on the mass publics' preferences and behavior.

5.2 Theoretical Expectations

Education provision provides an important test case for how public policy affects mass opinion. In an article that laid the foundations for the idea of "policy feedback" from policies to mass politics, Paul Pierson (1993) argued that there were two mechanisms of policy feedback: resource and interpretive effects. Policies, Pierson argued, "create powerful packages of resources and incentives that influence the positions of . . . individual social actors in politically consequential ways," (610). For example, the G.I. Bill in the United States reduced the cost of a university education for military veterans. As a result, those who took advantage of the G.I. Bill were better incorporated as citizens by increasing their predisposition for involvement (Mettler, 2002, 2005). Policies can also create beneficiaries that will later mobilize in defense of their bene-

fits. Threats to cuts in Social Security and Medicare have often been met with a robust defense from senior citizens (Campbell, 2003).

New policies also influence "the manner in which social actors make sense of their environment," (Pierson, 1993, 610-1). Policies can change perceptions that shape subsequent preferences. As E. E. Schattschneider claimed, "new policies create a new politics," not only through a transfer of material resources, but also a change of perspective (Schattschneider, 1935). Interactions with representatives of the state provide citizens with examples of how the state views its citizens (Soss, 1999). Government programs and agencies are often the first point of contact citizens have with the state and provide "lessons about how citizens and governments relate, and these lessons have political consequences beyond the domain of welfare agencies" (Soss, 1999, 364). Initial experiences with these representatives of the state can powerfully shape perceptions and future engagement with government. The process of policy feedback does not always lead to greater levels of participation and engagement, however. Experiences with the criminal justice system (Weaver and Lerman, 2010), and some forms of welfare benefits (Soss, 1999), can serve to depoliticize citizens and see them withdraw from the political arena as they learn to distrust the state.

While there is an extensive literature on policy feedback in advanced democracies, there are fewer tests of these mechanisms in non-Western contexts. Lauren MacLean (2010, 2011) finds that citizens that receive public services in rural Ghana and Cote d'Ivoire are more likely to participate politically. Jaimie Bleck (2011) finds that the mere act of sending children to government schools in Mali results in greater levels of political participation and campaigning from parents. Both authors suggest this is because households that make use of public services have incentives to ensure their continued provision and functioning. Their arguments illustrate the individual level foundations behind exit and voice (Hirschman, 1970). (MacLean, 2002, 2010, 2011) argues that in response to the declining quality of public goods, citizens mobilized to demand better services from government officials through increased participation. The response to declining public services was not "exit" as predicted by classical economics, but "loyalty" and "voice" as Albert Hirschman suggested. (Bleck, 2011, 2013) views government schools as an explicit site of learning - families with students in government schools use these students as "linguistic brokers" to overcome linguistic barriers to greater political participation. Im and Meng (2015) find evidence of interpretive effects of policy feedback in China, where experiences with some welfare policies have spillovers to broader demands for government intervention.

Despite the many positive findings within this research program, not all public policies exhibit policy feedback. Lynch and Myrskyla (2009) found no evidence that pension systems created a class of beneficiaries that would mobilize in support of their benefits. This points to the importance of understanding the *design* of public policies (Soss, 1999). Soss (1999) argues that policies must be both "proximate" and "visible" to beneficiaries for there to be policy feedback. In this sense, public education in India meets both these criteria. Education's benefits in general "are universal and not means tested…[and] benefits are largely in-kind," (Katz, 2010, 55). Schools in India are often the first point of contact citizens have with the formal state (Corbridge et al., 2005), deliver the popular midday meal scheme (Drèze and Kingdon, 2001; Jain and Shah, 2005), and often serve as election polling stations (Susewind and Dhattiwala, 2014). Public teachers are often the most educated members of their community, and engage in a number of non-teaching activities — such as election monitoring and conducting the decennial census — that make them highly visible in their communities (Béteille, 2007). Teachers unions are powerful political constituencies in their own right, and frequently lobby politicians and voters to act in their interests (Kingdon and Muzammil, 2001*a*,*b*; Kingdon, 2009).[64] My own data suggests that upwards of 85 percent of government teachers served as either election monitors or census enumerators in the past year in my sample villages. Finally, the Government of India has undertaken a massive school construction drive over the last ten years that has ensured there is at least one government primary school within 1 km of *every settlement in the country* (See the right axis of Figure 5.1 for the rapid growth in government schools across India).

Another consistent lens through which to view politics in the developing world in general, and India in particular, has been that of patronage and clientelism. By clientelism, political scientists refer to "the direct exchange of a citizen's vote in return for direct payments or continuing access to employment, goods, and services," (Kitschelt and Wilkinson, 2007, 2). India has been described as a patronage democracy, where politicians relate to voters through exchange of material goods (Chandra, 2004). Parties in India use the promise of material goods to win votes (Wilkinson, 2006; Keefer and Khemani, 2009; Khemani, 2010), and reward voters (Vaishnav and Sircar, 2013). Schools have often been seen as part of this exchange, and voters have been found to respond positively to greater provision of education infrastructure (Vaishnav and Sircar, 2013; Fagernäs and Pelkonen, 2014).

In addition to the role that teachers and schools play in partisan politics, there is often political inter-

[64] While I was in the field, the teacher's union of Andhra Pradesh was one of the organizers of a state-wide strike against the division of the state of Andhra Pradesh.

ference from above. There is frequent political interference from politicians in the sanctioning of teachers (Interview with M. Somi Reddy, District Education Officer Ranga Reddy District, September 2013). One survey respondent gave examples of how in the run-up to the 2014 legislative assembly election, the local MLA had begun to visit their village more frequently and had recently promised ₹100,000 (approximately $1,600 at the time of field work) to the village primary school to build a wall around the school and provide board games for the children at the school (Anonymous Interview, Medak District, November 2013).

How, then, do we move from literatures on policy feedback and clientelism, that assume the state as the primary actor, to the impact of private services? Both the policy feedback and clientelism literature suggest that increased contact with the state, embodied through political parties and bureaucracies, state institutions, and public policies should lead to greater participation. Removing this contact should reduce the incentives and benefits from participation. Therefore, increased provision of private services should also result in decreased participation, resulting in H_1:

- H_1: Private school voucher lottery winners will be less likely to participate in political forums.

Turning to interpretive effects, although not often framed using the language of policy feedback or clientelism, political scientists, economists, and sociologists have begun to theorize on the impact of private services on mass opinion. Using the randomized allocation of land titles to land squatters in low-income neighborhoods in Argentina, Di Tella, Galiani and Chargrodsky (2007) find that the assignment of land titles results in owners holding stronger market-oriented beliefs. They argue that greater exposure to the private sector leads to qualitatively different *experiences* for recipients of land titles relative to households that did not receive land titles. In a similar result, Earle and Gehlbach (2003) find that receiving property rights in Eastern European transition economies leads to greater support for further economic reform and freer markets. Amy Lerman (2013) finds that satisfaction with garbage privatization creates a ratchet effect where clients that correctly attribute whether their services are provided privately and are satisfied with their services are more likely to support privatization for other public services. Her mechanism suggests that experiences with markets in one realm creates a spillover effect where citizens are more likely to support markets in other realms. Jeffery and Jeffery (2008) argue that markets in health care in India will constitute new citizens who are "energetic and entrepreneurial in shopping around," (2008, 133).

This suggests that in households that previously lacked exposure to the private sector access to the private sector makes the sector more accessible as households are able to understand the functioning of private

providers. This accessibility should make households more comfortable with a previously unknown entity leading to H_2:

- H_2 Private school voucher lottery winners should hold stronger market-oriented economic preferences.

Before proceeding to the data collection and results, I explore the Indian context in the next section and introduce the field site in which I conducted the survey.

5.3 Setting the Context: Private Services in India and the Andhra Pradesh School Choice Experiment

Over the last two decades the Indian government has rapidly increased public expenditure on welfare and public services. This trend has been particularly pronounced in education. Since 1990, public expenditure on elementary education has tripled (Goyal, 2009, 327). As can be seen in Figure 5.1, after the implementation of *Sarva Shiksha Abhiyan* (SSA or Education for All) in 2002, a Central Government Scheme, India has added an average 200 new government schools per district, or about 30 schools per district per year. As a result, India has achieved near universal enrollment in education (ASER, 2015*a*), previously a pox on India's social development record (Weiner, 1990). Over the same period, Figure 5.1 also reveals the rapid abandonment of the government education sector: in 2003 approximately 17 percent of primary school children attended a private school which has nearly doubled to over 30 percent in 2014.[65]

In addition to expanding access to government schools, SSA also decentralized a large number of education administrative functions to the village level and mandated the creation of Village Education Committees (VECs) and School Management Committees (SMCs), local level governing bodies tasked with managing schools. Alongside the 73^{rd} constitutional amendment that decentralized political power to the local level, villages in India are now tasked with deciding how school infrastructure funding should be spent (Jha et al., 2008), suggesting that local participation would control significant financial resources. This type of mandated decentralization has been shown to increase participation in other contexts (Davies and Falleti, 2015).

Academic and policy debates around education since the early 2000s have focused on two closely related outcomes: increasing enrollment and retention (Banerji and Mukherjee, 2008) and improving test scores

[65] By comparison, in the United States ten percent of students attend private or religious schools (*Private School Universe Survey (PSS)*, 2010).

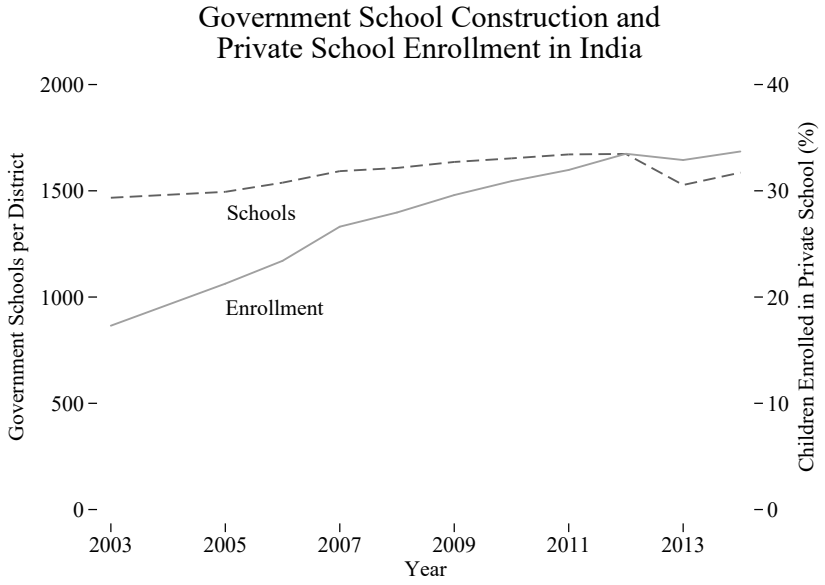

Figure 5.1: Growth of Private Education in India.

The left axis measures the number of government primary schools per district. The dashed line corresponds to the left axis. The right axis measures percentage of children per district enrolled in private primary schools. The solid line corresponds to the right axis.

(ASER, 2015*a*). The private sector has been seen as a solution to these twin problems as private provision is believed to help the understaffed and overstretched public sector (Rangaraju, Tooley and Dixon, 2012) and provide better quality education (Muralidharan and Sundararaman, 2015). Lost in this debate, however, are important questions on the appropriate role for states and markets in providing public services, and how these then come to affect the relationship between citizens and the state they live in. The Government of India's Right to Education (RTE) act of 2009 specifically reserved 25 percent of seats in private schools for "disadvantaged sectors", essentially implementing a policy on the faith that the private sector will be able to better educate the country's poor. Some commentators have called the policy, "India's civil rights moment," as it would bring disadvantaged groups in contact with the country's elites [Author's interview with Menaka Guruswamy, Supreme Court Advocate, November 2012].[66]

There are three reasons why Andhra Pradesh represents an ideal field site for studies of policy feedback and the impact of the private sector. First, Andhra Pradesh has often been lauded for its good governance, rapid economic growth, and high quality public goods provision. Chief Minister Chandrababu Naidu was

[66] Evidence from a similar policy in Delhi suggests that the policy is having a socially ameliorative effect at the individual student level (Rao, 2013).

dubbed one of India's "CEO" Chief Ministers, who were lauded in domestic and international business circles for providing a conducive economic climate for large business (Rudolph and Rudolph, 2001). The state also has less "petty" corruption than many other Indian states, which is often seen as the form of corruption most burdensome for ordinary households (Bussell, 2010, 2012). The Government of Andhra Pradesh has successfully implemented some of the Government of India's flagship welfare schemes such as the National Rural Employment Guarantee Act (NREGA) and the Public Distribution System (PDS) (Khera, 2011*b*; Afridi and Iversen, 2013). The Government of Andhra Pradesh's general competence in providing public goods and general good governance suggests citizens would be more likely to respond with "voice" instead of "exit" in the face of private options. The government has been shown to respond in the past, and might be expected to respond in future situations, too. Therefore, my field site of Andhra Pradesh provides a hard test case for theories of policy feedback as a result of exit from the government sector.

Second, Andhra Pradesh has also aggressively led attempts in understanding the impact of private schools on student learning outcomes. The survey I conducted followed a series of large scale of experiments between the Government of Andhra Pradesh, the Azim Premji Foundation, and researchers from Harvard University, the World Bank, and the University of California, San Diego (Muralidharan and Sundararaman, 2010, 2011*a*,*b*, 2015). The voucher experiment was explicitly designed to mimic Section 12.1(c) of the Right to Education Act. Section 12.1c of the Act specifies that private schools must accept 25% of their incoming class "belonging to weaker section and disadvantaged group in the neighbourhood and provide free and compulsory elementary education till its completion," (Government of India, 2009, 5-6). In effect, the policy serves as a private school voucher as the Government of India will pay for children admitted under this clause to attend private schools (Government of India, 2009, 6). In cases where enrollment for admission under this clause has been oversubscribed, admission was granted through a lottery (Rao, 2013). This provided a particularly conducive research environment in which to conduct research on the effects of the private sector.

Finally, the state has tremendous amounts of cultural, linguistic and religious diversity. The state is the furthest North of the South Indian states (see Figure 5.2 for location in India as well as survey districts.) and has a significant Islamic colonial influence in its Northern districts and a strong British colonial legacy in the East and South. I conducted fieldwork in five different districts across its three major regional areas,

Telangana, Rayaleseema, and Coastal Andhra. The original private school voucher experiment purposefully selected these districts to account for Andhra Pradesh's tremendous social, cultural, and linguistic diversity.[67]

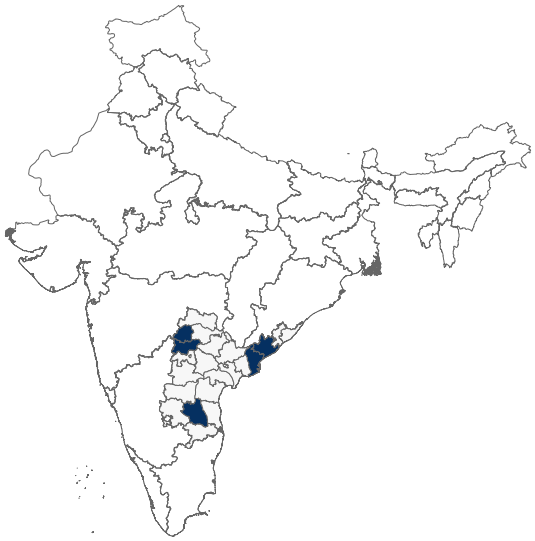

Figure 5.2: Survey Districts in Andhra Pradesh

Although I provide some relevant details about the original voucher experiment here, interested readers can consult the Appendix Sections C.4 and C.5 or Muralidharan and Sundararaman (2015) for further details. The Andhra Pradesh School Choice Experiment (from here on APSC) sought to test what the impact of private education would be on student achievement as measured by test scores. The original design improved on traditional voucher experiments by relying on a two-stage randomization process. In the first stage, suitable villages were identified in which there existed at least one recognized private school.[68] All villages were then informed that they would be entered into a private school voucher lottery run by the Azim Premji Foundation, a well known education NGO in South India. Then villages were randomized into treatment and control, creating a *village-level* counterfactual where some villages would be eligible to receive private school vouchers and others would serve as the control group. Next, *households* within treat-

[67] I was in the field at the end of 2013 when the states of Andhra Pradesh and Telangana were still united as the state of Andhra Pradesh.

[68] The Government of India distinguishes between recognized and unrecognized private schools. A recognized private school must be registered with the Government of India and meet a certain number of standards for infrastructural quality and pupil teacher ratios, including having toilets for boys and girls, and a wall around the school premises.

ment villages were then randomized in the second stage to receive vouchers, thereby creating a *household-level* counterfactual. This improves on traditional voucher experiments by being able to not only identify the effects of attending private schools on individual students, but also allows the researchers to study the school-level effects of vouchers by understanding the impact of new students in a school on students already in the school *and* on the school they then left behind by comparing treatment villages with control villages.

Due to resource constraints, I only sampled from *treatment* villages, so I was only able to explore individual and not community level effects, fully aware that those questions are also of interest to researchers in political science. The threshold for effects at the community level, however, are theoretically higher. Effects from several students in one school would have to spillover to the village as a whole — a larger effect than expecting schools to influence individuals within them.

5.4 Data and Methods

To test these hypotheses I rely on an original household survey of 1,202 households collected between September and December 2013 in five districts of Andhra Pradesh. The survey was conducted by a team of 11 surveyors administering an original in-person survey. The surveyors were hired for their familiarity with the project and pre-existing relationships with households. Between August and December 2013, I also conducted 33 semi-structured interviews with households that entered the lottery and participant observation of ten schools in the sample villages (4 government and 6 private schools).

The survey sample was randomly drawn from the APSC Experiment. As the original experiment was stratified by district, this newer sample reflected this stratification.[69] The voucher was provided for five years of primary education that covered Standard 1 through Standard 5 (equivalent to 1st through 5th Grade), and I surveyed households when their scholarship child had finished 5th Grade and was entering secondary school. I exploited this randomization to conduct a "downstream experiment" on voucher recipients. Downstream experiments "leverage previous randomization to identify the effects of these interventions on new outcomes," (Baldwin and Bhavnani, 2011, 10) and effectively work as a natural experiment by exploiting exogenous variation created on the key independent variable by an external party. The APSC experiment did not ask any questions regarding political attitudes or behavior. The randomization provided clean identification of the effect of private services on the political attitudes and behaviors of recipient households.

[69] To account for this stratification in econometric specification, I include district fixed effects in all analyses.

5.4.1 Operationalizing the Key Outcome Variables

This paper is interested in the effect of private schools on two broad outcomes of interests: 1. Political participation, and 2. Market-oriented beliefs. I operationalize these outcomes by grouping several related variables into summary indices.[70] Anderson (2008) recommends constructing the indices by taking the weighted mean of the standardized means of the individual variables that compose the index. The weights are used to maximize the amount of information captured by the index by giving greater weight to uncorrelated variables and is the inverse of the covariance matrix. By doing this, I increase statistical power while being robust to over-testing as I am only testing one outcome instead of a series of measures. Using an index ensures that researchers do not cherry-pick results that might be significant by chance and misinterpret the importance of individual components of the index. Following the convention established by Anderson (2008), I report the results of each individual component of the index as well as the full index. In the following section, I describe the individual components of each index and greater detail of the variable construction and coding is presented in Appendix C.1.

Political Behavior

Partisan Participation is an index composed of four variables: whether a household member is a member of a political party, whether they attended a political meeting over the past year, whether they canvassed for a political party over the past year, and whether they distributed leaflets for a political party over the past year.

Associational Membership is an index composed of three variables: whether a household member is a member of a caste association, whether a household member is a member of a cooperative or labor union, and whether a household member is a member of a self-help group (SHG).

Electoral Participation is an index composed of either stated intention to vote, or most recent voting activity. The first two questions ask whether respondents intend to vote in the upcoming national (*Lok Sabha*) and state elections (*Vidan Sabha*), while the third variable asks if respondents voted in the recently completed local village (*Panchayat*) elections.[71]

I did not ask respondents directly what parties they had voted for or intended to vote for for two reasons.

[70] The full description of these variables are provided in Appendix C.1.

[71] The survey from which the data was collected was conducted between September and December 2013. National and state level elections were held concurrently in two phases in April and May 2014 in Andhra Pradesh.

First, due to limited resources, I would be unable to ask this question in a manner that protected respondent confidentiality and the secret ballot while still maintaining a relatively large sample size. Second, I was concerned about damaging the trust that surveyors and the implementing organization had established with respondents over the previous six years of the intervention and was sensitive to concerns from the implementing organization that wanted to continue working in these villages in the future.

Market-Oriented Beliefs

Turning to measurements of market-oriented beliefs, I attempt to measure market-oriented beliefs through stated and revealed preferences for the private sector, and through a measure of how much money households would be willing to spend out of pocket to receive services from the private sector. I do this through two indices, *Preference for Private Services* and *Willingness to Pay* for private services.

Preference for Private Services is an index composed of six variables, including: whether respondents would prefer a job in the private sector or with the government, whether respondents would prefer the private *financing* of services like health and education, whether respondents would prefer the private *provision* of services like health and education, whether respondents continued to send their voucher child to a private school *after* the private school voucher lottery was finished, the number of children in the household in private schools, and whether respondents go to a private health care provider if a household member falls sick.

Willingness to Pay for Private Services is an index composed of a respondent's willingness to pay for two government services: publicly provided education and food subsidies. I presented respondents with a hypothetical scenario in which households could either receive a cash transfer from the government of a certain value to purchase services on the private market, or continue to receive the service from the government as it currently stood, attempting to reveal a respondent's "willingness to pay" for two important government services: government-provided education and food ration subsidies. For example, in the case of education, I gave respondents the hypothetical option of either receiving a school voucher and being able to shop for a school for their children as they pleased, *or* using the government school system. For school vouchers (food rations), starting with the amount of Rs. 3,000 per year (200 per month), surveyors asked respondents whether they would prefer to receive government provided education at that amount (their ration that month) or a specified amount of cash. The amount was increased in Rs. 500 (50) increments until a

maximum offer of Rs. 10,000 (1,000) was reached.[72] If the respondent did not accept any offer below Rs. 10,000 (1,000), the surveyor asked directly for the minimum amount the respondent would be willing to accept instead of government provided education (subsidized rations at government ration shops).

I also repeated this exercise for food subsidies. The Public Distribution System (PDS) is one of the Indian government's largest public welfare programs and provides Below Poverty Line (BPL) households with subsidized grains and cooking oils. I chose to present a hypothetical concerning the PDS because there have recently been moves to replace the direct subsidy of food distribution with cash transfers to households so that they can buy the same foods on the private market (Kapur, 2011). I call these two variables a respondent's willingness to pay for private services. A lower value on these two variables suggests that households would be willing to receive a lower cash transfer from the government and make up any potential difference between the cash transfer and the market price for education or food through their own out of pocket expenditure.

I suggest that their revealed preference for this willingness to pay represents a respondent's relative preference for market services. I pick these two services as they are two services that have a potential "price" for their provision that a respondent could understand and calculate, as opposed to the government's workfare program or acquiring a below-poverty line card. The two services represent clear subsidies from the state to individuals and removing them would force households to bear expenses out of pocket. The choice I am forcing households to make is between having the respective service be subsidized by the state or shopping for that particular service on the open market. The willingness to pay measure asks households to put a concrete price on what price they put on the government services, with a lower valuation representing a lower valuation of the government provided service.

5.5 Results

Given that assignment to private schools was randomly assigned, there should not be any unobservable differences between households attending private and government schools. There was covariate balance between treatment and control households in my reduced downstream sub-sample as reported in Table 5.1. Summary statistics for the variables used in this paper are provided in Table 5.2. Approximately 50 percent of households that were offered vouchers were still sending their children to private schools after five years. Additionally, 21 percent of households that did not receive a voucher sent their children to private schools

[72] For school vouchers, surveyors also informed households how much that amount was worth per month to facilitate calculating the amounts.

on their own accord.

	Difference in Means	Standard Error
Household Income (Rs.)	4055.87	3047.11
Household Land (Cents)	-3.87	6.40
Male (%)	0.01	0.03
General Caste (%)	-0.00	0.02
Voted: Lok Sabha 2009 (%)	-0.00	0.01
Voted: Vidhan Sabha 2009 (%)	0.00	0.01
Visakhapatnam (%)	0.01	0.02
East Godavari (%)	0.04	0.02
Kadapa (%)	-0.04	0.03
Medak (%)	-0.02	0.02
Nizamabad (%)	0.01	0.02

Table 5.1: Balance Tests Between Treatment and Control Groups

Although there were considerable numbers of non-compliers (see Table 5.3), particularly at the beginning of the experiment, I rely on the unconditional Intention to Treat (ITT) estimator of the form:

$$Y_i = \beta_0 + \beta_1 T_i + \beta_{d_i} Z_i + \mu_i, \tag{5.1}$$

Where Y_i is my outcome of interest, β_1 is the unbiased estimate of winning a voucher on the outcome of interest (the intent-to-treat or ITT estimate). I estimate β_1 both with and without controlling for household socioeconomic characteristics and individual respondent characteristics that include log household income, gender of the respondent, the household caste, a dummy for Muslims, the age of the respondent, whether there are any salaried employees in the household, the level of education, and the number of school aged children. I also include a set of district fixed effects (Z_i) to absorb geographic variation, increase the precision of the estimate, and account for the stratification of the village-level lottery at the district level.

While the text will mainly discuss results of the ITT estimate, I also present results of the Treatment on the treated (TOT), using the original assignment to treatment and control to instrument for students that were in private schools after five years. These results are presented in the same figures as the two ITT estimates in Figures 5.3, 5.4, 5.5, 5.6, and 5.7.[73]

5.5.1 Political Behavior

Turning to the results, Figure 5.3 presents the results for a series of partisan political activities. Although voucher winning households show higher levels of partisan political participation, the effects are both small and statistically insignificant. Rates of partisan political activity are generally low, ranging from about three

[73] In the main body of the paper, I present all regression results graphically in Figures 5.3 to 5.11. Interested readers can consult Section C.6 in the online Appendix for the full results in table form, including coefficients on control variables.

	Mean	Standard Deviation	Min	Max	N
Voucher Winner (%)	66.31	47.29	0.00	1.00	1202
Private School at Endline (%)	47.29	49.95	0.00	1.00	1161
Income (Rs.)	8266.49	4448.04	0.00	33000.00	1201
Male (%)	38.52	48.68	0.00	1.00	1202
General Caste (%)	18.39	38.75	0.00	1.00	1202
Muslim (%)	8.90	28.49	0.00	1.00	1202
Age	36.02	6.72	18.00	70.00	1165
Salaried Employees in Household? (%)	14.36	35.08	0.00	1.00	1170
Years of Education	3.78	3.77	0.00	15.00	1201
School Age Children in Household	1.77	0.70	1.00	5.00	1202
Partisan Political Participation Index	0.00	0.79	-0.40	2.85	1202
Member of a Political Party (%)	3.42	18.19	0.00	1.00	1198
Attended Political Meetings (%)	32.55	46.88	0.00	1.00	1195
Canvassed for a Political Party (%)	14.12	34.84	0.00	1.00	1197
Distributed Political Leaflets (%)	8.75	28.26	0.00	1.00	1189
Associational Membership Index	0.00	0.64	-1.03	1.60	1202
Member: Caste Association (%)	19.18	39.39	0.00	1.00	1194
Member: Cooperative (%)	10.77	31.01	0.00	1.00	1189
Member: SHG (%)	73.62	44.09	0.00	1.00	1194
Voting Index	0.00	0.67	-2.84	0.26	1202
Intend to Vote: Lok Sabha (%)	91.84	27.39	0.00	1.00	1188
Intend to Vote: Vidhan Sabha (%)	91.38	28.08	0.00	1.00	1183
Voted: Panchayat (%)	95.79	20.10	0.00	1.00	1187
Private Services Index	0.00	0.79	-0.60	2.50	1202
Private Job (%)	10.09	30.13	0.00	1.00	1199
Private Services (%)	20.05	40.05	0.00	1.00	1202
Private Financing (%)	22.08	29.09	0.00	1.00	1200
Voucher Child in Private School (%)	22.62	41.86	0.00	1.00	1198
Number of Children in Private School	0.37	0.68	0.00	4.00	1202
Choose Private Health Facility (%)	59.70	49.07	0.00	1.00	1201
Willingness to Pay Index	-0.00	0.72	-1.39	8.63	1202
Voucher Willingness to Pay (Rs.)	10379.97	3615.13	0.00	25000.00	1078
PDS Willingness to Pay (Rs.)	1319.84	1052.52	0.00	15000.00	994

Table 5.2: Summary Statistics

percent of respondents that claim they are a member of a political party, to a high of 32 percent claiming that they attended a political meeting, and having access to private schools does not change this engagement substantially. Even though the survey was conducted during a highly politicized period, immediately following village elections and five to eight months before highly salient state and national elections, rates of partisan political engagement remain low and similar between treatment and control. Voucher winning households are less than 10 percent of a standard deviation more likely to engage in partisan political activities than non-voucher households, with this effect increasing, and being driven, with the costliness of the activity. While there are small differences (from a low baseline) of membership in a political party, voucher winning households are more likely to claim to have distributed leaflets for a political party.

Turning to non-partisan forms of participation Figure 5.4 shows that in the index of associational membership, as well as the individual components of the index, we see a small increase in associational group

Compliance Rate in Treatment Villages		
	Offered Voucher	
	No	Yes
Total	1,117	1,980
Took-up Admission	NA	1,408 (51%)
In Private School After Five Years	236 (21%)	980 (49%)

Table 5.3: Compliance Rate: Full Sample

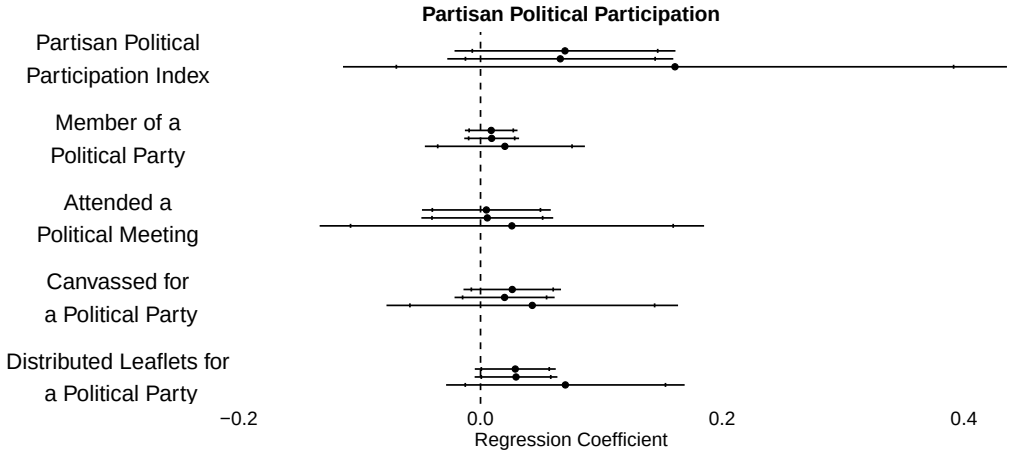

Figure 5.3: ITT: Political Participation

Each group of coefficient plots represents results for a regression on the dependent variable labeled on the left axis. The first plot represents the unconditional intention-to-treat (ITT) estimate with district fixed effects of winning the voucher lottery on the outcome of interest. The second plot is the ITT with controls and district fixed effects. The final plot is the Treatment-on-the-treated (TOT) using original assignment to treatment and control to instrument for whether households kept their children in private school for five years with the same set of controls as the second regression.

membership, significant at the 10 percent level. This result is driven almost entirely by membership in self-help groups, where there is between a 0.05 to 0.15 standard deviation increase in self-help group membership.

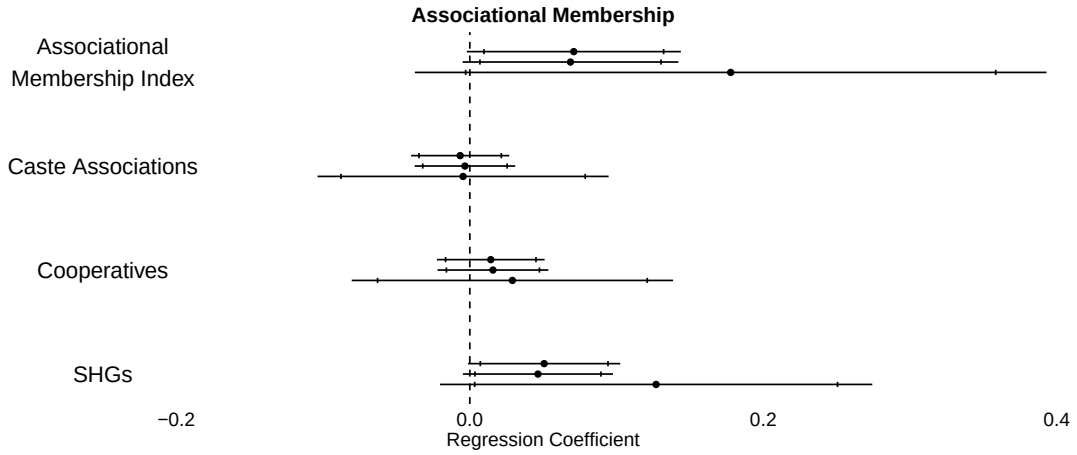

Figure 5.4: ITT: Associational Participation

Each group of coefficient plots represents results for a regression on the dependent variable labeled on the left axis. The first plot represents the unconditional intention-to-treat (ITT) estimate with district fixed effects of winning the voucher lottery on the outcome of interest. The second plot is the ITT with controls and district fixed effects. The final plot is the Treatment-on-the-treated (TOT) using original assignment to treatment and control to instrument for whether households kept their children in private school for five years with the same set of controls as the second regression.

Figure 5.5 sees similar effects using a different measure of political participation. Although election participation in India is consistently high, and higher amongst low income households (Banerjee, Duflo and Glennerster, 2008; Banerjee, 2011) — 91 percent of respondents reported voting in national or state-level elections and 97 percent of voters reporting they voted in local elections — there were no differences in electoral participation between treatment and control households. The first panel of Figure 5.5 reports an index of electoral participation at the national, state, and local level and shows no difference in participation.[74] The next two panels, reporting intended turnout in national and state level elections, show a statistically indistinguishable difference from zero. The final panel, reporting turnout in recently completed local elections, shows a small positive increase in participation amongst the control group, but this difference is not robust to alternative specifications with controls or the instrumental variables specification.

Returning to my original hypothesis on political participation, I cannot reject the null that exit from

[74] As fieldwork was conducted in late 2013, *after* recent local, or *panchayat*, elections conducted in September 2013, and *before* state and national elections eventually held in late April and May 2014, I asked voters about their actual turnout in local elections and intentions to turnout in state and national elections.

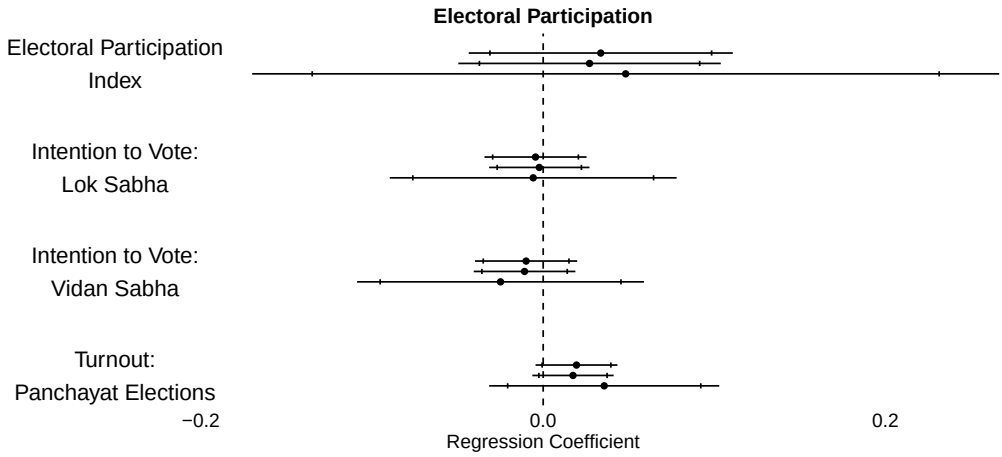

Figure 5.5: ITT: Intention to Vote

Each group of coefficient plots represents results for a regression on the dependent variable labeled on the left axis. The first plot represents the unconditional intention-to-treat (ITT) estimate with district fixed effects of winning the voucher lottery on the outcome of interest. The second plot is the ITT with controls and district fixed effects. The final plot is the Treatment-on-the-treated (TOT) using original assignment to treatment and control to instrument for whether households kept their children in private school for five years with the same set of controls as the second regression.

public services decreases political participation. On all measures of political behavior, partisan political participation and electoral participation, treated households show no difference in participation relative to control households. Households that exited to the private sector are no less likely to exercise their voice than households that remained in government schools. Indeed, for some measures of political participation, exiting the private sector might even *increase* political participation, an effect I return to later while discussing mechanisms and causal pathways. At least for behavior, I fail to find any effect on private schools on political behavior as the findings of policy feedback would suggest. I now turn to economic preferences to understand if the *content* of political engagement does change, given that political participation was so high.

5.5.2 Economic Preferences

I measure economic preferences of respondents in two ways: first, I construct an index of the preference for private services and the private sector through a series of questions on both stated and revealed preferences for the private sector. Second, I attempt to elicit a respondents "willingness to pay" for private services by presenting a hypothetical scenario on the amount of subsidies they can receive from the private sector. Returning to hypothesis 2, I argued that exposure to the private sector through private schools has increased voucher recipients comfort with the idea of the private sector.

Turning to the comfort with the private sectors, I present results from the index and entire set of indicators in Figure 5.6. The index itself is positive, significant, and robust to different specifications. Having won a private school voucher increases both stated and revealed comfort with the private sector by between 0.1 and 0.25 standard deviations as shown in the first set of coefficient plots in Figure 5.6. In other words, this suggests that having access to private school vouchers results in between a 4-10 percent increase in the number of respondents that say they would be more comfortable with the private sector providing services such as health and education. The second set of coefficient plots, which reports results on whether respondents would prefer a job in the private sector, presents the hardest test of comfort with the private sector. Jobs with the Indian state often represent a salaried income, guaranteed employment, and solid pension, while jobs in the private sector are often precarious and ephemeral (Jha, 2015). In this test of comfort with the private sector, there is no difference between treatment and control groups, and might even be a negative relationship between receiving a private school voucher and preference for a job in the private sector.

Turning to the other components of the index, however, we see a much stronger relationship with receiving a private school voucher and comfort with the private sector. Questions on whether a respondent would prefer the private provision of services currently provided publicly, the private *financing* of services provided publicly, whether households continued to send their voucher child to private schools *after* the voucher had expired, the percentage of children in the household in private schools, and whether households would use private health services when household members are sick all show a *positive* relationship between receiving a private school voucher and comfort with the private sector. Aside from the hard test case of a job in the private sector, having access to private services results in both stronger stated and revealed preferences for the private services.

To unpack another set of plausible preference changes, Figure 5.7 presents the results of the willingness to pay measures. Indeed, this is where we see the strongest results. As we can see from Figure 5.7, private school voucher winning households are more likely to express preferences for lower valuations of cash transfers and this result is both statistically significant and large in magnitude. Voucher winning households are willing to accept approximately Rs. 240 lower transfers for both school vouchers and food subsidies. For school vouchers, this represents a change of about 2 percent from the control mean, but for the food subsidy, this represents fifteen percent of the accepted amount amongst control households. Most importantly, Rs. 200 is about 1 percent of a household's monthly income, a significant difference in out of pocket

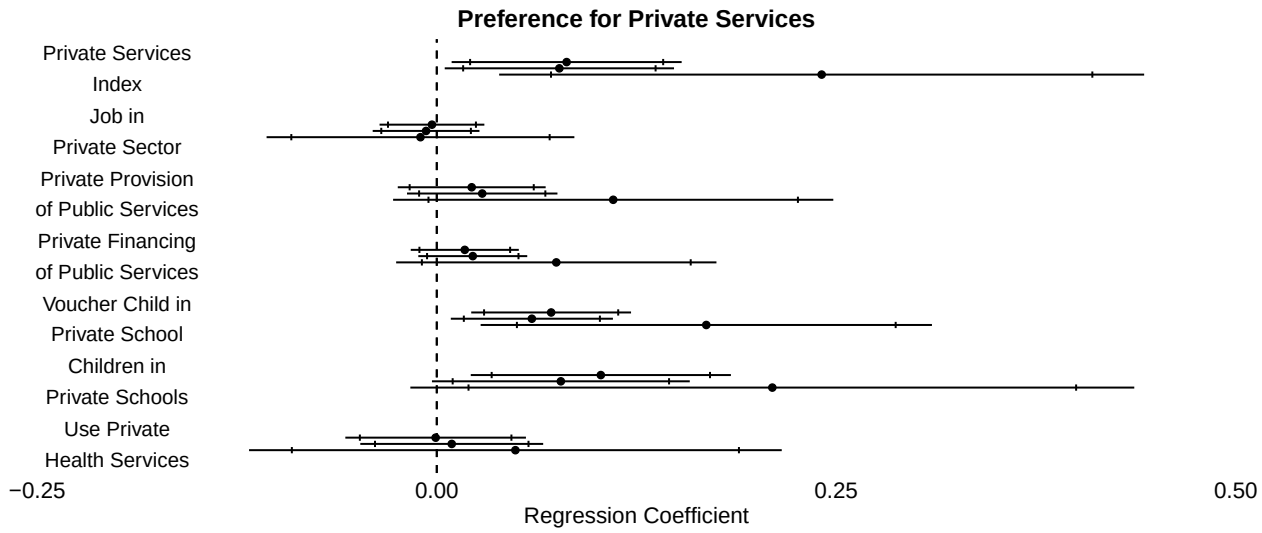

Figure 5.6: ITT: Preference for Private Services

Each group of coefficient plots represents results for a regression on the dependent variable labeled on the left axis. The first plot represents the unconditional intention-to-treat (ITT) estimate with district fixed effects of winning the voucher lottery on the outcome of interest. The second plot is the ITT with controls and district fixed effects. The final plot is the Treatment-on-the-treated (TOT) using original assignment to treatment and control to instrument for whether households kept their children in private school for five years with the same set of controls as the second regression.

expenditures for services they currently receive at a highly subsidized price from the government. Through access to private schools, voucher winning households are more likely to suggest that they would reduce the level of government subsidies on key public goods such as food subsidies and government private services and turn to the market for these services. This suggests a process of socialization that has occurred within voucher winning households, making them more comfortable with the idea of the private sector providing basic services.

5.6 How do Preferences Change?

Returning to Pierson's differentiation between material and interpretive effects, my finding that respondent's developed stronger market-oriented beliefs suggest space for interpretive effects, but little evidence of material effects. But why? In this section I suggest that this effect is a result of changed experiences with service providers. These differential experiences have little to do with the relative *quality* of private and government schools, but with the perceived *permanence* of private providers. There is also evidence that access to private schools brought recipients into contact with new politically relevant actors and I suggest this had an effect on stated and revealed preferences. I find little evidence for the primary material channel,

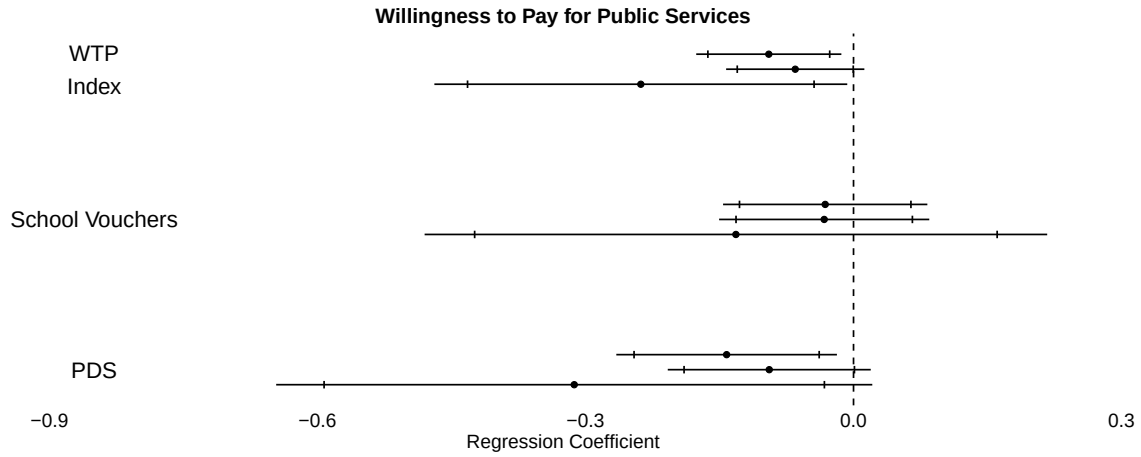

Figure 5.7: ITT: Valuation of Public Serives

Each group of coefficient plots represents results for a regression on the dependent variable labeled on the left axis. The first plot represents the unconditional intention-to-treat (ITT) estimate with district fixed effects of winning the voucher lottery on the outcome of interest. The second plot is the ITT with controls and district fixed effects. The final plot is the Treatment-on-the-treated (TOT) using original assignment to treatment and control to instrument for whether households kept their children in private school for five years with the same set of controls as the second regression.

namely differential investments in children's education.

Here I present several pieces of evidence that are suggestive of how preferences changed. Voucher winners did not evaluate the "front-line functionaries" of the Indian state any differently than the control group,[75] did not have different evaluations of the Indian state broadly defined, and did not attach less importance to the provision of public goods in upcoming elections. Instead, the two channels through which voucher winners differed from the control group was in the networks they had access to to make political claims, and their confidence in the private sector as a primary actor.

5.6.1 Evaluations of Front-Line Functionaries

One potential mechanism through which we could see preference and behavior change is through the relationships households have with the front-line functionaries of the Indian state, in this case schoolteachers and principals. Earlier I suggested that exit from government schools might serve to break these links that villagers might have with front-line functionaries, and remove the discretion the front-line functionaries have in influencing the distribution and treatment households receive of public services. Other research in India and other countries suggests that government *teachers* play an important role in the political pro-

[75] The front-line functionaries, or street-level bureaucrats are government workers "have wide discretion over the dispensation of benefits or the allocation of public sanctions" (Lipsky, 2010, xi).

cess and have an influence on decisions people make about politics (Béteille, 2007, 2009; Kingdon, 2009). I also suggested that the involvement of teachers in the lives of respondent households was high. On top of there being *at least* one government primary school in each village, government teachers remained highly visible to all respondents, whether in treatment or control. For example, Figure 5.8 shows that 67 percent of respondents across treatment and control reported that they had experience with government school teachers working as census enumerators, and 79 percent of respondents claimed that they had experience with government school teachers working as election monitors. This is in a context where the last national census occurred two years before I fielded my survey and the last elections took place the month before I fielded the survey. Despite exiting the state as a service provider, the front-line functionaries of the state were still highly visible, and respondents had favorable impressions of them.

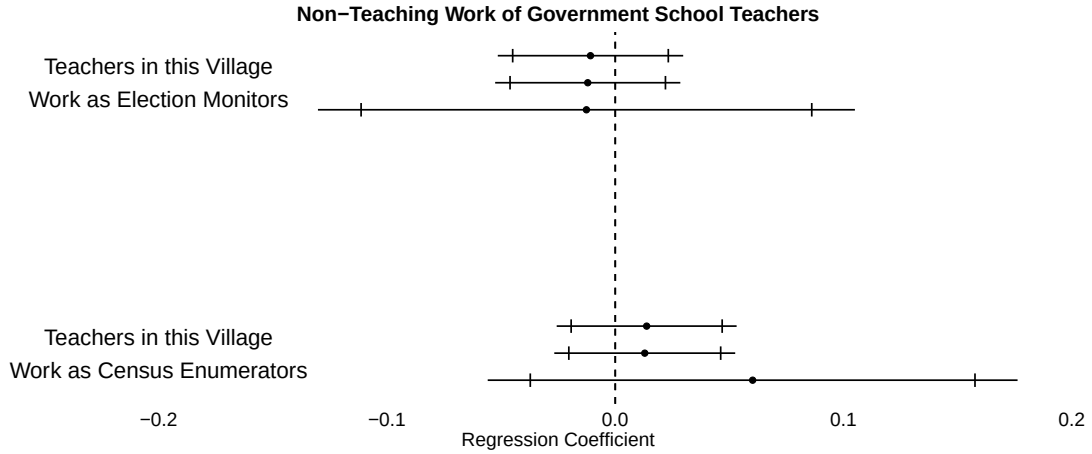

Figure 5.8: ITT: Local Level Monitoring

Each group of coefficient plots represents results for a regression on the dependent variable labeled on the left axis. The first plot represents the unconditional intention-to-treat (ITT) estimate with district fixed effects of winning the voucher lottery on the outcome of interest. The second plot is the ITT with controls and district fixed effects. The final plot is the Treatment-on-the-treated (TOT) using original assignment to treatment and control to instrument for whether households kept their children in private school for five years with the same set of controls as the second regression.

Along with a strong presence of government teachers in the lives of respondents, irrespective of whether they were in treatment or control, respondents also believed government teachers to be impartial government functionaries. In Figure 5.9 I ask respondents whether they thought government teachers cared about the well-being of their students and whether they also treated all students equally. Again, we see no differences between treatment and control in these two analyses.

Differential access or treatment by the government teachers as the front-line functionaries of the Indian

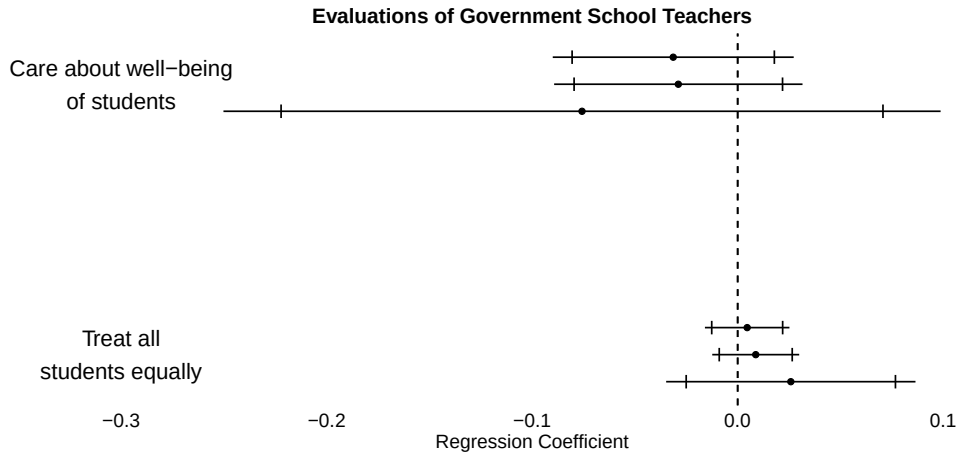

Figure 5.9: ITT: Front-Line Functionaries

Each group of coefficient plots represents results for a regression on the dependent variable labeled on the left axis. The first plot represents the unconditional intention-to-treat (ITT) estimate with district fixed effects of winning the voucher lottery on the outcome of interest. The second plot is the ITT with controls and district fixed effects. The final plot is the Treatment-on-the-treated (TOT) using original assignment to treatment and control to instrument for whether households kept their children in private school for five years with the same set of controls as the second regression.

state does not seem to be a plausible mechanism for preference change in this case. Households in both treatment and control reported equally high levels of contact with government teachers, and believed those teachers to be impartial in their treatment of students. Although government teachers have a large amount of discretion in the treatment of citizens inside and outside of schools, this does not appear to be driving preference formation. Additionally, the fact that they are so prevalent in the lives of respondents suggests that exit does not break ties to the front-line functionaries of the Indian state. Indeed, exit reduces the relationship between citizens and government teachers to one exclusively *outside* of schools: as census enumerators and in the polling booth, situations in which government teachers potentially have *more* power over citizens.

I now turn to two mechanisms that I suggest are plausible mechanisms for understanding the change of economic preferences of voucher winning households and are also consistent with a scenario where political behavior is left unchanged. There is evidence to suggest that voucher winning households had access to new political networks that were of political consequence, and that voucher winning households experienced not a difference in *quality* of private schools, but an idea of *permanence* of the private sector. I argue that it is this consistency that allowed for respondents to reveal greater comfort with the private sector.

5.6.2 Claim-Making Networks

Beginning with channels of claim making, I try to gain purchase on these networks in two ways. I asked respondents to tell me how they would gain access to a variety of services, ranging from having their child admitted into a preferred government school or dealing with the land administration agency or police. I ask a number of questions given the large number of services a respondent could approach the Indian state for and further details on the questions and how they were coded are provided in Appendix Section C.1. I split answers into two groups: whether a respondent would make a claim on that particular service through a state or non-state channel.[76] I present results on two separate sets of regressions in Figure 5.10 and 5.11, the first which reports whether respondents reported approaching a representative of the state to access that particular service, and the second whether respondents reported approaching a non-state actor for access to that service.

Figure 5.10 shows that there is a decrease in the amount that voucher winning households approach official representatives of the state to make claims for state services. This is driven by three services: admissions to government schools, admission to a government hospital, and accessing work in the government's rural employment guarantee scheme. Mirroring this decrease in contact with state actors, Figure 5.11 shows a move *towards* non-state representatives for access to state services. The effects are also large, at the high end, the difference between treatment and control represents between a 5 to 10 percent higher probability that a voucher winning household would approach a non-state actor to make a claim on the Indian state than a state actor. It appears that one of the mechanisms through which access to private schools changed preferences was through the political networks of claim making respondents had available to them. The contacts with private school teachers and principals were frequently cited in qualitative interviews, and these were, by definition, not available to households that did not send their children to private schools. Exit is not merely represented by the direct exit from government schools to private schools, but also through the exit from making claims on state agents, to using non-state actors as intermediaries through which to approach the Indian state.

These new networks were not always positive, however, as one respondent in Visakhapatnam made clear. The respondent originally jumped at the opportunity to enter the voucher lottery as it would allow her to send her son to the local convent school that had a strong reputation in her neighborhood and had

[76] I do not distinguish whether the state channel that respondents report approaching is the *correct* state channel through which to access that services, rather where the channel is a state channel or not.

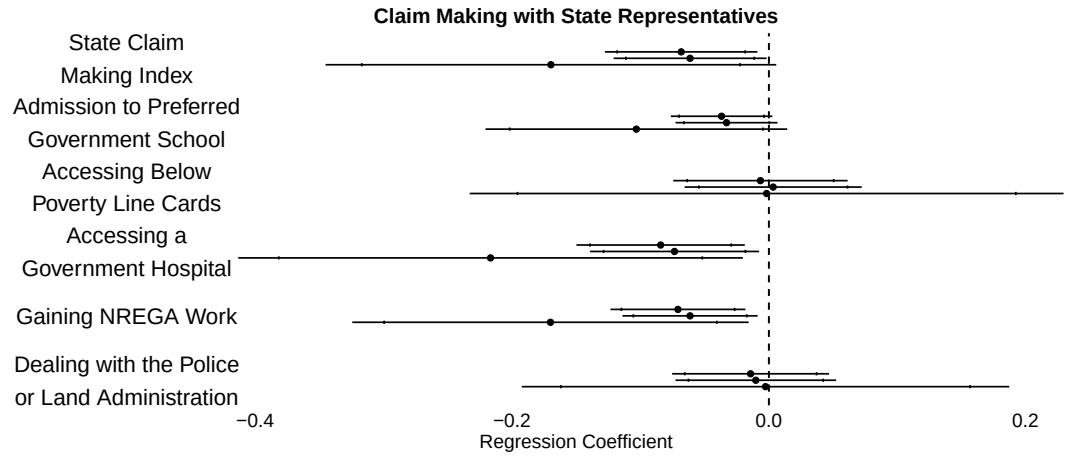

Figure 5.10: ITT: State Claims

Each group of coefficient plots represents results for a regression on the dependent variable labeled on the left axis. The first plot represents the unconditional intention-to-treat (ITT) estimate with district fixed effects of winning the voucher lottery on the outcome of interest. The second plot is the ITT with controls and district fixed effects. The final plot is the Treatment-on-the-treated (TOT) using original assignment to treatment and control to instrument for whether households kept their children in private school for five years with the same set of controls as the second regression.

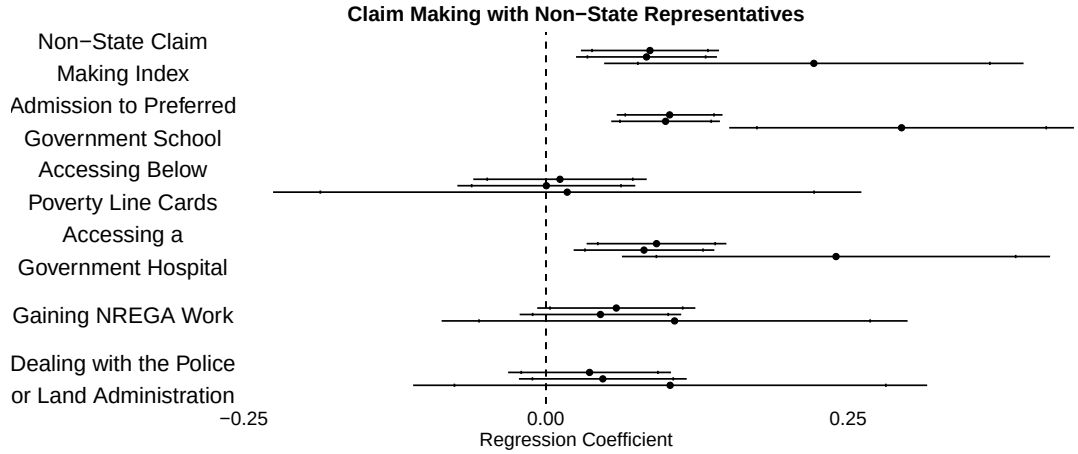

Figure 5.11: ITT: Non-State Claims

Each group of coefficient plots represents results for a regression on the dependent variable labeled on the left axis. The first plot represents the unconditional intention-to-treat (ITT) estimate with district fixed effects of winning the voucher lottery on the outcome of interest. The second plot is the ITT with controls and district fixed effects. The final plot is the Treatment-on-the-treated (TOT) using original assignment to treatment and control to instrument for whether households kept their children in private school for five years with the same set of controls as the second regression.

been open for more than 100 years. Once in the school, however, she felt that both her and her son were discriminated against as lower caste Hindus by the sisters at the school (Anonymous Interview, Visakhapatnam District, November 2013). She removed her son from the school and re-enrolled him in a government school after just a few years in the convent school as a result of this poor treatment.

5.6.3 Private Sector Permanence

Finally, a preference change channel that was made abundantly clear during semi-structured interviews was the idea of the permanence of the private sector. As mentioned previously, voucher winners viewed private schools differently to the control group. For voucher winners, the ability to send their children to private schools for five years, the access to private schools *after* the voucher period was over, and the new networks made available to voucher winners suggests that a strong mechanism through which respondents became more comfortable with the private sector was through the idea that the private sector was now a permanent economic actor.

One role of the vouchers was to make the functioning of the private sector more "legible" to voucher recipients.[77] A voucher lottery loser, when asked if they would prefer to hold a government or private sector job, argued that government jobs were more stable because private companies were likely to leave if profits dried up. When asked about the value of private education, they expressed a similar fear that private schools were likely to abandon their village when they realized there were no profits to be made in low-income rural areas (Anonymous Interview, Medak District, September 2013). While a voucher winner also expressed a similar preference for government employment, they cited the benefits of government employment, not the uncertainty of private employment. This suggests that comfort with private service providers and the permanence of a private actor in the lives of respondents has effects beyond merely the direct service provided, instilling confidence with the private sector as a permanent economic actor. Another voucher lottery loser who sent her three grandchildren to a local Islamic religious school, was concerned that private school fee structures were too complex for her to understand. On the other hand, the local Islamic religious school provided education to Muslim families for free so she did not have to worry about understanding or paying fees (Anonymous Interview, Visakhapatnam District, September 2013).

[77] The policy feedback literature has often argued that one of the mechanisms of policy feedback has been to make the government and public services more legible by helping citizens understand the workings of the state.

5.7 Alternative Explanations: English Language Education

A potential alternative explanation to the idea of private sector contact and permanence is one in which what matters is not access to *private* schools, but access to *English language* schools. The demand for English language education was a common reason given during interviews for why families entered the voucher lottery. English language education is believed to be an entry to a larger market economy and higher lifetime earnings (Fernandes and Heller, 2008; Kapur, 2010*b*; Ohara, 2012).[78]

If it is these newly met aspirations that are driving the new economic preferences, then we should see stronger results for households that sent their children to English language schools instead of merely private schools. To test this potential explanation, I use the original voucher lottery assignment to instrument for whether the household sent their voucher child to an English language school.[79] For ease of interpretation, I only present the indices used in the analysis above.[80]

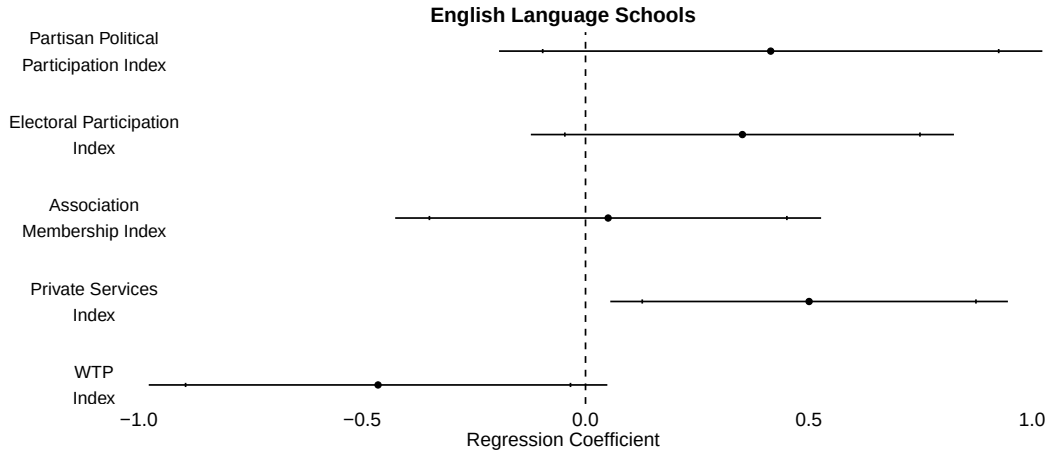

Figure 5.12: ITT: English Language Education

Each group of coefficient plots represents results for a regression on the dependent variable labeled on the left axis. The first plot represents the unconditional intention-to-treat (ITT) estimate with district fixed effects of winning the voucher lottery on the outcome of interest. The second plot is the ITT with controls and district fixed effects. The final plot is the Treatment-on-the-treated (TOT) using original assignment to treatment and control to instrument for whether households kept their children in private school for five years with the same set of controls as the second regression.

[78] Jaimie Bleck (2013) finds a similar effect with French language education in Mali, where French speaking children server as linguistic brokers for the rest of the family. The broader point here is that knowledge of the hegemonic language serves as a form of access to material and symbolic goods.

[79] There are, of course, two sources of bias in the choice of an English language school. The first source of bias, that is corrected through an instrumental variable framework, is one in which non-compliers in the control group send their children to English language schools on their own accord. The second source of bias with English language schools, however, is the decision of the *type* of school once the household has won a voucher. This source of bias presupposes that there is a *market* of schools from which consumers can choose their preferred school. I address this source of bias as a potential alternative explanation below.

[80] Interested readers can consult the appendix for the full set of results using the indices and individual components of the index.

Figure 5.12 presents the results of a regression that uses assignment to treatment and control to instrument for whether households sent their children to English medium schools.[81] The results largely mirror earlier results, with small differences in point estimates in the results on preference for the private sector the only difference between the instrumental variable results here and earlier.[82]

From these results, I cannot reject the possibility that at least some of the effects I find are being driven by access to *English language* schools as opposed to just private schools. The results are largely similar between the two specifications while the coefficients between the two results are substantively similar.

5.8 Discussion

Five years after households were entered to a private school voucher lottery, I find that households that had access to private schools were more likely to hold stronger market-oriented beliefs. However, these market-oriented beliefs had no effect on political participation as measured through partisan activities, voting, or associational membership. I suggest that there were two channels through which this happened: new networks for political claim-making that provided households with access to private services, and confidence in the permanence of the private sector. I cannot rule out the possibility that some of this was driven, in part, by access to *English language* schools, instead of just *private* schools, as households that won a voucher lottery had greater access to both.

Returning to Pierson's original distinction between resource and interpretive effects, one set of results stands out. While access to private schools are unable to change a household's political beliefs and behavior, it does change economic preferences, increasing household's preferences for markets in basic service provision. While school vouchers have not given households material resources to impact their political choices, I argue here that they have provided households with a qualitative different experience of the private sector in the form of private schools. I posit two potential channels through which might have happened: increased networks through which households can make claims on the Indian state, and a belief in the greater permanence of the private sector.

Revisiting the results and my initial hypotheses, I find that voucher winning households are no more likely to participate in a number of partisan and electoral forums, from becoming members of political parties, to propensity to vote. There are small differences in households associational membership, with

[81] This assumes that only private schools are English medium schools, a reasonable assumption at the primary level.

[82] For example, the exact point estimates on the willingness to pay index for sending children to private schools for five years or English language schools can be see in Columns 5 and 6 in Table C.24.

voucher winning households reporting higher levels of membership in groups like self-help groups, a popular form of non-partisan association in Andhra Pradesh (Srinivasan, 2012). The overwhelming evidence, however, is one of little difference between treatment and control households on political engagement, suggesting that the role of exit is not to disengage households from the Indian state.

There are, however, differences in what I broadly call "market-oriented beliefs". Households report a greater preference for services to be provided privately, reveal this behavior by sending a greater number of children to private schools, even once the school voucher has expired, and report a greater willingness to receive cash transfers instead of in-kind transfers from the Indian government. The last set of results are particularly large, with households willing to forgo approximately 10 percent of their monthly income to receive a cash transfer instead of in-kind transfers from the government for education and food subsidies. Returning to the claims made by Jeffery and Jeffery (2008), the mere access to private services seems to create a class of citizens more comfortable with the idea of "shopping around".

My measures of preference for cash transfers above in-kind transfers from the government are also not idle hypotheticals. The preference for lower cash transfers mirrors a salient debate in Indian policy circles and represents an attempted shift to pro-market service provision (see (Swamy, 2015) and (Davala, 2015) for two recent takes on the debate), as a shift to cash transfers and a lower revealed price for cash transfer preferences suggests respondents are more willing to "fend for themselves". It also represents a different form of welfare provision - moving from a world where citizens receive in-kind transfers, to a situation where the state is more distant and acts as a financier but not direct provider. I take a lower willingness to pay as a indication for a larger relative preference for this latter model of welfare provision. Although I do not expect respondents to have internalized the elite-level debate, differences between the two groups does suggest a greater level of comfort with self-sufficiency and paying out of pocket for a certain type of good that has traditionally been provided by the state.

I argue that these changes in economic preferences happen because of two effects. First, voucher lottery winning households gain access to new networks of claim-making that allow them to make claims on the state through non-state actors on top of only relying on official state channels of claim making. Voucher winning households are more likely to rely on non-state actors to gain access to state services and less likely to rely on state actors for the same access. I suggest this is because of access to new networks provided in schools through principals and teachers. Finally, semi-structured interviews revealed the idea of the

permanence of the private sector. While control households revealed an uneasiness with the private sector as an ephemeral actor, voucher winning households had a greater comfort in the idea of private schools not closing or leaving their villages.

5.9 Conclusions

The evidence presented here suggests that providing access to private services through private school vouchers has the potential to influence economic preferences, although effects are muted with respect to political behavior. Returning to the concerns of Jeffery and Jeffery (2008), it would seem that the increase of private service providers are constituting a new form of citizenship that is more comfortable with "shopping around." However, concerns that exit from the private sector would lead to the individual level depoliticization are not supported by these results. Households that had access to private schools were no less likely to participate in a number of political and non-political forums and showed no lower likelihood of voting in local and national level elections, even participating at higher rates in some instances. The literature on citizenship in India and my own fieldwork suggest two potential explanations for this finding. First, there is mounting evidence that citizens derive a strong intrinsic benefit from political participation. Mukulika Banerjee (2008, 2011) argues that elections are seen as a form of celebration, and the festival like atmosphere brings individuals out to vote. She describes elections as "*communitas*" that "suspends the rules of normal social order and brings instead a rare flowering of egalitarianism," (Banerjee, 2011, 94). Indeed, in my own fieldwork, individuals often expressed a sense of duty in participating politically - "we *must* vote" exclaimed one interviewee (Anonymous Interview, Kadapa District, November 2013).

More cynically, however, individuals also derive direct material benefits from political participation. Ahuja and Chhibber (2012) quote a rickshaw puller who claims that "if I don't vote, I am dead to the state." Individuals vote because they expect to gain direct material benefits from being *seen* to have participated. This squares with findings in Latin America that suggest that in the era of a secret ballot, political machines do not buy votes, but the *turnout* of potential supporters (Nichter, 2008). Again, I found support for this proposition in fieldwork where respondents (incorrectly) believed that if they did not vote they would be struck off electoral rolls that were used to not only determine eligible voters, but also the beneficiaries of government programs (Anonymous Interview, Nizamabad District, October 2013). If they did not vote, they were dead to the state.

There are important lessons for countries after market-oriented reforms. Welfare arrangements that

include a large number of non-state providers are becoming the norm in both the OECD (Wolch, 1990; Gottschalk, 2000; Gingrich, 2011), and the developing world (Thachil, 2009; Cammett and MacLean, 2011). The question is not only germane to India. In education specifically, Chile has a long history of using private school vouchers to encourage poor families to attend private schools (Hsieh and Urquiola, 2006; Neilson, 2013). In Kenya, private schools attract the poor with better educational outcomes (Bold et al., 2011; Duflo, Dupas and Kremer, 2012). The growing number of *madrassas* in Muslim majority countries such as Mali and Pakistan can also be seen as a similar manifestation of state exit (Andrabi et al., 2006; Bleck, 2011).[83] Beyond the developing world, the increasing prominence of charter schools - publicly funded but privately operated - in the United States is but one example of state "exit". These schools are privately managed but publicly funded (Ravitch, 2011). If these forms of welfare arrangements become the status quo, it is important to understand this form of service provision. This paper suggests that in regions with high levels of patronage, while actual political behavior might be unchanged, citizens opinions *are* changing by private service provision. The evidence presented here suggests that policy makers might find it difficult to roll back any reforms towards privatization enacted today as long as these reforms continue to build a mass public more comfortable with the idea of the private sector providing a large number of services.

Related work that has looked at the expansion of private education in Pakistan (Andrabi, Das and Khwaja, 2013) suggests that private service providers rely on critical inputs from the government, such as a well educated local population from which to recruit teachers and doctors. Instead of seeing the private and government sectors as competitors, they might instead be complements: to function, the private sector requires a functional state. Preference for greater privatization might emerge only when the state has already provided a basic safety net from which the private sector can benefit and citizens can fall back on.

This paper also improves on many existing studies of policy feedback in two ways: first, it is based on a randomly introduced policy experiment thereby providing clean causal estimates of the effect of the private sector, and second, it is based on a household level survey thereby providing evidence of the microfoundations at work in policy feedback. Reviews of policy feedback have often noted that a common problem plaguing studies of policy feedback have been their inability to make strong causal inferences as they were based on observational data or data at high levels of aggregation (Lynch and Myrskyla, 2009; Campbell, 2012). This study addresses both of the shortcomings of that literature to offer insights into the

[83] There is a similar growth in religious education in India, see Thachil 2011.

microfoundations on the relationship between policies and mass opinion, as well as providing clean causal identification on the policy of interest.

Finally, I contribute to a larger literature of the effects of institutions on individual-level preferences and behavior. Broadly defined as policy feedback (Pierson, 1993), I extend this literature to India and also to the idea of the private sector as a politically relevant actor. Given the rising prominence of non-state actors in service provision (Cammett and MacLean, 2011), it is important for political scientists to take non-state actors and the private sector seriously. My findings suggest that the private sector can have strong effects on the economic preferences of individuals. More work, and perhaps using a difference research design, is needed to understand whether there are also political effects, work that I undertake elsewhere in the dissertation.

CHAPTER 6: CONCLUSION

This project has sought to answer two questions around the growth of private education in India. First, why do we see such a large growth in private education in India over the last thirty years? Second, what are the downstream consequences of this growth for citizen-state relationships? In answering these two questions, I have suggested that the answers are likely related.

In Chapters 3 and 4, I argue that we need to trace the growth of private education to changes made in India's education policy in the mid-1980s. Specifically, the National Policy on Education of 1986 set in motion a set of processes, including the liberalization of labor, decentralization of education management, and centralization of education financing and policy making, that created conditions conducive for the growth of low-cost private schools. In Chapter 4, I test this empirically by relying on the assignment rules for a large, national government education expansion program. I find that districts that decentralized and increased financing for *government* provided education in 1994 saw the largest growth of *private* education in later years. It is important to note that I specifically do not address the *demand* side of the growth of private education, although I do contend with several alternative explanations in Chapter 2 and find that they are inadequate in explaining either the timing, location, or form that private schools take in India's new education provision regime.

I then turn to the second question and leverage an existing private school voucher experiment and ask what effect the introduction of private school vouchers has had on citizen-state relationships in Chapter 5. Here I find that exit to the private sector has little effect on material relations with the Indian state: households that send their children to private schools are just as likely to participate in a variety of partisan and non-partisan political forums. Households that exit to the private sector, however, change their relative orientation to the state and private sector in the provision of services and show a greater preference for the provision of services privately.

In a foundational piece on the various approaches available to a citizen in response to a decline in services, Albert Hirschman (1970) argued that a person could respond with either exit - abandoning the service entirely - or through voice and loyalty - voicing their disaffection to attempt to arrest the deterioration in quality of the service. Hirschman's (1970) key insight was that, unlike the neo-classical economic model, when a service declined, exit was not the disciplining solution neoclassical economists believed. Instead, the people that were first to exit were most often the most vocal and engaged users of a service. This

would lead to an even greater deterioration of a service as there would not be anyone to further arrest the services decline. Hirschman (1970) applied his theory to a number of scenarios, including the decision to exit government schools to the private sector in the U.S.

A citizen's ability to exit, however, must be tempered through the reality that in some scenarios, exit is a difficult proposition. As Paul Pierson (2000, 259) suggests, the exit option is simply not available in the political arena as actors cannot simply exit political arrangements. This is especially true for citizens in a democracy where political participation is conditioned by interactions citizens have with representatives of the state. For example, Ahuja and Chhibber (2012) argue that there is a widely held belief that if citizens do not participate politically they will be "dead to the state". This squares with findings from my own work where I found that people believed that if they did not participate politically they would be removed from benefit rolls (Anonymous Interview, Nizamabad District, October 2013). The exit option, at least materially, is simply not an option for large numbers of low-income citizens across India.

I call this a theory of policy feedback in a flailing state. India has done a great job expanding access to the physical infrastructure of education. The reach of the education bureaucracy has expanded tremendously over the last thirty years. Unfortunately, this has also resulted in failures of implementation where the quality of education has been poor. While this implementation gap has drive exit, it has also conditioned the nature of this exit. Citizens are now in contact with far more functionaries of the state than previously. I now turn to discussing some of the scope conditions of my work, before discussing future directions and ending on what I see as the potential contributions to literatures in political science and other disciplines.

6.1 Scope Conditions

6.1.1 Flailing States

The first major scope condition of my argument is the presence of a "flailing" state - a state that is capable of *implementing* government programs, but unable to *manage* those programs effectively (O'Donnell, 1993; Pritchett, 2009). A running theme throughout this project has been the ability of the Indian state to finance and expand large-scale education programs. At the same time, the Indian state has been unable to ensure that these programs were implemented evenly throughout the country. We should expect similar results in other states that are capable enough to implement projects through their ability to raise and channel large amounts of financial capital to government projects, but might otherwise have trouble with implementation. We are likely to find situations like these in large, federal democracies such as Brazil, Mexico, and Indonesia, where

the center of policy making and finance is far from the "eye of the needle", or the local-level governments that must eventually implement government policy (Kapur and Mukhopadhyay, 2007).

Therefore, one important scope condition of this project is a low-to-middle income states with the capabilities to raise and distribute large sums for government programs, but with low implementation capacities at the local level. Although perhaps not as important, this also suggests that these effects will be stronger in federal democracies where there is likely a division of responsibility between the governmental unit that provides the financing for a project and the one that provides the service, especially if it has been decentralized to the most local level. There is an underlying assumption in the American politics literature, of which much comparative politics takes its lead, that the state is functional from head to tail, an assumption that cannot be sustained in the Indian case.

6.1.2 Experience Goods

The second scope condition involves the *nature* of the good provided. I have argued that two key properties of education is both its local nature in terms of provision, and its distinctly *human* character. By this I mean to suggest that much of the experience of education is filtered through interactions parents have with teachers and principals, or the "street-level bureaucrats" (Handler, 1996; Lipsky, 2010). One of the unanswered puzzles in education is the governance of local-level functionaries (Mbiti, 2016). It is unlikely we would see similar effects in other government services such as security where the face of the state — the police officer or soldier — are further removed from the day to day operation of the service.

One example of this has been the relative success of the Government of India's National Rural Employment Guarantee Scheme (NREGA). While there have been accounts of large leakages from the program (Niehaus and Sukhtankar, 2013), the *experience* of the downstream recipient has largely been positive in the form of increased wages in both the government and private sector (Imbert and Papp, 2015; Khera, 2011*a*). The actual amount that citizens employed under the NREGA have to deal with government functionaries is minimal and continues to be reduced (Muralidharan, Niehaus and Sukhtankar, 2014).

So what other public services exhibit similar features to education? I would suggest that education falls into a class of "experience goods" in which "customers can only assess the quality of a seller's product by purchasing and consuming it" (Hörner, 2002, 644). Healthcare is another experience good, where citizens are subject to asymmetrical information and do not know the full quality of the service they are getting before receiving it. The empirical evidence in India suggests this to be true, where the overall levels of

health care training are low (Das et al., 2012), and consumers are largely receiving the same quality of service between private and government offerings (Das et al., 2015).

I would argue that healthcare and education are a special type of public service that deserves a separate analytical category within political science (although they have received ample individual attention within their own disciplinary specialization). They are goods where the consumer (citizen) interacts with a representative of the state that retains significant amount of discretion in the provision of that good (Handler, 1996; Lipsky, 2010). The distinct nature of different types of public goods, and the fact that they have differential effects, is beginning to receive attention in the literature within political science (Kramon and Posner, 2013).

Beyond merely thinking about the *nature* of the good being provided, it is also important to think about the nature of the state in which the good is being provided. It is unlikely that private providers would be provided with the same amount of freedom to operate in more restrictive political environments, a finding noted in other studies of private providers (Brass, 2010). Indeed, in authoritarian settings, the service providers are religious, not merely private operators (Cammett and Issar, 2010). It is likely that the private provision of roads or water, to give two examples, would likely have a different set of effects on political engagement and beliefs.[84] The scope conditions suggest a number of avenues for future directions in research that I turn to now, as well as discussing other potential extensions to this project.

6.2 Future Directions

There are two extensions I touched on above, as well as three other research extensions I explore in greater depth in this section. We can think of the effects of privatization of experience goods across policy areas (i.e. a different type of goods other than education) and geographic contexts (i.e. different countries). Second, we can ask what the effects of extending education for all across contexts and form of providers. This project has also been silent on the effects of private schools on *children*. And finally, beyond households, the entrance of private schools has the ability to affect other schools in the area.

6.2.1 Privatization and Experience Goods

Following the discussion of the scope conditions of this project, would the findings of this project extend to other experience goods such as healthcare in India and elsewhere? And do the findings in this project generalize to all of India? A simple way to test this proposition would be to use Indian Human Development

[84] A recent conversation with Johannes Upperlainen suggests that this is certainly true from a field experiment conducted on private electricity provision in North India. Private provision of electricity resulted in greater demand for government infrastructure.

Survey (IHDS) panel data, that has a limited number of questions that resemble those used in this project (see Appendix D). Would the findings generalize outside of Andhra Pradesh, or are there specific contextual factors of the politics of Andhra Pradesh (and Telengana) that drive the results?

Second, it would also be possible to use data such as the IHDS to test exit in healthcare. If I am correct about the particularities of experience goods, we should see similar effects of exit from government healthcare services on political beliefs. While the IHDS data is not ideal as the shock to exit is not exogenous as in the field experiment used in this project, it would still allow us to understand the effects of exit in other contexts.

The second potential extension of this project is across geographic areas. As I raised in the scope conditions, middle-income democracies that are able to channel significant finances to development projects but are unable to properly implement them should potentially see the same causes of the growth of private services as we do in India. Would we see the same processes operating in countries that have decentralized service provision such as Brazil and Mexico?

6.2.2 Political Responses to Education for All

The changes in India have mirrored changes in the other parts of the Global South. Since 1994, 17 countries in Sub-Saharan Africa have provided free public education (Bold et al., 2010; Lucas and Mbiti, 2012; Croke et al., 2016). The response there, where studied, has shown a similar exit to the private sector (Bold et al., 2010; Lucas and Mbiti, 2012; Valente, 2015). The United Nation's Millennium Development Goals (MDGs), adopted in 2000, sought to achieve universal primary education by 2015. While the preponderance of evidence emerging about attempts to fulfill this goal suggest that the policy has been successful in superficially achieving this goal, there is work emerging that suggest that the way this goal has been achieved was not in the form intended by the United Nations. One of the unexplored consequences of this policy, that I seek to unpack further in this project, is the private school response.

There already exists robust research findings on the political reactions to education for all (Croke et al., 2016; Duflo, 2001; Harding and Stasavage, 2014; Stasavage, 2005*b*,*a*), although most of these works have never been united systematically to understand the scope conditions of these findings. Are there common responses *between* countries, and does democratization operate in the same way everywhere? David Stasavage (2005*b*) struck a cautious note when he argued that we should be careful in assuming that democratization functionally would lead to greater investment in education as has been commonly assumed. For

example, later evaluations of Kenya's education for all programs have shown similar exit to the private sector (Bold et al., 2015; Lucas and Mbiti, 2012), although through different mechanisms than those I identify here. Would we see similar private school exit in other countries that have rapidly expanded access to basic education? Or are the effects conditioned by the ability of the state to quickly implement policies?

6.2.3 Private Schools and Students

A large avenue for future research are the effects that private schools might have on *students* rather than parents as I explore here.[85] We know that private schools teach differently (Muralidharan and Sundararaman, 2015) and that private school teachers are seemingly more accountable (Kremer et al., 2005) — does this have spillover effects to what and how students learn in schools? Andrabi et al. (2010) have found that students in private schools in Pakistan score higher on tests of citizenship than students that study in government schools. There are a number of potential mechanisms for this result, ranging from instructional ones where private school teachers are simply teaching more and therefore private school students learn more, to ideological ones where private school teachers teach different content.

A key difference between Pakistan and India is that India has arguable remained democracy for all of its post-Independence history. It is plausible that the differences in citizenship tests found in Pakistan between government and private schools is down to ideological positions taken in government and private schools, while these are unlikely to emerge in India. As discussed above, however, there are possibilities that there are differences in the experience of the service as there are with healthcare services in India (Das et al., 2015). could the mechanisms be through the *form* the service takes, particularly when it is filtered through teachers and (the absence of) bureaucrats?

6.2.4 School-Level Responses

Finally, this project has focused on the impact of the universalization of education on the growth of private education, and the growth of private education on political socialization. I do not ask, however, what the impact of private schools have been on the government school system and government bureaucracies. This research area has received considerable attention in American political science research as well as public thought with the rise of the charter school movement (Ravitch, 2011). The concern in American education and policy circles have been that the growth of charter schools will reduce coalitions in support of government schools and potentially lead to school closures (Chabrier, Cohodes and Oreopoulos, 2016).

[85] I thank Fernando Reimers and Guy Grossman for each raising this point separately.

Throughout this project, I have collected significant amounts of geo-located data on the opening of private schools that I have yet to explore. A future step will be to leverage this data to look at what happens under two scenarios that are increasingly common in India. First, what happens in a village when a private school opens? How does the local government school respond to competition? Does enrollment decrease, or does the type of student enrolled change? This would help further answer questions regarding the mechanisms I find in Chapter 4. Findings in Kenya suggest that when education was expanded in Kenya, it was the wealthiest and highest achieving students that abandoned government education for private schools. Do we find similar effects in India? Finally, do schools change their allocative behavior? Do government teachers change their allocation of time to non-teaching activities and do head teachers allocate resources differently?

A second avenue to explore is what happens under the significant demographic change underway in India, particularly in respect to migration to cities and declining fertility rates.[86] Do government schools in rural areas respond to this change by closing or shrinking their labor forces? We have already seen responses in some states such as Kerala, that did not require a large increase in their education labor force under programs such as DPEP and *Sarva Shiksha Abhiyan*. As fertility rates had already plateaued in Kerala, the state did not need to quickly hire large number of teachers at the start of the program.

6.3 Contributions

Although I have touched on the contributions this project makes in individual chapters, I revisit them here in a unified way. While I contribute to the academic literatures on policy feedback and non-state providers, I also contribute to the policy discussion on education in India as the third National Policy on Education is currently being drafted and debated in Delhi.

This has implications for how we think about education policy in the Global South and further, how we think about private education and its effects. The policy response in India in the early part of the 21st Century has been to bring private schools under greater regulation and scrutiny. It appears that part of this response, however, should also include strengthening the ability of the state to implement policy and a focus on quality now that the quantity problem has been solved. The political incentives for this, however, will be difficult as politicians are far more likely to focus on highly visible markers of effort: school construction, school supplies, and other outward signals of effort (Mani and Mukand, 2007; Fagernäs and Pelkonen, 2014).

[86] I thank Devesh Kapur for bringing this mechanism for school level changes to my attention.

6.3.1 Causal Inference and Policy Feedback

One consistent critique of policy feedback has been that studies of policy feedback have not paid close attention to issues of causal inference and research design (Campbell, 2012). As policy feedback is necessarily concerned with change over the *long duree*, it is hard to either run controlled experiments to study long-run effects, or find naturally occurring events in history. As such, policy feedback has often relied on the tools of comparative historical analysis by considering pathways not taken, sequencing, and alternative explanations. However, these approaches have not been able to shake the charge that endogenous variables might be responsible for the effects we attribute to a policy (for example, citizens with experiences with the criminal justice system might be systematically different form those without experiences in the criminal justice system, and no amount of post-design corrections would be able to fully account for these differences as in the case of Weaver and Lerman (2010).) Second, policy feedback has also been accused of being insensitive to the mechanisms of policy feedback and the policy design that allows for some policies to exhibit positive feedback, while others to suggest null results (Lynch and Myrskyla, 2009). Lynch and Myrskyla (2009) urge greater attention to design of policies to understand why some policies might exhibit positive feedback and others not. Third, the grandest ambition of policy feedback — that the behavior and political socialization created by policy feedback has long lasting institutional effects — has not always been proven in the behavioral turn within policy feedback (Campbell, 2012, 346). Finally, policy feedback has rarely been applied to the developing world, with most studies of policy feedback in American politics.

Chapter 5 certainly answers the call of the first critique by following-up on a voucher lottery experiment. Through the experiment, we can be sure that on average there are no endogenous differences between recipients that received the voucher lottery and those that did not. I also provide some mechanistic answers that Lynch and Myrskyla (2009) call for. The final charge, however, that we can both observe the "policy" and the "feed" but not the "back" in "policy feedback" cannot be answered by this project. Without long-term follow-up data, impractical for a dissertation project, I cannot say whether private education will radically alter the education provision landscape in the villages I was working in.

I do, however, make a contribution to the literature of policy feedback in the developing world and explore the constraints of porting theories of policy feedback to India. I have argued that my project is an example of policy feedback under constrained choice. While policy feedback in American Politics and advanced industrialized democracies assumes a functional state apparatus that can fully implement policy

to allow for feedback, I have argued here that what we find in so-called "flailing" states is an incomplete implementation of policy. What this causes, particularly in the example of education, is a full implementation of state territoriality, where the Indian state was able to extend its reach through a new education programs, but incomplete ability to fully implement policy.

6.3.2 The Role of Non-State Providers in Service Provision

This project has also attempted to formalize the observation that private schools have thrived where the government has failed to provide quality education (The PROBE Team, 1999, 102). While these observations have often lacked explicit mechanisms, in this project I argue that we see greater private schools for a couple of reasons. First, in Chapter 3 the push to universalize education created conditions that allowed for private schools to thrive. Labor laws were loosened to allow for the rapid hiring of school teachers to open government schools. At the same time, this allowed for private schools to also hire low-cost teachers and expand to regions they did not operate in before. Second, in Chapter 4, I test these propositions empirically and find evidence that private schools have grown fastest in regions where government schools also expanded the most. I contribute to the literature on non-state providers in education specifically with reference to India by formalizing hypothesis we have long held about the growth of private providers.

Historical Context, Field Experiments and the Study of Non-State Providers

This project also provides historical context to a number of fields that have considered historical context of secondary importance including the comparative study of NSPs, the study of education in India, and field experiments. By doing so, it hopefully highlights the role that context can have in better grounding our thinking on the growth of NSPs across the developing world and education in India, as well as a way to think about how to integrate historically grounded political science with the increasing use of field experiments (for a recent critique, see Riofrancos and Falleti (2016) and a recent attempt at just this, see Steinmo (2015)).

With few exceptions, much of the literature on the growth of NSPs can be accused of being ahistorical, a criticism that Kusner and MacLean (2015, vii) recognize. NSPs, particularly *religious* organizations have been part of the service provision landscape across the developing world, often long before the emergence of the nation-state in the post-colonial period. I find strong evidence of this in the data I present in Figures 2.1, 2.3, and 4.2 that suggests that states like Kerala and Meghalaya have long had a large number of private education providers.

Must of this ahistoricism emerges from claims that the types of NSPs we are seeing today are radically different from those in previous periods. Kushner and MacLean (2015) argue that the nature of nonstate provision in the developing world is much different than in the past, with the sheer numbers and types of actors requiring a different take on the problem. While I try to avoid this ahistoricism in this project by tracing the evolution of education policy beginning with what I call the post-National Policy on Education (NPE) era from 1986 on, and use the most comprehensive data beginning in 1990, it is also clear that we are in a different service provision world, with a vastly different number of financing models available, and different actors, other than religious groups, emerging to provide private services. One of the goals of this project was to strike a middle ground between the call for greater awareness of history and recognizing when antecedent conditions are causally irrelevant (Slater and Simmons, 2010).

Next, the study of education in India has either been narrowly focused on program evaluations of contemporaneous education programs (*inter alia* (Khanna, 2015*b*; Muralidharan and Sundararaman, 2015; The PROBE Team, 1999)), or focused on the *long duree* of Indian education from Independence (or before) to the period in which the author was writing (*inter alia* (Singh, 2010; Weiner, 1990)), with an underlying assumption that education policy in India is made independent of context, or that the entire history of education is relevant for understanding contemporary outcomes, with no attention to different periods in India's political economy.[87] I tread a middle ground in this project by identifying a clear break in India's political economy that began with the introduction of the second National Policy on Education that I argue has influenced education policy and outcomes until the present day. While historical legacies are certainly at work, as in the case with Kerala that has seen little growth in private schools since 1986, but still has high numbers of private schools historically, this period presents a number of different conditions that call into question lumping them with India's prior history of education policy.

To my knowledge, this is one of the first studies that looks explicitly at private school expansion across India and understand what has driven the phenomenon[88]. This has implications for how we think about education policy in the Global South and further, how we think about private education and its effects. The policy response in India in the early part of the 21st Century has been to bring private schools under greater regulation and scrutiny instead of recognizing failures of the state system.

[87] For one notable example, see Priyam (2015).

[88] others have studied exit narrowly as part of a specific intervention (Muralidharan and Sundararaman, 2015) or as a second order spillover effect (Khanna, 2015*b*)

Returning to my discussion in Chapter 1 around Hirschman's (1970) argument about exit, voice, and loyalty, my results suggest a number of things for Hirschman's model. First, where states are unable to fully implement policy, exit can be incomplete. Continued participation does not necessarily mean continued satisfaction. This fits into Clark, Golder and Golder (2016) expanded formal model of Hirschman (1970) where they argued there is a fourth behavioral response to a decline in the quality of services: neglect. Neglect is exactly what I find in the response to the poor quality of public schools combined with the increase demand for education. Families exited to the private sector but were still active in a number of other political forums.

To end on an optimistic note, the slow-moving ship that is Indian education seems to be recognizing the effects of poor implementation and private school exit. Civil society organizations such as ASER have drawn attention to the government's failings at the provision of basic education. The first draft of the third National Policy on Education was sharply critical of government education policy, and recommended a renewed focus on *quality* rather than the expansion of education (Ministry of Human Resource Development, 2016; Subramanian, 2016). While it remains to be seen whether these criticisms are taken seriously by the incumbent government and actually implemented into new policy, the tone of the conversation over Indian education policy is now focused on implementation gaps and the growth of private education — the two issues at the heart of this project.

APPENDIX A: APPENDIX FOR CHAPTER 2

A.1 Mincerian Regressions

Table A.1 presesnts Mincerian wage regression using National Sample Survey data from 1990, 1998, and 2005.[89] As these rounds did not include wage data, I use consumption data in place of earnings data to calculate returns to education. The regressions use logged consumption data as the dependent variable. The reference category in each regression is "Illiterate".

There are increasing returns to education in each wave of the data. In 2005, however, there is no difference in any category below having at least a primary level of education, suggesting that the returns to education only begin to manifest above the primary level. This suggests that the rate of return on education has increased as India has developed.

	Log Consumption (Rs.)		
	1990	1998	2005
Literate Without Formal Schooling	0.146***	0.127***	0.071
	(0.011)	(0.016)	(0.055)
Literate but Below Primary Schooling	0.169***	0.139***	0.009
	(0.006)	(0.007)	(0.010)
Literate w/. Primary Schooling	0.260***	0.227***	0.096***
	(0.006)	(0.007)	(0.010)
Literate w/. Middle Schooling	0.364***	0.331***	0.218***
	(0.007)	(0.009)	(0.012)
Literate w/. Secondary Schooling	0.673***	0.644***	0.499***
	(0.008)	(0.014)	(0.013)
Constant	5.131***	5.857***	6.324***
	(0.005)	(0.006)	(0.010)
Observations	134919	124423	177633

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses. Reference category is Illiterate

Table A.1: Mincerian Regression of Returns to Education on Consumption

[89] These rounds were chosen as they coincide with the rounds of the Economic Census of India.

APPENDIX B: APPENDIX FOR CHAPTER 4

B.1 Difference-in-Difference Parallel Trends Assumption

To test whether there really was a discontinuous growth in private and public schools after the introduction of DPEP in 1994, I conducted a series of placebo tests where I varied the year of "treatment" and looked at the effect size of this different date. In Figure B.1 I replicated the analysis in the second column of Table 4.8 by changing the year of treatment from 1987 to 1994 (the "real" treatment year). Each coefficient plot represents the point estimate on the Post-DPEP x DPEP District interaction term in column 2 of Table 4.8 with the 1994 coefficient representing the same regression as Table 4.8. The error bars around the point estimate represent 95 percent confidence intervals with robust standard errors.

As we can see, the only two significant results are when we change the "treatment" year to 1994 or 1995, suggesting that there is a real discontinuous jump in the number of public schools in DPEP districts *after* the introduction of DPEP in 1994.

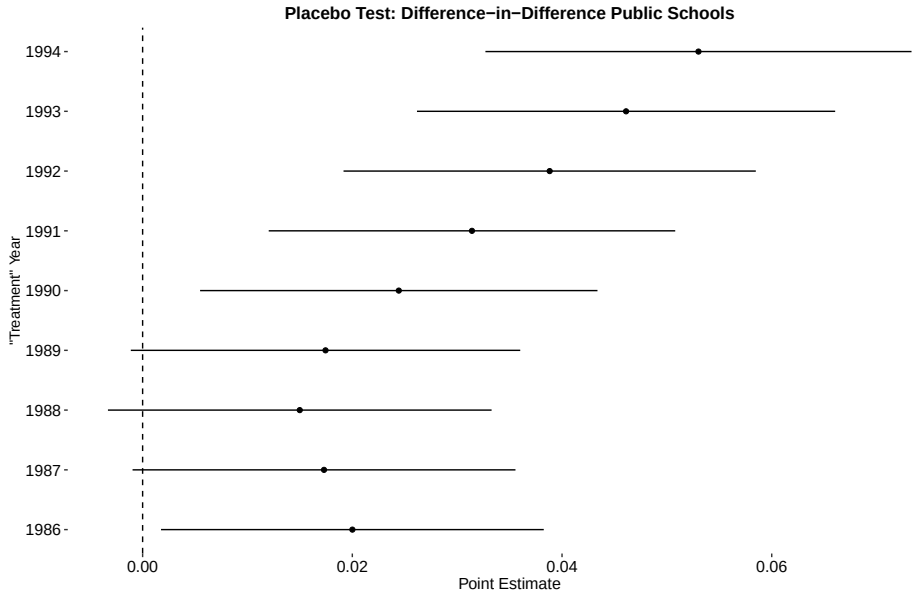

Figure B.1: Placebo Test: Difference-in-Difference Public Schools

I repeat the same exercise in Figure B.2 for private schools and the results presented in column 2 of Table 4.14. Unlike the results in Figure B.1 it appears that the parallel trend assumption does not hold for private schools: there is a greater growth of private schools in DPEP districts before DPEP was introduced. This

test suggests that the parallel trends assumption does not hold for private school growth in DPEP districts prior to the introduction of DPEP.

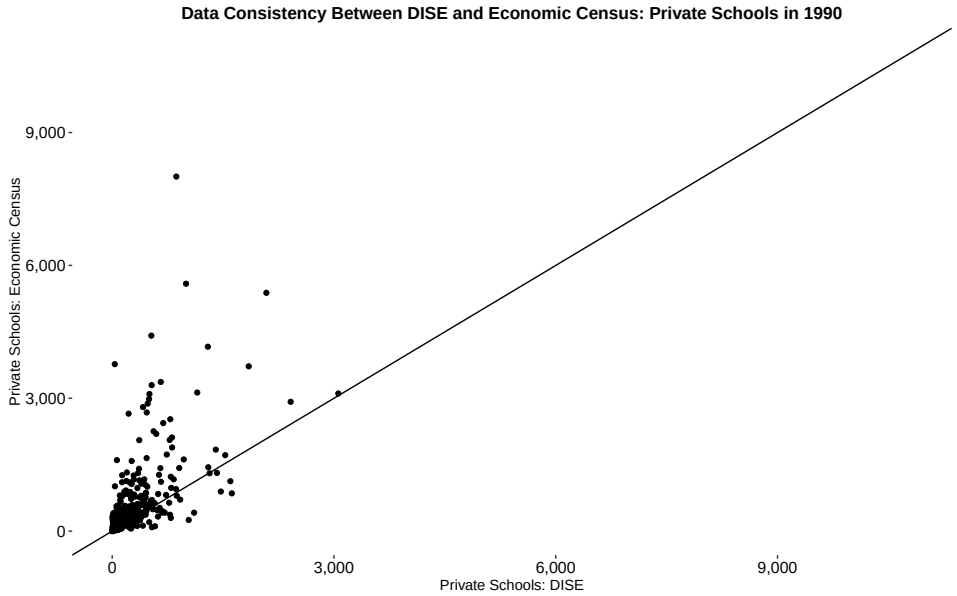

Figure B.2: Placebo Test: Difference-in-Difference Private Schools

B.2 Regression Discontinuity Design Assumptions

There are a number of assumptions in fuzzy regression discontinuity designs beyond the regular regression discontinuity assumptions. The first general assumption is that there are sufficient observations around the treatment cutoff to allow for a local estimation of the effect of a change in treatment and that there is no manipulation of observations around the running variable.

It is highly unlikely that there is manipulation of observations around the cutoff of literacy rates. The cutoff was based on mean district level literacy rates from the 1991 census. The census organization in India is a Central Government organization independent of state-level control or manipulation. Furthermore, states could also select districts that were above the literacy cutoff to include in DPEP, so if there were other reasons to attempt to channel funds to a particular district, states could simply select them in this way.

In Figure B.3 I present a McCrary (2008) test that confirms that the density of the data is indistinguishable across the DPEP literacy cutoff.

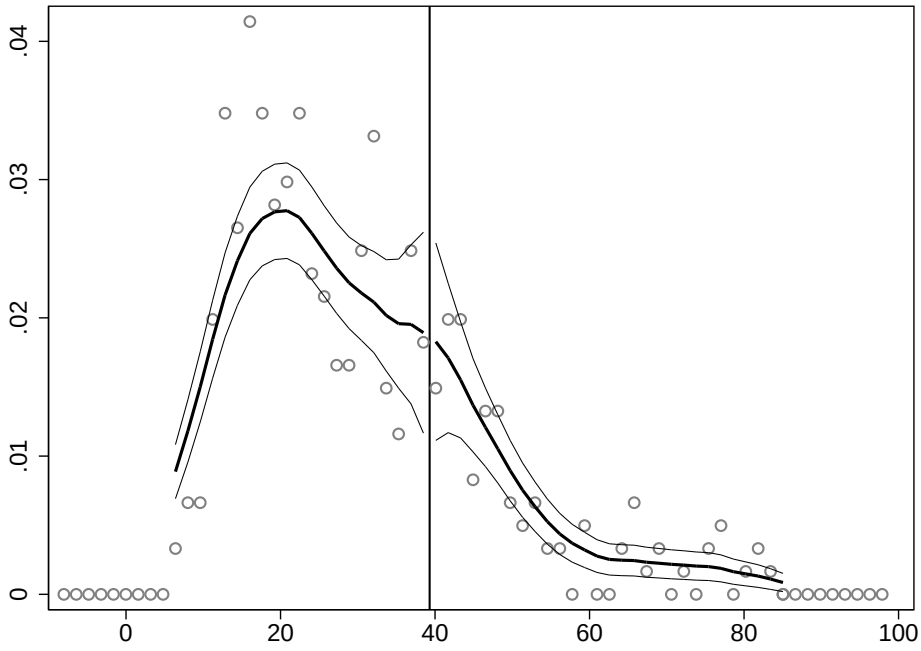

Figure B.3: McCrary (2008) Sorting Test

A second requirement for fuzzy regression discontinuity designs is that there are sufficient observations in the treatment group near the discontinuity to power the discontinuity design. Figure B.4 the density of

observations by treatment status around the control. Encouragingly, there are a larger number of districts that received districts to the left of the literacy cutoff, suggesting that the literacy cutoff running variable both identifies treatment status well, as well as provides sufficient power to identify potential effects.

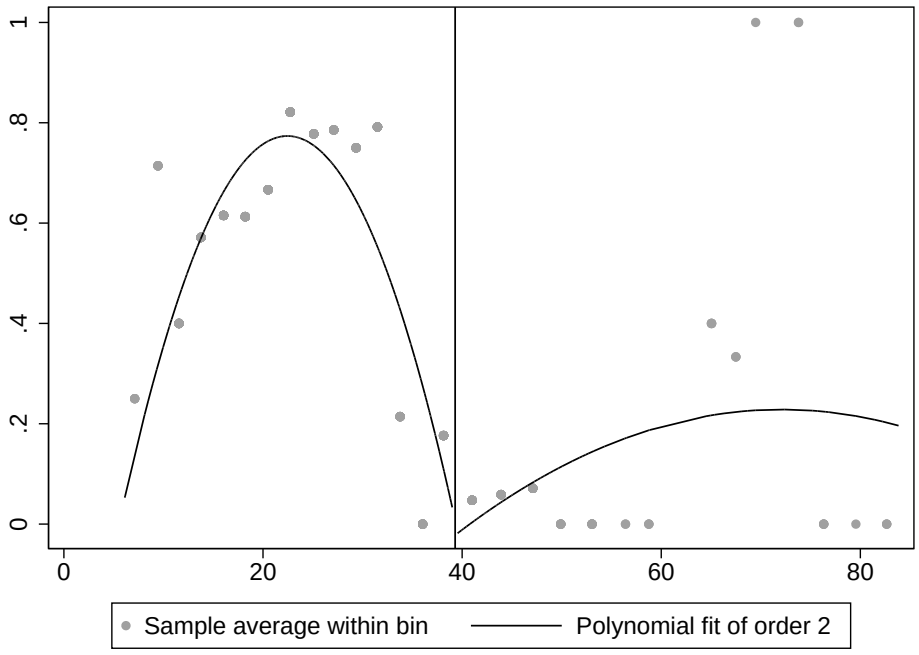

Figure B.4: Probability of Falling on Either Side of DPEP Literacy Cutoff by DPEP Districts

B.2.1 Pre-Treatment Covariates

I also look at whether there are large differences in pre-treatment covariates on either side of the discontinuity by running similar estimates as I do in the main body of the paper with pre-treatment covariates. In Figure B.5 and Table B.1, I look at the effect of falling on either side of the DPEP cutoff on the percent of villages with a government and private school in 1990, the number of government and private schools per 10,000 school-aged children in 1990, the total number of schools in 1990, and general, SC, and ST literacy in 1991.

None of the pre-treatment covariates are significantly different from zero except for the number of private schools per 10,000 school-aged children which is positive. This suggests that non-DPEP districts had more private schools per 10,000 school-aged children in the pre-DPEP period, a result confirmed by Table 4.5.

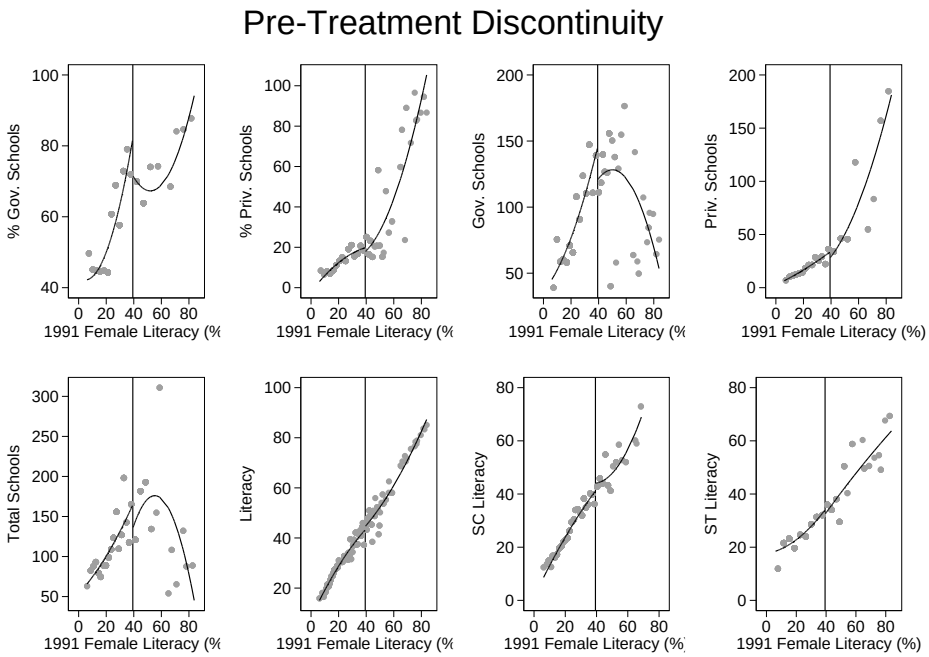

Figure B.5: Regression Discontinuity Pre-Treatment Variables

	% Gov. Schools	% Priv. Schools	Gov. Schools	Priv. Schools	Total Schools	Literacy	SC Literacy	ST Literacy
Literacy Cutoff	3.92	-35.84	202.90	113.08*	72.46	-1.96	-20.89	-37.80
	(57.22)	(48.37)	(254.18)	(64.41)	(222.52)	(11.10)	(20.82)	(59.94)
Observations	369	369	366	350	371	372	360	357

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Table B.1: Regression Discontinuity Pre-Treatment Discontinuity Check

B.2.2 Robustness to Bandwidth Choice

In Table B.2, I replicate column 1 from Table 4.7, but allow the choice of bandwith to vary from 6 to 12 (with 9 being the bandwith originally chosen in the specification I report in Table 4.7.). These results are not sensitive to bandwith choice as all bandwidth choices produce similar estimates.

	Bandwidth						
	6	7	8	9	10	11	12
Literacy Cutoff	-24.93***	-23.24**	-20.33**	-19.78***	-18.72***	-17.35**	-16.37**
	(9.64)	(9.08)	(8.16)	(7.52)	(7.16)	(6.91)	(6.70)
Observations	376	376	376	376	376	376	376

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Table B.2: Regression Discontinuity Bandwidth Robustness Check

B.2.3 Robustness to Cutoff Variation

I also replicate the results from Column 1 Table B.2 by changing the literacy cutoff, creating a placebo cutoff to see if this affects results. I present the resulting plots in Figure B.6 and point estimates in Table B.3. The original cutoff point is 39.3 percent, closely replicated by column 3 that presents the literacy cutoff at 40 percent. Although the plots are quite noisy, the resulting estimates suggest that it is only at the closest cutoff point to the true literacy cutoff point that we see an effect.

	Literacy Cutoff				
	20	30	40	50	60
Literacy Cutoff	-4.69	-2.04	-12.18*	9.69	-14.44
	(11.42)	(8.67)	(7.34)	(10.52)	(12.44)
Observations	440	440	440	440	440

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Table B.3: Regression Discontinuity Cutoff Robustness Check

B.2.4 First Stage in Fuzzy Regression Discontinuity Design

As I employ a fuzzy regression discontinuity design, I am effectively running a two-stage regression with the distance to the literacy cutoff on DPEP status in the first round, and then using the predicted probabilities from this regression as an instrument for DPEP status in the second round. I provide a table of this first-stage regression here in Table B.4.

The F-stat of 41 meets conventional levels for a strength of instruments.

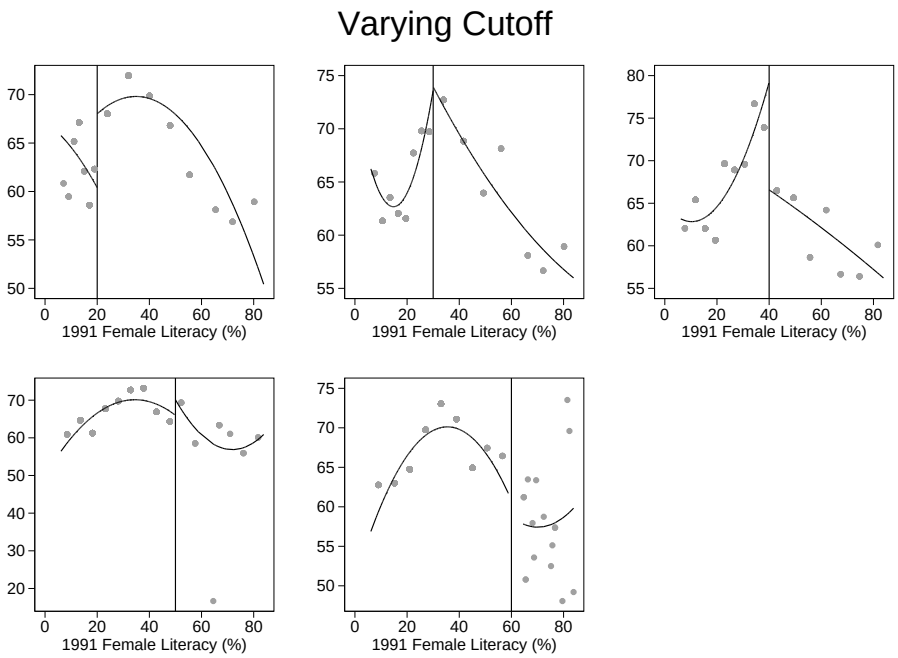

Figure B.6: Regression Discontinuity Varying Cutoff

Distance from Literacy Cutoff	-0.01*** (0.00)
Constant	0.44*** (0.02)
Observations	376
F	41.00

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.

Table B.4: First Stage RD

B.3 Using National Sample Survey Household Level Data

As a robustness check to the results I find in Chapter 4, we can also use the education rounds of the National Sample Survey to perform similar tests on a different source of data. The National Sample Survey conducted surveys on education in 1986-87, 1995-96, 2007-08, and 2014. Although the panel is not as clean and proximate to the passage of DPEP, it does allow us to test household level effects of DPEP on private enrollment, expenditure, distance to schools, and literacy.

For this, I use the four nationally representative education waves of the National Sample Survey (NSS) conducted in 1986-1987, 1995-1996, 2008, and 2014. The NSS education rounds are stratified by rural and urban areas for each district. Surveying is then further subdivided into four sub-rounds each lasting three months. The NSS oversamples some types of households and therefore provides sampling weights. All statistic and estimates are adjusted with these sampling weights.

The education sub-rounds of the NSS provide data on household level participation in education and out of pocket expenditure on education. Beginning with the 71st round of 2014, the NSS began to ask detailed questions about exit to the private sector, including the reasons households chose private over public education. Unfortunately there is only one round of this data and was administered too late to be useful. Along with detailed individual level data on educational attainment and expenditure, each round provides data on household consumption, expenditure and other household-level demographics.

First, I plot regression discontinuity plots to visualize the impact of DPEP around the DPEP threshold on the four variables of interest from the NSS data: distance to the nearest government school, the number of children in a private primary school, whether a household has at least one child in a private primary school, and the logged out of pocket expenditure on education.

The figures support the earlier results from Figure 4.12 at the household instead of district level. Households in DPEP districts were more likely to send their children to private schools and more households had at least one child in private schools than households in non-DPEP districts. There is no clear relationship from the regression discontinuity plots between DPEP funding and out-of-pocket expenditure on education, although we should remember that these do not take into account the fuzzy nature of DPEP assignment. I account for the full implementation of DPEP next by fitting a fuzzy regression discontinuity model similar to the models in Tables 4.13.

In Table B.5, I fit a regression discontinuity model identical to those used in Chapter 4 of the distance to

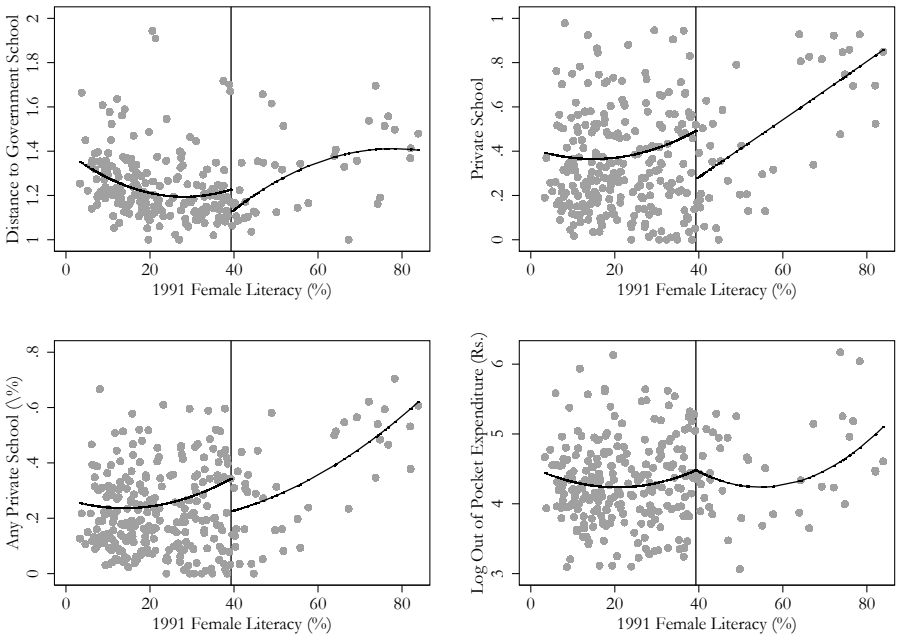

Figure B.7: Discontinuity Plots Using National Sample Survey Data

The top left plot presents the effect of DPEP funding on a household's self-reported distance to a government school. The top right plot presents the effect of DPEP funding on the number of children in a household in private primary education. The bottom left plot presents the effect of DPEP on whether a household sent any children to private primary schools. The bottom right plot presents the effect of DPEP funding on logged out of pocket expenditure on private education in 2010 Rupees. The literacy cutoff for receiving DPEP funds is 39.3 percent. The points show the average percent of villages with a government school in a district within a small bin of the literacy margin. The lines are the second-order local polynomial best-fit lines fit separately on each side of the cutoff. The plots are based on the procedure developed by Calonico, Cattaneo and Titiunik (2014*b*).
Source: Author's calculations from various rounds of the National Sample Survey

	(1) Distance to School	(2) Private School	(3) One Child in Private School	(4) Log Expenditure (Rs.)
Literacy Cutoff	-0.33***	-0.18***	-0.11***	-0.60***
	(0.03)	(0.03)	(0.02)	(0.09)
Observations	40092	54161	54034	53603

* p < 0.1, ** p < 0.05, *** p < 0.01. Robust standard errors in parentheses.
Notes: The dependent variable in column one is an ordinal variable that measures the distance to the nearest primary government school in four ranges: 1 = Less than 1 km; 2 = 1 to 2 kms; 3 = 2 to 5 kms; 4 = Greater than 5 kms. Column 2 is the number of children in the household in a private primary school. Column 3 is a dummy for whether the household has at least one child in private primary school, and column 4 is the logged out of pocket expenditure on primary education in 2010 Rupees.
Source: National Sample Survey, 52nd Round, Schedule 25.2 (1996).

Table B.5: Regression Discontinuity Estimates of DPEP

the nearest government school, the number of children in a private school, whether at least one child is in a private school, and the log out of pocket expenditure on education by the household. Within the NSS, the distance to the nearest primary school is coded as 1 if the household is less than 1 kilometer from a primary school, 2 if it is between 1-2 kilometers from the nearest primary school, 3 if it is between 2-5 kilometers to the nearest primary school, and 4 if it is more than 5 kilometers to the nearest primary school.

Column 1 suggests that, contrary to the findings in Chapter 4, households in districts that received DPEP were further from a government school than households in non-DPEP districts. This finding contradicts findings from the Economic Census, DISE, and Census of India that all suggest that the introduction of DPEP significant reduced the number of villages without a government school. The NSS data is, however, self-reported, so households answering this question might not have known that a new government school opened near them. Regardless, this results merits further unpacking.

Column 2 suggests that households in DPEP districts were more likely to send their children to a private school than households in non-DPEP districts. The negative point estimate suggests that households to the right hand side of the DPEP implementation cutoff, or households that did not live in districts where DPEP was implemented, were *less* likely to send their children to private schools. Column 3, which fits the same model as column 2 but uses whether *any* children were in private school instead of the number of children, suggests that households in DPEP districts were about eleven percent more likely to send their children to private schools that households in non-DPEP districts. Finally, column 4 suggests that households in DPEP districts spent more out of pocket on education than households in non-DPEP districts.

Apart from the result on the distance to the nearest government school, these results are consistent with results using DISE and Economic Census data, supporting an interpretation that the introduction of DPEP

created exit to the private sector. Therefore results at the household and district level all suggest that DPEP had a substantial impact on exit to the private sector.

B.3.1 Discussion

The results using household-level data from the NSS support results from district level data from the Economic Census and DISE. Districts that received DPEP funding saw a greater level of exit to the private sector than districts that did not receive DPEP funding. The finding that households in DPEP districts lived farther from a government primary school merits further unpacking, but one potential explanation is that households were unaware of new government schools built near them. Finally, although the effects on out of pock expenditure on education are small, this is also consistent with a growth in *low-cost* private school in DPEP districts that cater to low-income households. Together with the fact that more households in DPEP districts are sending their children to private schools, along with low growth in out of pocket expenditure on private education suggests that although households in DPEP districts are sending more children to private schools, they are not spending much more out of pocket for education. This suggests that the additional children being sent to private schools are not being sent to expensive private schools.

B.4 Exploring Alternative Explanations Using the National Sample Survey

A common alternative explanation for the growth of the private education sector and exit from government provided services has been the relative exit of wealthier households upon the entrance of low-income households (Croke et al., 2016; Lucas and Mbiti, 2012). Lucas and Mbiti (2012) find that with the elimination of school fees after the implementation of education for all, private school enrolment grew. They show that this is because wealthier households removed their children from government schools and enrolled them in private schools. In an example from a non-democratic regime, Croke et al. (2016) find that the best educated citizens are the most likely to disengage from the authoritarian regime in Zimbabwe. They argue this is in part experience better economic outcomes and ar emore interested in democracy.

The National Sample Survey rounds on education allow us to test those hypotheses in India. In Figures B.8 and B.9, I plot the distributions of out of pocket expenditure on education by income quintiles and the three caste categories included in every round of the various National Sample Survey rounds on education.

The first thing to note is that out of pocket expenditure on education increases in every NSS survey wave from 1986 to 2014, confirming the conventional wisdom that out of pocket expenditure on education has increased since market liberalization. Second, there appears to be a dispersion of consumption by survey waves. As India became wealthier, households that consumed more (a proxy for wealth) also appeared to spend more money on education, increasing inequalities in private education expenditure. However, although hard to tell from Figures B.8 and B.9, *it does not appear* that out of pocket expenditure on education has changed by quintile in DPEP and non-DPEP states. These figures also only provide one of several ways we can parse the NSS data — the NSS data also includes data on how many children attend private schools. I now test these hypotheses more formally below.

B.4.1 Triple Differences in Private School Demand

To test the alternative hypothesis that the expansion of education led to wealthier households exited the state in greater numbers, I fit a triple differences model similar to the model presented in Equation 4.1 but also include a triple difference interaction term. The new model is presented in Equation B.1:

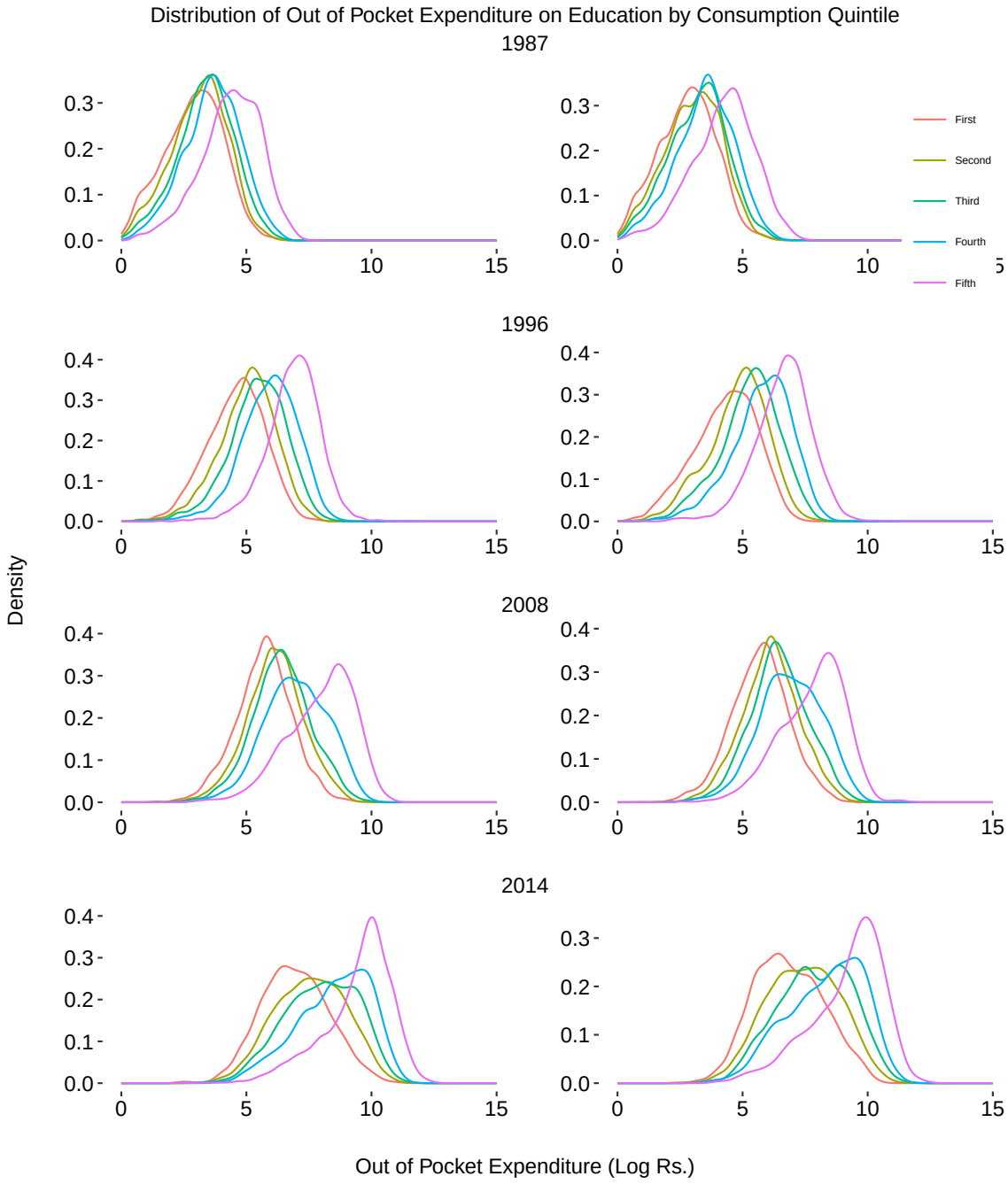

Figure B.8: Out of Pocket Expenditure on Education by Consumption Quintile

The left hand plots present the expenditure distribution for states that received DPEP funding, while the right right hand plots present the expenditure distribution for states that did not receive DPEP funding.
Source: Author's calculations from various rounds of the National Sample Survey

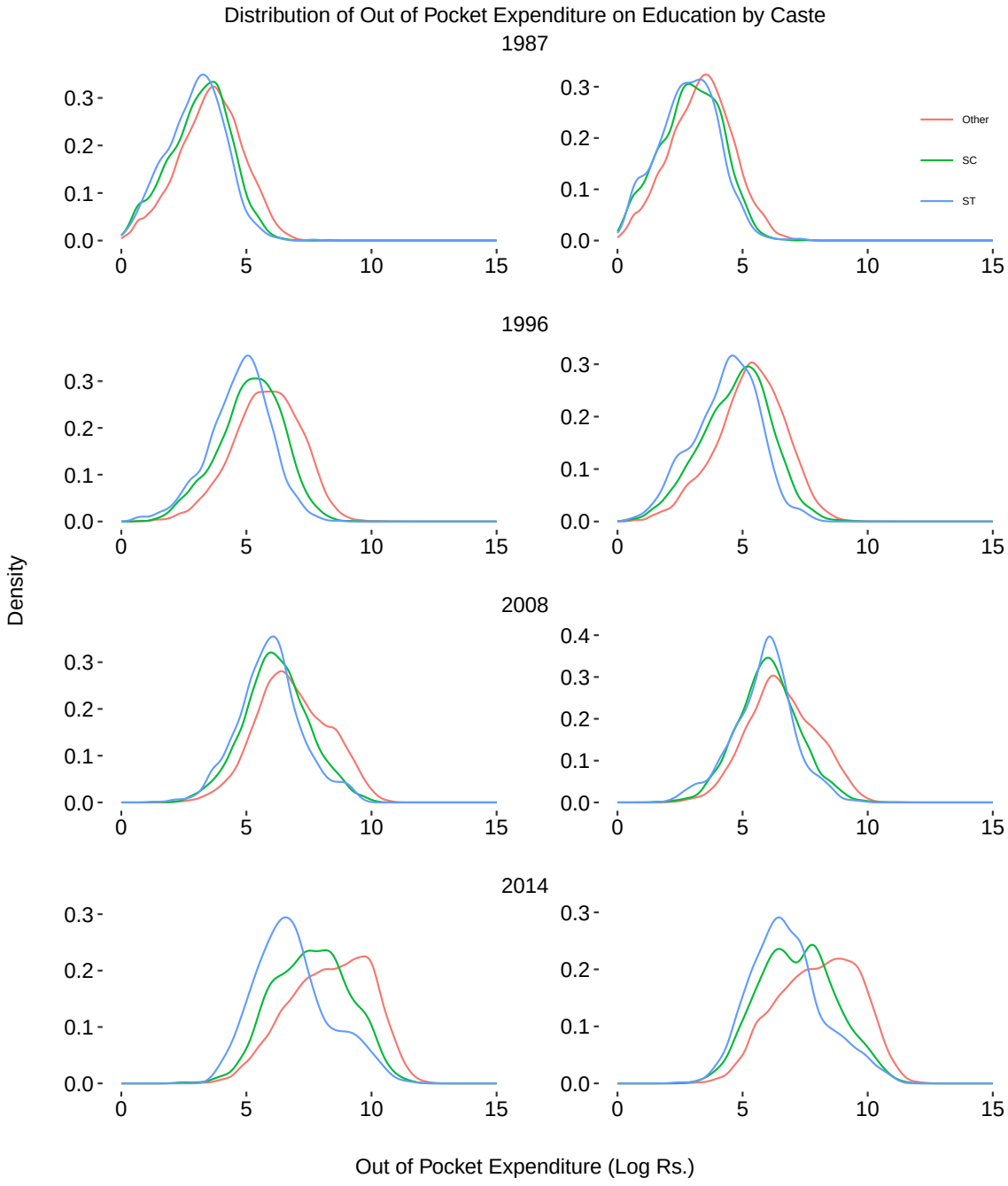

Figure B.9: Out of Pocket Expenditure on Education by Caste

The left hand plots present the expenditure distribution for states that received DPEP funding, while the right right hand plots present the expenditure distribution for states that did not receive DPEP funding.
Source: Author's calculations from various rounds of the National Sample Survey

$$Y_{i,t} = \beta_0 + \beta_1 \text{DPEP District}_{i,t} + \beta_2 \text{Post-DPEP}_{i,t} + \beta_3 \text{Consumption}_{i,t} + \beta_4 \text{DPEP District x Post-DPEP}_{i,t} + \beta_5 \text{DPEP District x Consumption}_{i,t} + \beta_6 \text{Post-DPEP x Consumption}_{i,t} + \beta_7 \text{DPEP District x Post-DPEP x Consumption}_{i,t} + \epsilon_{i,t} \quad \text{(B.1)}$$

where $Y_{i,t}$ is the number of children in the household that attend private schools (or if any child in the household attends a private school or log out of pocket expenditure on education) in district i, in year t, $\text{DPEP District}_{i,t}$ is a dummy for whether district i received DPEP funding in 1994, $\text{Post-DPEP}_{i,t}$ is a dummy indicator for observations years after DPEP was implemented in 1994, $\text{Consumption}_{i,t}$ is monthly household consumption (a proxy for wealth), $\text{DPEP District x Post-DPEP}_{i,t}$ is an interaction term that takes the value of 1 for districts that received DPEP and the observation year is after DPEP was implemented, $\text{DPEP District x Consumption}_{i,t}$ is an interaction term for consumption of households in DPEP districts, $\text{Post-DPEP x Consumption}_{i,t}$ is an interaction term for household consumption in the DPEP era, and $\text{DPEP-District x Post-DPEP x Consumption}_{i,t}$ is a triple interaction term for consumption of households in DPEP districts after DPEP was implemented.[90]

Our coefficient of interest is β_7, that, if the expansion of government schools caused by DPEP did not cause wealthy households to exit from government schools, should be negative or insignificant in all specifications. The alternative explanation suggests that one of the effects of the expansion of education would bring previously underserved populations into the government school system. Wealthier households, who always had access to government schools, would then exit from government schools as they would not want their children educated in the same spaces as their children. If my explanation holds, we should expect the coefficient on β_7 to be either negative or insignificant.

I present the results of the regressions using the number of children in the household in private schools in Table B.6, if any child in the household is in private school in Table B.7 and the logged amount of out of pocket expenditure on education in Table B.8.

The coefficient on DPEP District x Post-DPEP x Consumption in Table B.6 suggests that there was a small compression in the differences in the number of children in private schools between high-consumption

[90] I use consumption instead of income due to the volatility of income at low-income levels and their resultant unreliability.

	Private School				
DPEP District x Post-DPEP x Consumption	-0.003**	-0.003**	-0.003*	-0.003**	-0.003**
	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
DPEP District x Post-DPEP	-0.006	0.001	0.010	0.002	0.009
	(0.048)	(0.048)	(0.050)	(0.049)	(0.050)
DPEP District x Consumption	0.003**	0.003**	0.003*	0.003**	0.003**
	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)
Post-DPEP x Consumption	-0.002**	-0.001*	-0.000	-0.001*	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Post-DPEP	-0.130***	-0.144***	-0.115***	-0.600***	-0.438***
	(0.030)	(0.032)	(0.032)	(0.067)	(0.063)
DPEP District	-0.068**	-0.066**	0.064	-0.066**	0.068
	(0.032)	(0.032)	(0.067)	(0.032)	(0.068)
Consumption	0.002**	0.001*	0.000	0.002*	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.171***	0.102***	-0.105***	0.105***	-0.105***
	(0.018)	(0.031)	(0.039)	(0.031)	(0.039)
Observations	63968	63874	63063	63874	63063
Districts	377	377	377	377	377
Controls	No	Yes	Yes	Yes	Yes
District FE	No	No	Yes	No	Yes
Year FE	No	No	No	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.
Notes: The dependent variable in all specifications is the number of household members attending a private school for class 1-6. Controls include gender of respondent, age of respondent, and dummies for schedule castes and tribes.
Source: National Sample Survey, various rounds.

Table B.6: Triple-Differences: Private School

	Any Private School (%)				
DPEP District x Post-DPEP x Consumption	-0.002*	-0.002*	-0.002*	-0.002**	-0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
DPEP District x Post-DPEP	0.011	0.021	0.018	0.021	0.017
	(0.029)	(0.030)	(0.030)	(0.030)	(0.030)
DPEP District x Consumption	0.002*	0.002**	0.002*	0.002**	0.002*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Post-DPEP x Consumption	-0.002***	-0.002***	-0.001	-0.002***	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Post-DPEP	-0.056***	-0.077***	-0.043**	-0.305***	-0.170***
	(0.019)	(0.020)	(0.020)	(0.036)	(0.032)
DPEP District	-0.037	-0.041*	0.059	-0.041*	0.060
	(0.023)	(0.023)	(0.053)	(0.023)	(0.053)
Consumption	0.002***	0.002***	0.001	0.002***	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	0.109***	0.123***	-0.043	0.124***	-0.043
	(0.013)	(0.020)	(0.027)	(0.020)	(0.027)
Observations	63819	63725	62915	63725	62915
Districts	377	377	377	377	377
Controls	No	Yes	Yes	Yes	Yes
District FE	No	No	Yes	No	Yes
Year FE	No	No	No	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.
Note: The dependent variable in all specifications is a binary variable for whether *at least one* member of the household attends private school for class 1-6. Controls include gender of respondent, age of respondent, and dummies for schedule castes and tribes.
Source: National Sample Survey, various rounds.

Table B.7: Triple-Differences: Any Private School (%)

households and low-consumption households *after* DPEP was implemented. Although high consumption households still sent more children to private schools than low consumption households, low consumption households in DPEP districts nearly equalized the number of children they sent to private schools after DPEP was implemented relative to high consumption households.

Turning to the effects of DPEP on the probability of a household having at least one child in a private school, the coefficient on DPEP District x Post-DPEP x Consumption in Table B.7 shows a similar compression in differences between high consumption and low consumption households.

Finally, the coefficient on DPEP District x Post-DPEP x Consumption in Table B.8 shows the same results as Tables B.6 and B.7. All three specifications suggest there was a compression in the number of children, probability of sending at least one child, and amount of out of pocket expenditure on education between households in districts that received DPEP funding by consumption levels.

I repeat the same exercise using caste instead of consumption as the third difference of interest to account

	Log Out of Pocket Expenditure (Rs.)				
DPEP District x Post-DPEP x Consumption	-0.012**	-0.012**	-0.011**	-0.012**	-0.011**
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
DPEP District x Post-DPEP	0.402***	0.391***	0.336***	0.391***	0.335***
	(0.143)	(0.131)	(0.125)	(0.131)	(0.124)
DPEP District x Consumption	0.012**	0.012**	0.011**	0.012**	0.011**
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)
Post-DPEP x Consumption	-0.021***	-0.020***	-0.016***	-0.020***	-0.016***
	(0.004)	(0.004)	(0.003)	(0.004)	(0.003)
Post-DPEP	3.010***	3.046***	3.168***	2.896***	3.385***
	(0.100)	(0.099)	(0.087)	(0.146)	(0.130)
DPEP District	-0.435***	-0.402***	-0.384	-0.401***	-0.389
	(0.123)	(0.109)	(0.363)	(0.109)	(0.362)
Consumption	0.021***	0.020***	0.017***	0.020***	0.017***
	(0.004)	(0.004)	(0.003)	(0.004)	(0.003)
Constant	2.403***	1.361***	0.648***	1.359***	0.646***
	(0.086)	(0.092)	(0.155)	(0.092)	(0.155)
Observations	63489	63397	62591	63397	62591
Districts	377	377	377	377	377
Controls	No	Yes	Yes	Yes	Yes
District FE	No	No	Yes	No	Yes
Year FE	No	No	No	Yes	Yes

* p < 0.1, ** p < 0.05, *** p < 0.01. Robust standard errors in parentheses.
Note: The dependent variable in all specifications is logged out of pocket expenditure on education in 2010 Rupees. Controls include gender of respondent, age of respondent, and dummies for schedule castes and tribes.
Source: National Sample Survey, various rounds.

Table B.8: Triple-Differences: Log Out of Pocket Expenditure (Rs.)

	Private School				
DPEP District x Post-DPEP x Caste	0.040	0.048	0.068*	0.048	0.069*
	(0.038)	(0.038)	(0.041)	(0.038)	(0.041)
DPEP District x Post-DPEP	-0.052	-0.033	-0.048	-0.033	-0.050
	(0.034)	(0.034)	(0.037)	(0.034)	(0.037)
DPEP District x Caste	-0.007	-0.009	-0.022	-0.009	-0.023
	(0.029)	(0.029)	(0.033)	(0.029)	(0.033)
Post-DPEP x Caste	0.053**	0.007	0.032	0.005	0.030
	(0.026)	(0.026)	(0.028)	(0.026)	(0.028)
Post-DPEP	0.058**	-0.235***	-0.185***	-0.718***	-0.513***
	(0.024)	(0.030)	(0.032)	(0.068)	(0.064)
DPEP District	0.001	0.004	0.130**	0.004	0.135**
	(0.027)	(0.027)	(0.066)	(0.027)	(0.066)
Caste	0.052***	0.054***	0.066***	0.054***	0.067***
	(0.019)	(0.019)	(0.022)	(0.019)	(0.022)
Constant	0.168***	0.061*	-0.183***	0.064**	-0.183***
	(0.018)	(0.031)	(0.039)	(0.031)	(0.039)
Observations	63878	63874	63063	63874	63063
Districts	377	377	377	377	377
Controls	No	Yes	Yes	Yes	Yes
District FE	No	No	Yes	No	Yes
Year FE	No	No	No	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.
Notes: The dependent variable in all specifications is the number of household members attending a private school for class 1-6. Controls include gender of respondent, age of respondent, and monthly consumption of the household.
Source: National Sample Survey, various rounds.

Table B.9: Triple-Differences: Private School

for the possibility that there is a preference for upper caste households to keep their children apart from lower caste households.[91] Caste is coded as a dummy variable with schedule caste and tribe households coded as 0 and all other castes coded as 1.[92] Table B.9 replicates Table B.6 with caste instead of consumption as the triple interaction term of interest and Tables B.10 and B.11 replicate Tables B.7 and B.8 respectively.

The coefficient on DPEP District x Post-DPEP x Caste in Table B.9 is positive in all specifications although not significant in any. The positive coefficient in Table B.10 and negative coefficient in Table B.6 suggests that while households with higher levels of consumption might not discriminate in the contact their children have with low consumption households, high caste households might discriminate and not wish to have their children in new government schools with lower caste households.

Similarly, the coefficient on DPEP District x Post-DPEP x Caste in Table B.10 suggest the same effects

[91] This is similar to Gary Becker's (1957) idea that some households will have a preference for discrimination.
[92] This is the lowest level of disaggregation the four waves of the NSS will allow over time.

	Any Private School (%)				
DPEP District x Post-DPEP x Caste	0.009	0.012	0.022	0.013	0.022
	(0.025)	(0.025)	(0.026)	(0.025)	(0.026)
DPEP District x Post-DPEP	-0.024	-0.010	-0.025	-0.009	-0.026
	(0.023)	(0.023)	(0.024)	(0.023)	(0.024)
DPEP District x Caste	-0.001	-0.002	-0.004	-0.002	-0.004
	(0.019)	(0.019)	(0.022)	(0.019)	(0.022)
Post-DPEP x Caste	0.045***	0.018	0.035**	0.017	0.034*
	(0.017)	(0.017)	(0.018)	(0.017)	(0.018)
Post-DPEP	0.028*	-0.154***	-0.104***	-0.401***	-0.237***
	(0.015)	(0.018)	(0.019)	(0.035)	(0.031)
DPEP District	-0.002	-0.003	0.094*	-0.003	0.096*
	(0.018)	(0.018)	(0.053)	(0.018)	(0.053)
Caste	0.031**	0.033***	0.037***	0.033***	0.038***
	(0.012)	(0.013)	(0.014)	(0.013)	(0.014)
Constant	0.126***	0.115***	-0.073***	0.117***	-0.073***
	(0.012)	(0.020)	(0.026)	(0.020)	(0.026)
Observations	63729	63725	62915	63725	62915
Districts	377	377	377	377	377
Controls	No	Yes	Yes	Yes	Yes
District FE	No	No	Yes	No	Yes
Year FE	No	No	No	Yes	Yes

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors in parentheses.
Note: The dependent variable in all specifications is a binary variable for whether *at least one* member of the household attends private school for class 1-6. Controls include gender of respondent, age of respondent, and monthly consumption of the household.
Source: National Sample Survey, various rounds.

Table B.10: Triple-Differences: Any Private School (%)

	Log Out of Pocket Expenditure (Rs.)				
DPEP District x Post-DPEP x Caste	-0.078	-0.043	0.028	-0.043	0.028
	(0.093)	(0.085)	(0.088)	(0.085)	(0.088)
DPEP District x Post-DPEP	0.237***	0.246***	0.117	0.245***	0.115
	(0.084)	(0.078)	(0.080)	(0.078)	(0.080)
DPEP District x Caste	0.059	0.049	0.016	0.050	0.017
	(0.078)	(0.072)	(0.079)	(0.072)	(0.079)
Post-DPEP x Caste	0.055	-0.062	-0.091	-0.062	-0.088
	(0.060)	(0.056)	(0.056)	(0.056)	(0.056)
Post-DPEP	3.306***	2.608***	2.863***	2.400***	3.050***
	(0.056)	(0.065)	(0.064)	(0.126)	(0.116)
DPEP District	-0.278***	-0.236***	-0.227	-0.236***	-0.233
	(0.070)	(0.066)	(0.365)	(0.066)	(0.365)
Caste	0.266***	0.265***	0.330***	0.264***	0.330***
	(0.048)	(0.045)	(0.047)	(0.045)	(0.047)
Constant	2.641***	1.516***	0.662***	1.514***	0.658***
	(0.045)	(0.061)	(0.144)	(0.061)	(0.144)
Observations	63401	63397	62591	63397	62591
Districts	377	377	377	377	377
Controls	No	Yes	Yes	Yes	Yes
District FE	No	No	Yes	No	Yes
Year FE	No	No	No	Yes	Yes

* p < 0.1, ** p < 0.05, *** p < 0.01. Robust standard errors in parentheses.
Note: The dependent variable in all specifications is logged out of pocket expenditure on education in 2010 Rupees. Controls include gender of respondent, age of respondent, and monthly consumption of the household.
Source: National Sample Survey, various rounds.

Table B.11: Triple-Differences: Log Out of Pocket Expenditure (Rs.)

with all specifications positive but not significant. As the dependent variable is a binary variable, the coefficient is easier to interpret than in B.9, and suggests that upper caste households in DPEP districts after DPEP was implemented were between one and two percent .

Finally, the coefficient on DPEP Districts x Post-DPEP x Caste in Table B.11 is not significant in any specification. As there are more upper caste households sending their children to private schools, but the overall levels of expenditure on private schools are the same between households in DPEP and non-DPEP districts, this suggests that the level of expenditure is lower per school in DPEP districts. Along with the results presented in Figure B.7 and Table B.5, this suggests that exit has been more pronounced in DPEP districts, and that this exit has been concentrated in low-fee private schools.

B.4.2 Discussion

Exploring the alternative explanation that one of the reasons driving exit was that wealthier households in districts that rapidly expanded education would leave the private sector, I used four rounds of the National

Sample Survey to see if there was differential exit by caste or consumption in DPEP districts. The results from Tables B.6 to B.8 suggest that there was not differential exit by income levels, but the results from Tables B.9 to B.11 suggest that there was differential exit by caste.

These results are consistent with an interpretation that there is a taste for discrimination among upper caste households and that while government schools used to be a preserve for wealthier households, with the rapid expansion of education, these households then moved to private schools. Given that Table B.11 does not have any significant results, but Tables B.9 and B.10 do suggest that this exit was also towards low-cost private schools.

We should, however, be cautious in attaching to much causal significance to these results. While DPEP status was as-if randomly assigned around a threshold of female literacy derived from the 1991 census, to interpret the triple-differences results causally would also suggest that consumption and caste relationships were randomly assigned around the same DPEP threshold. As such, the results should be interpreted in a descriptive way, although they do help us understand the nature of exit to private schools.

B.5 Data Consistency Between the Economic Census and the District Information System for Education

Given that the two main datasets I use in this chapter, the Economic Census of India and the District Information System for Education School Report Cards data, were collected by two different organizations, The Census of India and The National University of Educational Planning and Administration respectively, there is some concern that data will not be consistent between the two sources. Additionally, as the DISE School Report Cards data was self-reported by individual schools, there is further concern that some schools, particularly those schools with lower capacity or that have not sought recognition from the Government of India, would not report their data to DISE.

In the Figures below, I provide some evidence that the DISE data provides a relatively accurate portrait of the number of schools in a district for every year in which I also have economic census data. In B.10, I plot the number of government schools in the DISE data on the x-axis by district, and the number of education institutions in the Economic Census on the y-axis for 1990. The diagonal line represents a 45 degree line where points that fall below the line represent districts that report more schools in the school report cards data and points above the line represent districts that report more data in the Economic Census data. The correlation coefficient for Figure B.10 is 0.65.

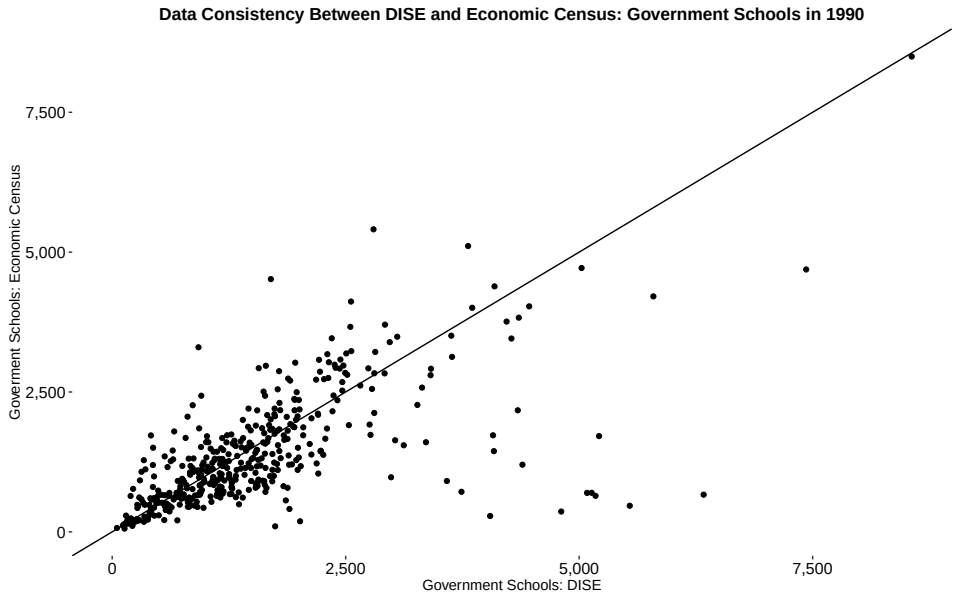

Figure B.10: Government Schools: 1990

Figure B.11 plots the relationship between government schools in the DISE data to the number of government education institutions in the Economic Census in 1998. The correlation coefficient for Figure B.11 is 0.73.

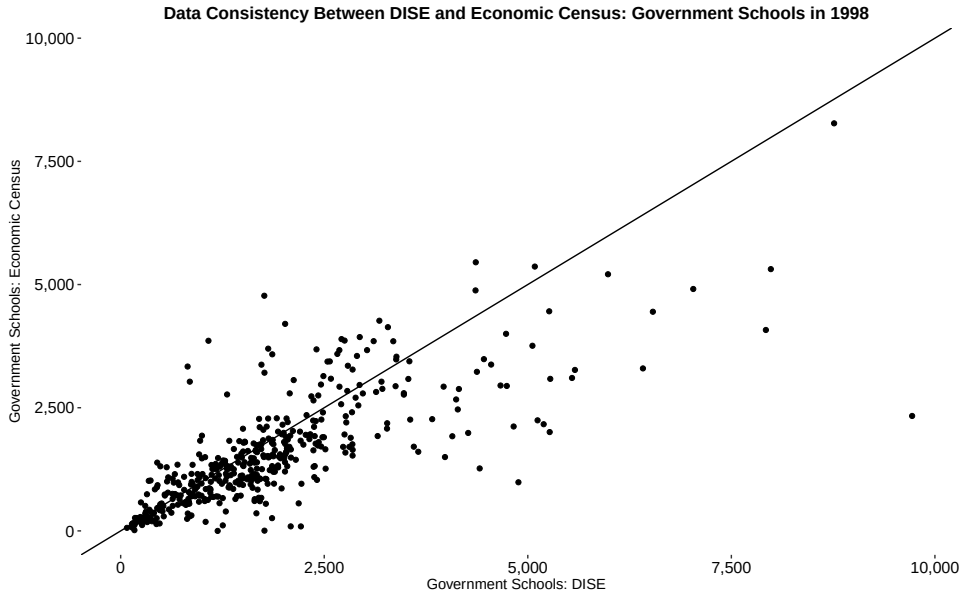

Figure B.11: Government Schools: 1998

Figure B.12 plots the relationship between government schools in the DISE data to the number of government education institutions in the Economic Census in 2005. The correlation coefficient for Figure B.12 is 0.79.

Figure B.13 plots the relationship between private schools in the DISE data on the x-axis with the number of private education institutions in the Economic Census in 1990. The correlation coefficient for Figure B.13 is 0.5.

Figure B.14 plots the relationship between private schools in the DISE data on the x-axis with the number of private education institutions in the Economic Census in 1998. The correlation coefficient for Figure B.14 is 0.35.

Figure B.15 plots the relationship between private schools in the DISE data on the x-axis with the number of private education institutions in the Economic Census in 1990. The correlation coefficient for Figure B.15 is 0.57.

There is a consistent relationship between the number of government schools reported in the DISE

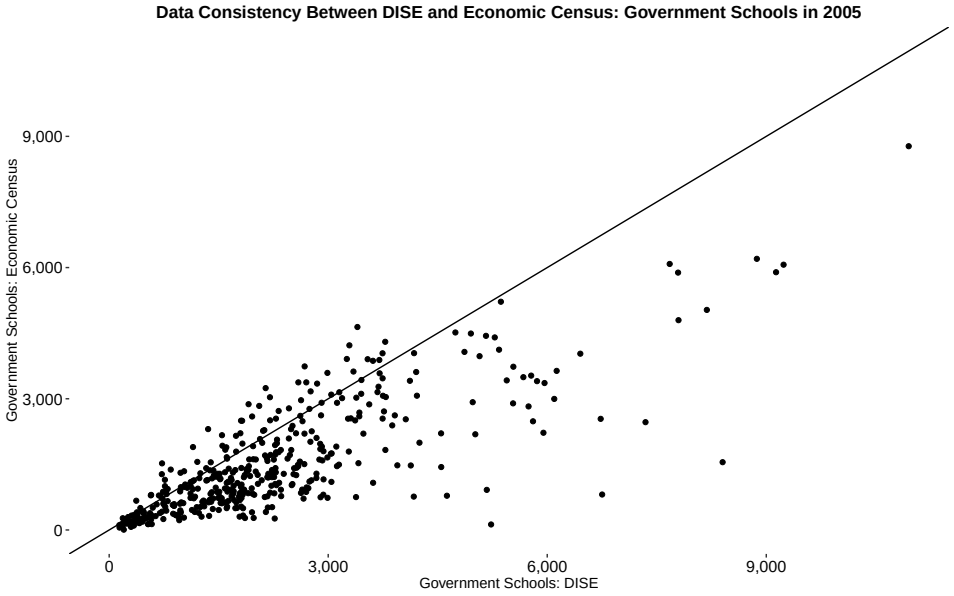

Figure B.12: Government Schools: 2005

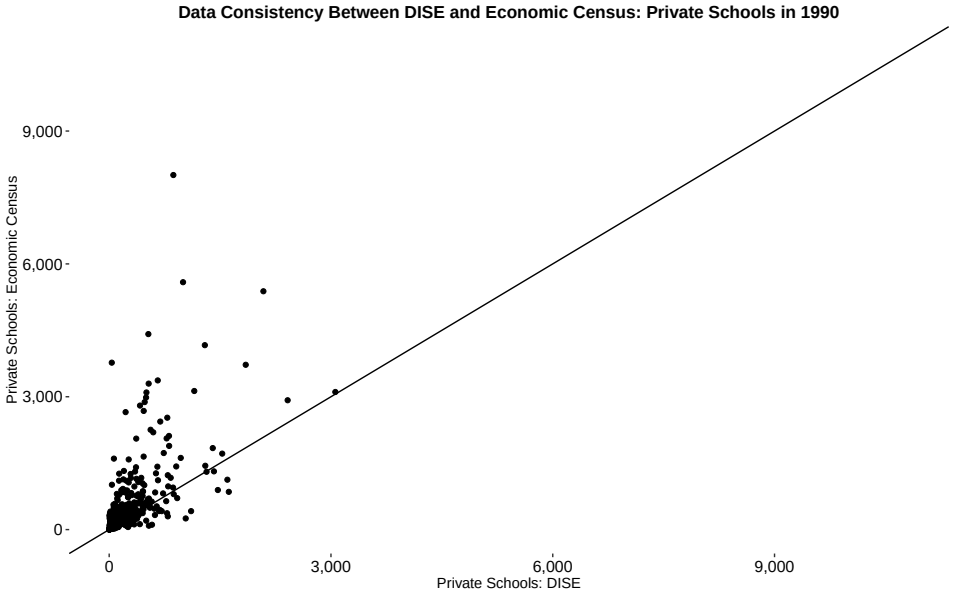

Figure B.13: Private Schools: 1990

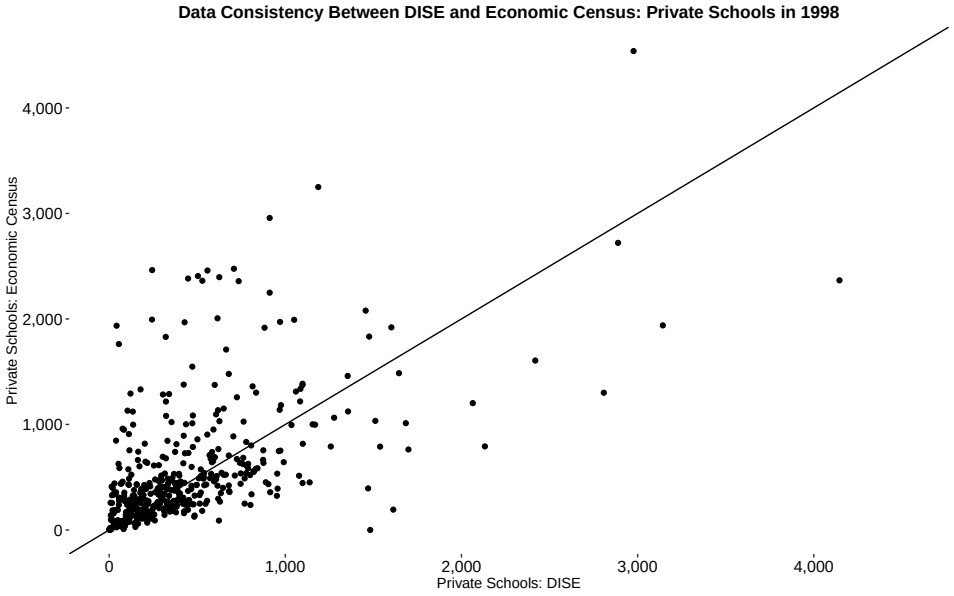

Figure B.14: Private Schools: 1998

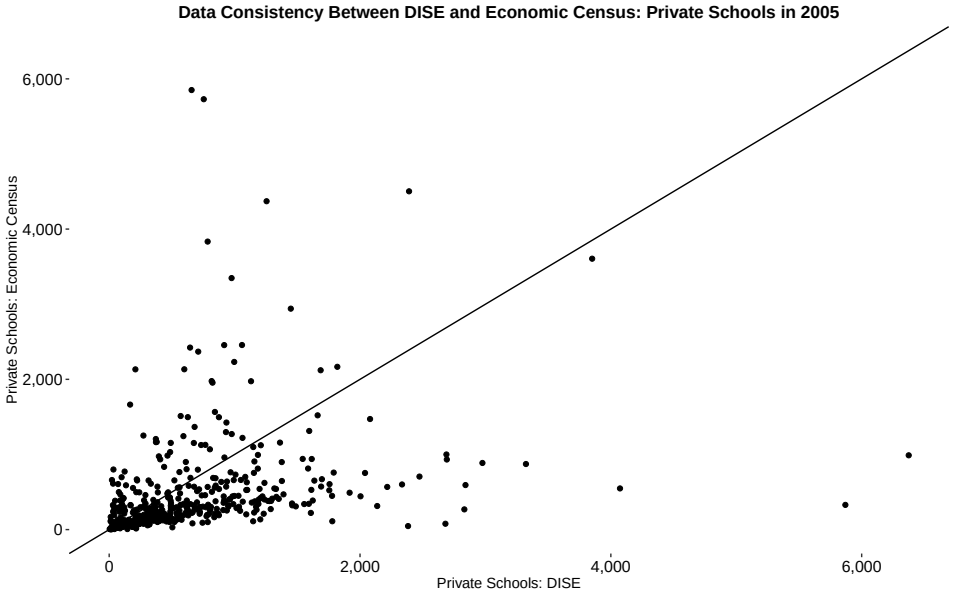

Figure B.15: Private Schools: 2005

school report cards data and the number of government educational institutions reported in the Economic Census. While the relationship is not as strong for private schools, this is both to be expected and encouraging. The Economic Census data was collected with the purpose of identifying all economic activity in the country, whether recognized or unrecognized by the Government of India. This should result in differential counts between the Economic Census and the school report cards data where the Economic Census collects more data on unrecognized schools that the School Report Cards data does not always capture.

B.6 District Bifurcations

Between the 1991 population census and 2005, the first year that DISE data was collected, India created about 70 new districts. While most of these districts were created by bifurcating an existing district in two, some of the districts were created by taking sub-districts from two existing districts and forming a new districts.

For districts that were bifurcated between 1991 and 2005, I use their *original* district and combine data between the two older districts. For districts that were created out of tow or more existing districts, I assign the new district to the old district they received most of their new blocks from. For example, Sahibzada Ajit Singh Nagar district in Punjab was "formed by including two tehsils namely, Kharar and SAS Nagar (Mohali) of Rupnagar district and one tehsil namely, Dera Bassi of Patiala disitrict," (Census of India, 2011). In this case, I have coded Sahibzada Ajit Singh Nagar district as being a part of Rupnagar district as two tehsils were taken from the Rupnagar district.

B.7 District Primary Education Programme District Coding

I cross-referenced the districts included in DPEP from three different sources:

1. The World Bank. 1994. "Staff Appraisal Report: India District Primary Education Project." 13072-IN.
2. Aggrawal, Yash. 2001. "Progress Towards Universal Access and Retention: Analytical Report." New Delhi: National Institute of Educational Planning and Administration.
3. Mehta, Arun. 2016. "DPEP Coverage: States and Districts." Accessed May 5, 2016. http://www.educationforallinindia.com/page82.html

State Name	District Name	DPEP I	DPEP II
Andaman & Nicobar Islands	Andamans	0	0
Andaman & Nicobar Islands	Middle And North Andamans	0	0
Andaman & Nicobar Islands	Nicobars	0	0
Andhra Pradesh	Adilabad	0	1
Andhra Pradesh	Anantapur	0	1
Andhra Pradesh	Chittoor	0	1
Andhra Pradesh	Cuddapah	0	1
Andhra Pradesh	East Godavari	0	0
Andhra Pradesh	Guntur	0	1
Andhra Pradesh	Hyderabad	0	0
Andhra Pradesh	Karimnagar	0	1
Andhra Pradesh	Khammam	0	1
Andhra Pradesh	Krishna	0	0
Andhra Pradesh	Kurnool	0	1
Andhra Pradesh	Mahbubnagar	0	1
Andhra Pradesh	Medak	0	1
Andhra Pradesh	Nalgonda	0	1
Andhra Pradesh	Nellore	0	1
Andhra Pradesh	Nizamabad	0	1
Andhra Pradesh	Prakasam	0	1
Andhra Pradesh	Rangareddy	0	1
Andhra Pradesh	Srikakulam	0	1
Andhra Pradesh	Visakhapatnam	0	1
Andhra Pradesh	Vizianagaram	0	1
Andhra Pradesh	Warangal	0	1
Andhra Pradesh	West Godavari	0	0
Arunachal Pradesh	Anjaw	0	0
Arunachal Pradesh	Changlang	0	0
Arunachal Pradesh	Dibang Valley	0	0
Arunachal Pradesh	East Kameng	0	0
Arunachal Pradesh	East Siang	0	0
Arunachal Pradesh	Kurungkumey	0	0
Arunachal Pradesh	Lohit	0	0
Arunachal Pradesh	Lower Dibang Valley	0	0
Arunachal Pradesh	Lower Subansiri	0	0
Arunachal Pradesh	Papumpare	0	0
Arunachal Pradesh	Tawang	0	0
Arunachal Pradesh	Tirap	0	0
Arunachal Pradesh	Upper Siang	0	0

Arunachal Pradesh	Upper Subansiri	0	0
Arunachal Pradesh	West Kameng	0	0
Arunachal Pradesh	West Siang	0	0
Assam	Barpeta	0	1
Assam	Bongaigaon	0	1
Assam	Cachar	0	0
Assam	Darrang	1	1
Assam	Dhemaji	0	0
Assam	Dhubri	1	1
Assam	Dibrugarh	0	0
Assam	Goalpara	0	1
Assam	Golaghat	0	0
Assam	Hailakandi	0	0
Assam	Jorhat	0	0
Assam	Kamrup	0	0
Assam	Karbianglong	1	1
Assam	Karimganj	0	0
Assam	Kokrajhar	0	1
Assam	Lakhimpur	0	0
Assam	Marigaon	1	1
Assam	Nagaon	0	0
Assam	Nalbari	0	0
Assam	North Cachar Hills	0	0
Assam	Sibsagar	0	0
Assam	Sonitpur	0	1
Assam	Tinsukia	0	0
Bihar	Araria	0	0
Bihar	Aurangabad	0	0
Bihar	Banka	0	1
Bihar	Begusarai	0	0
Bihar	Bhagalpur	0	1
Bihar	Bhojpur	0	1
Bihar	Buxar	0	1
Bihar	Darbhanga	0	1
Bihar	Gaya	0	1
Bihar	Gopalganj	0	0
Bihar	Jamui	0	1
Bihar	Jehanabad	0	0
Bihar	Kaimur(Bhabua)	0	1
Bihar	Katihar	0	0
Bihar	Khagaria	0	0
Bihar	Kishanganj	0	0
Bihar	Lakhisarai	0	1
Bihar	Madhepura	0	0
Bihar	Madhubani	0	0
Bihar	Munger	0	1
Bihar	Muzaffarpur	0	1
Bihar	Nalanda	0	0
Bihar	Nawada	0	0
Bihar	Pashchim Champaran	0	1
Bihar	Patna	0	0
Bihar	Purba Champaran	0	0
Bihar	Purnia	0	1
Bihar	Rohtas	0	1
Bihar	Saharsa	0	0
Bihar	Samastipur	0	0
Bihar	Saran	0	0
Bihar	Sheikhpura	0	1
Bihar	Shivhar	0	1
Bihar	Sitamarhi	0	1
Bihar	Siwan	0	0

Bihar	Supaul	0	0
Bihar	Vaishali	0	1
Chandigarh	Chandigarh	0	0
Chhattisgarh	Balod	0	0
Chhattisgarh	Balodabazar	0	1
Chhattisgarh	Balrampur	1	1
Chhattisgarh	Bastar	0	1
Chhattisgarh	Bemetara	0	0
Chhattisgarh	Bilaspur	1	1
Chhattisgarh	Dantewada	0	1
Chhattisgarh	Dhamtari	0	1
Chhattisgarh	Durg	0	0
Chhattisgarh	Gariaband	0	1
Chhattisgarh	Janjgir-Champa	1	1
Chhattisgarh	Jashpur	1	1
Chhattisgarh	Kanker	0	1
Chhattisgarh	Kondagaon	0	1
Chhattisgarh	Korba	1	1
Chhattisgarh	Koriya	1	1
Chhattisgarh	Mahasamund	0	1
Chhattisgarh	Mungeli	1	1
Chhattisgarh	Narayanpur	0	1
Chhattisgarh	Raigarh	1	1
Chhattisgarh	Raipur	0	1
Chhattisgarh	Rajnandgaon	1	1
Chhattisgarh	Surajpur	1	1
Chhattisgarh	Surguja	1	1
Dadra & Nagar Haveli	Dadra & Nagarhaveli	0	0
Daman & Diu	Daman	0	0
Daman & Diu	Diu	0	0
Delhi	Delhi	0	0
Goa	North Goa	0	0
Goa	South Goa	0	0
Gujarat	Ahmadabad	0	0
Gujarat	Amreli	0	0
Gujarat	Anand	0	0
Gujarat	Aravali	0	0
Gujarat	Banaskantha	0	1
Gujarat	Bharuch	0	0
Gujarat	Bhavnagar	0	0
Gujarat	Botad	0	0
Gujarat	Devbhoomidwarka	0	0
Gujarat	Dohad	0	1
Gujarat	Gandhinagar	0	0
Gujarat	Girsomnath	0	0
Gujarat	Jamnagar	0	0
Gujarat	Junagadh	0	0
Gujarat	Kachchh	0	0
Gujarat	Kheda	0	0
Gujarat	Mahesana	0	0
Gujarat	Mahisagar	0	0
Gujarat	Morbi	0	0
Gujarat	Narmada	0	0
Gujarat	Navsari	0	0
Gujarat	Panchmahals	0	1
Gujarat	Patan	0	0
Gujarat	Porbandar	0	0
Gujarat	Rajkot	0	0
Gujarat	Sabarkantha	0	0
Gujarat	Surat	0	0
Gujarat	Surendranagar	0	0

Gujarat	Tapi	0	0
Gujarat	Thedangs	0	1
Gujarat	Vadodara	0	0
Gujarat	Valsad	0	0
Haryana	Ambala	0	0
Haryana	Bhiwani	0	1
Haryana	Faridabad	0	0
Haryana	Fatehabad	1	1
Haryana	Gurgaon	0	1
Haryana	Hisar	1	1
Haryana	Jhajjar	0	0
Haryana	Jind	1	1
Haryana	Kaithal	1	1
Haryana	Karnal	0	0
Haryana	Kurukshetra	0	0
Haryana	Mahendragarh	0	1
Haryana	Mewat	0	1
Haryana	Palwal	0	0
Haryana	Panchkula	0	0
Haryana	Panipat	0	0
Haryana	Rewari	0	0
Haryana	Rohtak	0	0
Haryana	Sirsa	1	1
Haryana	Sonipat	0	0
Haryana	Yamunanagar	0	0
Himachal Pradesh	Bilaspur	0	0
Himachal Pradesh	Chamba	0	1
Himachal Pradesh	Hamirpur	0	0
Himachal Pradesh	Kangra	0	0
Himachal Pradesh	Kinnaur	0	0
Himachal Pradesh	Kullu	0	1
Himachal Pradesh	Lahul & Spiti	0	1
Himachal Pradesh	Mandi	0	0
Himachal Pradesh	Shimla	0	0
Himachal Pradesh	Sirmaur	0	1
Himachal Pradesh	Solan	0	0
Himachal Pradesh	Una	0	0
Jharkhand	Chatra	0	1
Jharkhand	Deoghar	0	0
Jharkhand	Dhanbad	0	0
Jharkhand	Dumka	0	1
Jharkhand	Garhwa	0	0
Jharkhand	Giridih	0	0
Jharkhand	Godda	0	0
Jharkhand	Gumla	0	0
Jharkhand	Hazaribag	0	1
Jharkhand	Kodarma	0	1
Jharkhand	Lohardaga	0	0
Jharkhand	Pakaur	0	0
Jharkhand	Palamu	0	0
Jharkhand	Pashchim Isinghbhum	0	1
Jharkhand	Purbi Singhbhum	0	1
Jharkhand	Ranchi	0	1
Jharkhand	Sahibganj	0	0
Karnataka	Bagalkot	0	1
Karnataka	Bangalore	0	0
Karnataka	Bangalorerural	0	1
Karnataka	Belgaum	1	1
Karnataka	Bellary	0	1
Karnataka	Bidar	0	1
Karnataka	Bijapur	0	1

Karnataka	Chamarajanagar	0	1
Karnataka	Chikkaballapur	1	1
Karnataka	Chikmagalur	0	0
Karnataka	Chitradurga	0	0
Karnataka	Dakshin Akannada	0	0
Karnataka	Davanagere	0	0
Karnataka	Dharwad	0	1
Karnataka	Gadag	0	1
Karnataka	Gulbarga	0	1
Karnataka	Hassan	0	0
Karnataka	Haveri	0	1
Karnataka	Kodagu	0	0
Karnataka	Kolar	1	1
Karnataka	Koppal	1	1
Karnataka	Mandya	1	1
Karnataka	Mysore	0	1
Karnataka	Raichur	1	1
Karnataka	Ramnagara	0	1
Karnataka	Shimoga	0	0
Karnataka	Tumkur	0	0
Karnataka	Udupi	0	0
Karnataka	Uttarakannada	0	0
Karnataka	Yadagiri	0	1
Kerala	Alappuzha	0	0
Kerala	Ernakulam	0	0
Kerala	Idukki	0	1
Kerala	Kannur	0	0
Kerala	Kasaragod	1	1
Kerala	Kollam	0	0
Kerala	Kottayam	0	0
Kerala	Kozhikode	0	0
Kerala	Malappuram	1	1
Kerala	Palakkad	0	1
Kerala	Pathanamthitta	0	0
Kerala	Thiruvananthapuram	0	1
Kerala	Thrissur	0	0
Kerala	Wayanad	1	1
Lakshadweep	Lakshadweep	0	0
Madhya Pradesh	Balaghat	0	0
Madhya Pradesh	Barwani	0	1
Madhya Pradesh	Betul	1	1
Madhya Pradesh	Bhind	0	1
Madhya Pradesh	Bhopal	0	0
Madhya Pradesh	Chhatarpur	1	1
Madhya Pradesh	Chhindwara	0	0
Madhya Pradesh	Damoh	0	1
Madhya Pradesh	Datia	0	1
Madhya Pradesh	Dewas	0	1
Madhya Pradesh	Dhar	1	1
Madhya Pradesh	Dindori	0	1
Madhya Pradesh	East Nimar	0	1
Madhya Pradesh	Guna	1	1
Madhya Pradesh	Gwalior	0	0
Madhya Pradesh	Harda	0	0
Madhya Pradesh	Hoshangabad	0	0
Madhya Pradesh	Indore	0	0
Madhya Pradesh	Jabalpur	0	0
Madhya Pradesh	Jhabua	0	1
Madhya Pradesh	Katni	0	0
Madhya Pradesh	Mandla	0	1
Madhya Pradesh	Mandsaur	1	1

Madhya Pradesh	Morena	0	1
Madhya Pradesh	Narsimhapur	0	0
Madhya Pradesh	Neemuch	1	1
Madhya Pradesh	Panna	1	1
Madhya Pradesh	Raisen	0	0
Madhya Pradesh	Rajgarh	0	0
Madhya Pradesh	Ratlam	1	1
Madhya Pradesh	Rewa	1	1
Madhya Pradesh	Sagar	0	0
Madhya Pradesh	Satna	1	1
Madhya Pradesh	Sehore	1	1
Madhya Pradesh	Seoni	0	1
Madhya Pradesh	Shahdol	1	1
Madhya Pradesh	Shajapur	0	1
Madhya Pradesh	Sheopur	0	1
Madhya Pradesh	Shivpuri	0	1
Madhya Pradesh	Sidhi	1	1
Madhya Pradesh	Tikamgarh	1	1
Madhya Pradesh	Ujjain	0	0
Madhya Pradesh	Umaria	1	1
Madhya Pradesh	Vidisha	0	1
Madhya Pradesh	West Nimar	0	1
Maharashtra	Ahmadnagar	0	0
Maharashtra	Akola	0	0
Maharashtra	Amravati	0	0
Maharashtra	Aurangabad	1	1
Maharashtra	Bhandara	0	0
Maharashtra	Bid	0	1
Maharashtra	Buldana	0	0
Maharashtra	Chandrapur	0	0
Maharashtra	Dhule	0	1
Maharashtra	Gadchiroli	0	1
Maharashtra	Jalgaon	0	0
Maharashtra	Jalna	0	1
Maharashtra	Kolhapur	0	0
Maharashtra	Latur	1	1
Maharashtra	Mumbai	0	0
Maharashtra	Nagpur	0	0
Maharashtra	Nanded	1	1
Maharashtra	Nashik	0	0
Maharashtra	Osmanabad	1	1
Maharashtra	Palghar	0	0
Maharashtra	Parbhani	1	1
Maharashtra	Pune	0	0
Maharashtra	Raigarh	0	0
Maharashtra	Ratnagiri	0	0
Maharashtra	Sangli	0	0
Maharashtra	Satara	0	0
Maharashtra	Sindhudurg	0	0
Maharashtra	Solapur	0	0
Maharashtra	Thane	0	0
Maharashtra	Wardha	0	0
Maharashtra	Yavatmal	0	0
Manipur	Bishnupur	0	0
Manipur	Chandel	0	0
Manipur	Churachandpur	0	0
Manipur	Imphal East	0	0
Manipur	Imphal West	0	0
Manipur	Senapati	0	0
Manipur	Tamenglong	0	0
Manipur	Thoubal	0	0

Manipur	Ukhrul	0	0
Meghalaya	East Garo Hills	0	0
Meghalaya	East Khasi Hills	0	0
Meghalaya	Jaintia Hills	0	0
Meghalaya	Ribhoi	0	0
Meghalaya	South Garo Hills	0	0
Meghalaya	West Garo Hills	0	0
Meghalaya	West Khasi Hills	0	0
Mizoram	Aizawl	0	0
Mizoram	Chhimtuipui	0	0
Mizoram	Lunglei	0	0
Nagaland	Kohima	0	0
Nagaland	Mokokchung	0	0
Nagaland	Mon	0	0
Nagaland	Phek	0	0
Nagaland	Tuensang	0	0
Nagaland	Wokha	0	0
Nagaland	Zunheboto	0	0
Orissa	Anugul	0	1
Orissa	Balangir	0	1
Orissa	Balasore	0	0
Orissa	Bargarh	0	1
Orissa	Baudh	0	0
Orissa	Bhadrak	0	0
Orissa	Cuttack	0	0
Orissa	Debagarh	0	1
Orissa	Dhenkanal	0	1
Orissa	Gajapati	0	1
Orissa	Ganjam	0	1
Orissa	Jagatsinghapur	0	0
Orissa	Jajapur	0	0
Orissa	Jharsuguda	0	1
Orissa	Kalahandi	0	1
Orissa	Kendrapara	0	0
Orissa	Kendujhar	0	1
Orissa	Khordha	0	0
Orissa	Koraput	0	1
Orissa	Malkangiri	0	1
Orissa	Mayurbhanj	0	0
Orissa	Nabarangapur	0	1
Orissa	Nayagarh	0	0
Orissa	Nuapada	0	1
Orissa	Phulabani	0	0
Orissa	Puri	0	0
Orissa	Rayagada	0	1
Orissa	Sambalpur	0	1
Orissa	Sonapur	0	1
Orissa	Sundargarh	0	0
Pondicherry	Karaikal	0	0
Pondicherry	Mahe	0	0
Pondicherry	Pondicherry	0	0
Pondicherry	Yanam	0	0
Punjab	Amritsar	0	0
Punjab	Bathinda	0	0
Punjab	Faridkot	0	0
Punjab	Firozpur	0	0
Punjab	Gurdaspur	0	0
Punjab	Hoshiarpur	0	0
Punjab	Jalandhar	0	0
Punjab	Kapurthala	0	0
Punjab	Ludhiana	0	0

Punjab	Mansa	0	0
Punjab	Patiala	0	0
Punjab	Rupnagar	0	0
Punjab	Sangrur	0	0
Punjab	Sas Nagar	0	0
Punjab	Tarn Taran	0	0
Rajasthan	Ajmer	0	0
Rajasthan	Alwar	0	1
Rajasthan	Banswara	0	0
Rajasthan	Barmer	0	0
Rajasthan	Bharatpur	0	0
Rajasthan	Bhilwara	0	1
Rajasthan	Bikaner	0	0
Rajasthan	Bundi	0	0
Rajasthan	Chittaurgarh	0	0
Rajasthan	Churu	0	0
Rajasthan	Dausa	0	1
Rajasthan	Dhaulpur	0	0
Rajasthan	Dungarpur	0	0
Rajasthan	Ganganagar	0	1
Rajasthan	Hanumangarh	0	1
Rajasthan	Jaipur	0	0
Rajasthan	Jaisalmer	0	0
Rajasthan	Jalor	0	0
Rajasthan	Jhalawar	0	1
Rajasthan	Jhunjhunun	0	1
Rajasthan	Jodhpur	0	0
Rajasthan	Karauli	0	0
Rajasthan	Kota	0	1
Rajasthan	Nagaur	0	1
Rajasthan	Pali	0	0
Rajasthan	Rajsamand	0	0
Rajasthan	Sawaimadhopur	0	0
Rajasthan	Sikar	0	1
Rajasthan	Sirohi	0	1
Rajasthan	Tonk	0	1
Rajasthan	Udaipur	0	0
Sikkim	East	0	0
Sikkim	North	0	0
Sikkim	South	0	0
Sikkim	West	0	0
Tamil Nadu	Chennai	0	0
Tamil Nadu	Coimbatore	0	0
Tamil Nadu	Cuddalore	1	1
Tamil Nadu	Dharmapuri	1	1
Tamil Nadu	Dindigul	0	0
Tamil Nadu	Erode	0	0
Tamil Nadu	Kancheepuram	0	1
Tamil Nadu	Kanniyakumari	0	0
Tamil Nadu	Karur	0	1
Tamil Nadu	Madurai	0	0
Tamil Nadu	Nagapattinam	0	0
Tamil Nadu	Namakkal	0	0
Tamil Nadu	Perambalur	0	1
Tamil Nadu	Pudukkottai	0	1
Tamil Nadu	Ramanathapuram	0	1
Tamil Nadu	Salem	0	0
Tamil Nadu	Sivaganga	0	0
Tamil Nadu	Thanjavur	0	0
Tamil Nadu	Theni	0	0
Tamil Nadu	Thenilgiris	0	0

Tamil Nadu	Thiruvallur	0	1
Tamil Nadu	Thiruvarur	0	0
Tamil Nadu	Thoothukkudi	0	0
Tamil Nadu	Tiruchirappalli	0	1
Tamil Nadu	Tirunelveli	0	0
Tamil Nadu	Tiruvannamalai	1	1
Tamil Nadu	Vellore	0	0
Tamil Nadu	Viluppuram	1	1
Tamil Nadu	Virudhunagar	0	0
Tripura	Dhalai	0	0
Tripura	North Tripura	0	0
Tripura	South Tripura	0	0
Tripura	West Tripura	0	0
Uttar Pradesh	Agra	0	0
Uttar Pradesh	Aligarh	0	0
Uttar Pradesh	Allahabad	0	0
Uttar Pradesh	Auraiya	0	0
Uttar Pradesh	Azamgarh	0	0
Uttar Pradesh	Baghpat	0	0
Uttar Pradesh	Bahraich	0	0
Uttar Pradesh	Ballia	0	0
Uttar Pradesh	Balrampur	0	1
Uttar Pradesh	Banda	0	0
Uttar Pradesh	Barabanki	0	0
Uttar Pradesh	Bareilly	0	0
Uttar Pradesh	Basti	0	1
Uttar Pradesh	Bijnor	0	1
Uttar Pradesh	Budaun	0	1
Uttar Pradesh	Bulandshahr	0	1
Uttar Pradesh	Chandauli	0	0
Uttar Pradesh	Deoria	0	1
Uttar Pradesh	Etah	0	0
Uttar Pradesh	Etawah	0	0
Uttar Pradesh	Faizabad	0	1
Uttar Pradesh	Farrukhabad	0	0
Uttar Pradesh	Fatehpur	0	1
Uttar Pradesh	Firozabad	0	1
Uttar Pradesh	Ghaziabad	0	1
Uttar Pradesh	Ghazipur	0	0
Uttar Pradesh	Gonda	0	1
Uttar Pradesh	Gorakhpur	0	0
Uttar Pradesh	Hamirpur	0	1
Uttar Pradesh	Hardoi	0	1
Uttar Pradesh	Jalaun	0	0
Uttar Pradesh	Jaunpur	0	1
Uttar Pradesh	Jhansi	0	1
Uttar Pradesh	Jyotibaphulenagar	0	1
Uttar Pradesh	Kannauj	0	0
Uttar Pradesh	Kanpurdehat	0	1
Uttar Pradesh	Kanpurnagar	0	0
Uttar Pradesh	Kaushambi	0	0
Uttar Pradesh	Kheri	0	1
Uttar Pradesh	Kushinagar	0	1
Uttar Pradesh	Lalitpur	0	1
Uttar Pradesh	Lucknow	0	0
Uttar Pradesh	Maharajganj	0	1
Uttar Pradesh	Mahoba	0	1
Uttar Pradesh	Mainpuri	0	0
Uttar Pradesh	Mathura	0	0
Uttar Pradesh	Mau	0	0
Uttar Pradesh	Meerut	0	0

Uttar Pradesh	Mirzapur	0	0
Uttar Pradesh	Moradabad	0	1
Uttar Pradesh	Muzaffarnagar	0	1
Uttar Pradesh	Pilibhit	0	1
Uttar Pradesh	Pratapgarh	0	0
Uttar Pradesh	Raebareli	0	1
Uttar Pradesh	Rampur	0	0
Uttar Pradesh	Saharanpur	0	0
Uttar Pradesh	Santravidasnagarbhadohi	0	0
Uttar Pradesh	Shahjahanpur	0	1
Uttar Pradesh	Shrawasti	0	0
Uttar Pradesh	Siddharthnagar	0	1
Uttar Pradesh	Sitapur	0	0
Uttar Pradesh	Sonbhadra	0	1
Uttar Pradesh	Sultanpur	0	1
Uttar Pradesh	Unnao	0	0
Uttar Pradesh	Varanasi	0	0
Uttarakhand	Almora	0	0
Uttarakhand	Bageshwar	0	0
Uttarakhand	Chamoli	0	0
Uttarakhand	Dehradun	0	0
Uttarakhand	Garhwal	0	0
Uttarakhand	Hardwar	0	0
Uttarakhand	Nainital	0	0
Uttarakhand	Pithoragarh	0	1
Uttarakhand	Tehrigarhwal	0	1
Uttarakhand	Udhamsinghnagar	0	0
Uttarakhand	Uttarkashi	0	1
West Bengal	Bankura	0	1
West Bengal	Barddhaman	0	0
West Bengal	Birbhum	0	1
West Bengal	Dakshin Dinajpur	0	1
West Bengal	Darjiling	0	0
West Bengal	Haora	0	0
West Bengal	Hugli	0	0
West Bengal	Jalpaiguri	0	1
West Bengal	Kochbihar	0	1
West Bengal	Kolkata	0	0
West Bengal	Maldah	0	1
West Bengal	Murshidabad	0	1
West Bengal	Nadia	0	0
West Bengal	North Twenty Four Parganas	0	0
West Bengal	Paschim Midnapor	0	0
West Bengal	Puruliya	0	1
West Bengal	South Twenty Four Parganas	0	1
West Bengal	Uttardinajpur	0	1

Table B.12: DPEP District Coding

APPENDIX C: APPENDIX FOR CHAPTER 5

C.1 Variable Definitions

Household Income This variable takes the sum of two questions that asked respondents to report household income. The first question asked what the total daily wage income was of all wage laborers that lived in the house and multiplied this answer by 30, and the second question asked what the total salary of all salaried employees in the household.

Male A dummy variable that takes the value of 1 if the respondent was male.

General Caste A dummy variable that takes a value of 1 if the respondent reported being classified as a member of a General or Forward Caste.

Muslim A variable that takes a value of 1 if the respondent reported being Muslim.

Age Age of the respondent.

Salaried Employees The number of salaried employees in the household.

Education Years of education of the respondent.

Number of School Children in Household Number of school-aged children in the household (5-16).

Partisan Political Participation Index A summary index of 5 variables: *Member of a Political Party*, *Attended Political Meetings*, *Canvassed for a Political Party*, *Distributed Political Leaflets*.

Member of a Political Party A variable that was coded 1 if a respondent answered "Yes" to the question "Are you a member of a political party?" and 0 otherwise.

Attended Political Meetings A variable that was coded 1 if a respondent answered "Yes" to the question "Have you participated in a political meeting or gathering such as an election meeting, procession, or rally over the past year?" and 0 otherwise.

Canvassed for a Political Party A variable that was coded 1 if a respondent answered "Yes" to the question "Have you participated in door to door canvassing in the past year?" and 0 otherwise.

Distributed Political Leaflets A variable that was coded 1 if a respondent answered "Yes" to the question "Have you distributed election leafless or put up posters in the past year?" and 0 otherwise.

Associational Index A summary index of seven variables: *Member of Caste Association*, *Member of Cooperative*, *Member of SHG*.

Member of Caste Association A variable that was coded 1 if a respondent answered "Yes" to the question "Are you a member of any religious/caste organisation or association?" and 0 otherwise.

Member of Cooperative or Labor Union A variable that was coded 1 if a respondent answered "Yes" to the question "Do you belong to any other associations and organisation like cooperatives, farmer's associations, trade unions, welfare organisations, school management committees, or cultural and sports organisations?" and 0 otherwise.

Member of SHG A variable that was coded 1 if a respondent answered "Yes" to the question "Are you a member of a local Self Help Group?" and 0 otherwise.

Voting Index A summary index of three variables: *Intend to Vote: Lok Sabha*, *Intend to Vote: Vidhan Sabha*, and *Voted: Panchayat*.

Intend to Vote: Lok Sabha A variable that was coded 1 if a respondent answered "Yes" to the question "Do you plan on voting in the 2014 Lok Sabha elections?" and 0 otherwise.

Intend to Vote: Vidhan Sabha A variable that was coded 1 if a respondent answered "Yes" to the question "Do you plan on voting in the 2014 Legislative Assembly elections?" and 0 otherwise.

Voted: Panchayat A variable that was coded 1 if a respondent answered "Yes" to the question "Did you vote in the 2013 panchayat elections?" and 0 otherwise.

Private Sector Index A summary index of three variables: *Private Job*, *Private Services*, and *Private Financing*.

Private Job A variable that takes the value 1 if a respondent answers "Private Job" to the question, "If you were looking for a job today, would you prefer a government job, a private sector job, or to be self-employed?" and 0 otherwise.

Private Services A variable that takes the value of 1 if a respondent answers "Private Body" to the question, "If you were seeking health services or education for a family member today, would you prefer the service from a government body or from a private body?" and 0 otherwise.

Private Financing A variable that takes the value of 1 if a respondent answers "Private actors should both finance and administer these services," to the question, "Which statement about the provision of health care and education do you agree with more?" and 0 otherwise.

Voucher Child in Private School A variable that takes the value of 1 if a respondent reports enrolling their voucher lottery child in a private school *after* the voucher lottery period finished.

Children in Private Schools A sum of the number of school-aged children in the household enrolled in private schools.

Use Private Health Services A variable that takes a value of 1 if a respondent mentions a private health service in answer to the question, "If a family member falls sick, where would you take them?"

Willingness to Pay Index A summary index of two variables: *Voucher Willingness to Pay* and *PDS Willingness to Pay*.

Voucher Willingness to Pay A variable that took the value the respondent stopped at to the question "If you were given a choice between receiving an annual education scholarship from the government of Rs. X per year or Rs. X/12 per month that you can spend on your child's education in any way you wish (including private school fees, books, uniform, transport, and private tuition), or being able to send your child to the government school for free (as it currently is), what would you prefer?" The question began

by setting X at Rs. 3,000 per year (or Rs. 250 per month) and progressed in Rs. 500 per year increments to Rs. 10,000 per year (or Rs. 833 per month). If the respondent rejected the offer at Rs. 10,000 per year, the respondent was asked at what value of scholarship would they be indifferent between government provision or receiving a scholarship, and the variable takes this value.

PDS Willingness to Pay A variable that took the value the respondent stopped at to the question "Would you prefer a monthly cash transfer from the government of Rs. X INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?" The question began by setting X at Rs. 200 per month and progressed in Rs. 50 increments to Rs. 1,000 per month. If the respondent rejected the offer at Rs. 1,000 per month, the respondent was asked at what value of cash transfer would they be indifferent between government provision of rations or receiving a cash transfer and the variable takes this value.

Teachers in this Village Work as Election Monitors A variable that takes the value of 1 if a respondent reports knowing that government school teachers work as election monitors.

Teachers in this Village Work as Census Enumerators A variable that takes the value of 1 if a respondent reports knowing that government school teachers work as census enumerators.

Care about well-being of students Answer to the question "Do you think that government teachers care about the well-being of their students?" from "Very much care", "Somewhat care", "Somewhat don't care", "Very much don't care".

Treat all students equally Coded as 1 if respondents answer "Yes" to question "Do you think that government school teachers treat all students equally?"

State Intermediaries For each variable that composes the index, the variable was coded as 1 if respondents claimed to go to one of the following: A local government (panchayat) member, a block or district level government bureaucrat, a state or local politician, a member of an official political party. If respondents said they did not use anyone, the variable was coded as 0.

Non-State Intermediaries For each variable that composes the index, the variable was coded as 1 if respondents claimed to go to one of the following: Community associations, Caste groups, local informal

"fixers", an NGO, a private school teacher, or family. If respondents said they did not use anyone, the variable was coded as 0.

C.2 Selection & Compliance

Despite the school voucher lottery relying on randomized assignment, there exist two prior avenues for selection into treatment. First, participants had to choose to enter their name into the voucher lottery. As we can see from Table C.3, this led to participants that were of lower socioeconomic status than the average household in the same villages and districts. Second, vouchers winners, upon winning the lottery, had to choose whether to take up the lottery or not, and could drop out at any point, while those that did not win the lottery could choose to send their children to privates schools out of pocket. As the treatment was over five years, there was a long time for participants to violate assignment status. Tables 5.3 and C.1 present compliance in the full sample and in my smaller downstream sample. Compliance was slightly higher in my downstream sample, likely due to respondent out-migration from the full sample and the subsequent inability of surveyors to locate them.

Compliance Rate of Downstream Sample		
	Offered Voucher	
	No	Yes
Total	405	797
Took-up Admission	NA	606 (76%)
In Private School After Five Years	93 (23%)	457 (57%)

Table C.1: Compliance Rate: Downstream Sample

C.3 First-Stage Estimator for Instrumental Variable Regression

As we can see from Tables 5.3 and C.1, there was about 43 percent non-compliance in the downstream sample. The third coefficient plot in every coefficient plot represents an instrumental variable regression where the an indicator of whether households kept their children in private school for five years is instrumented original assignment into treatment and control. In Table C.2 I report the first stage of this regression for interested readers and note that the F-Statistic passes all conventional measures for the strength of an instrument.

	Private School at Endline	Private School at Endline	Private School at Endline
Voucher Winner	0.347***	0.350***	0.349***
	(0.029)	(0.029)	(0.030)
Observations	1161	1161	1095
F-Stat	139.582	141.609	18.273
District Fixed Effects	No	Yes	Yes
Controls	No	No	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.2: First-Stage Regression

C.4 The Andhra Pradesh School Choice Experiment

Improving on existing voucher experiments, the Andhra Pradesh School Choice Experiment (APSC) experiment employed a two-stage randomization design. Villages selected for the project were first randomized into "treatment" villages that would receive vouchers and "control" villages that would receive no vouchers. Once treatment villages were selected, there was a second round of randomization where households within treatment villages were then entered into a voucher lottery. This created both a child and village level counterfactual where some children within villages received vouchers and others did not, and then some villages had no voucher winning children at all.

The original experiment operated across five districts of Andhra Pradesh - Nizamabad, Medak, Kedapa, East Godavari, and Visakhapatnam - specifically chosen to account for Andhra Pradesh's cultural and socioeconomic diversity.[93] The APSC project was conducted over 180 villages that had at least one recognized private school.[94] The initial village level randomization randomized 90 villages into treatment villages, and 90 control villages. Due to the small size of the program relative to the size of villages, I hold no theoretical expectations for effects at the village, as opposed to household, level. As a result, I only sampled from treatment villages in which the second stage randomization selected voucher children.

A household could only enter a child into the lottery if they were in Upper Kindergarten or Standard 1 at the time of the lottery, ensuring that the child would benefit from five years of private education if they received a voucher. The voucher provided for fees, books, and school uniforms, but not school lunches or transportation to a *local* private school.[95] The emphasis on local private schools restricted households to sending children to schools within their village, although villages were purposefully selected to have at least one government recognized private school. Within treatment villages, 3,097 households applied for a voucher, of which 1,980 (64 percent) were selected by lottery to receive a voucher. 1,210 of the 1,980 (61 percent) households accepted the voucher and enrolled in a private school at the beginning of the project.

[93] In the recent division of Andhra Pradesh into the two states of Andhra Pradesh and Telengana, Nizamabad and Medak became part of the newly formed Telengana state, while Kedapa, East Godavari, and Visakhapatnam remained in Andhra Pradesh.

[94] Recognized private schools are those that have been registered and recognized by the state government. To receive government recognition, they must meet criteria specified in the Right to Education Act, including a certain pupil-to-teacher ratio, separate boys and girls toilets, a boundary wall to separate the school from other buildings, and a playground for children among other requirements. These requirements ensure that the quality of the school as measured by physical infrastructure is higher than many unrecognized schools that also operate in the area.

[95] Government schools in India provide one hot cooked meal a day to students through a Central Government scheme known as the Midday Meal Scheme. The scheme is often credited with increasing enrollment in government schools (Drèze and Kingdon, 2001), although no interviewed households cited the lack of free meals as a barrier to sending their children to private schools if they received a voucher.

At the end of five years 980 households (83 percent) remained in private schools. Table 5.3 provides the full details of compliers and non-compliers.

For a more detailed treatment of the original Andhra Pradesh School Choice Experiment, see Muralidharan and Sundararaman (2015). The original experiment found that test scores in math and Telugu (the vernacular language of Andhra Pradesh) between students in private schools and government schools were not significantly different. Two important caveats should be added, however. While government schools teach an average of three subjects (math, Telugu, and a joint subject of science and social studies called "environmental studies" (EVS)) students in private schools study a far greater number of subjects including English, Hindi, separate classes for social studies and science, and computer use. Accounting for time use within schools, private schools achieve greater "bang for their buck," by achieving the same test scores using less instructional time on the subjects that both types of schools share in common, while attaining higher test scores in subjects, such as Hindi, that government schools do not focus on as much. Moreover, private schools in the sample spend an average of Rs. 3,000 per student per year, while government schools in the sample spend an average of Rs. 8,000 per student per year (approximately $50 and $130 per student per year respectively). The second caveat is that there is considerable disruption for students that join private schools not in their vernacular language.[96] For students that join Telugu medium private schools, their test scores across all subjects are far better than students in Telugu medium government schools.

[96]Private schools in Andhra Pradesh generally fall into two categories, "Telugu medium" and "English medium" schools. Telugu medium schools conduct instruction for all classes in Telugu apart from second and third language classes, while English medium schools conduct all instruction in English.

C.5 Downstream Sampling

		Downstream Sample	Census: Survey Villages	Census: Survey Districts	Census: All India
1	Literate (%)	25.79	51.96	60.67	57.91
2	Agricultural Labor (%)	50.33	54.01	62.08	32.94
3	Unemployed (%)	0.50	207.52	164.23	197.30
4	Scheduled Caste (%)	24.29	5.83	20.47	18.46
5	Scheduled Tribe (%)	2.41	0.72	5.17	11.26

Table C.3: Comparison of Sample Socieconomic Indicators

As we can see from Table 5.1, there was covariate balance between treatment and control households in both the full APSC sample and my reduced downstream sub-sample. As we can see from C.3, households in my sample were less literate and more households work as agricultural laborers than the district wide averages for the five districts I surveyed in, suggesting my respondents were slightly poorer than district averages. Households reported far lower rates of unemployement than the district wide average, but this might be a result of different measures of employment between the two surveys, and I surveyed slightly more scheduled caste households and slightly fewer scheduled tribe households.

Surveyors were instructed to survey the chief decision maker in the household or the person in charge of schooling decisions for children in the household and to return at a later date if either of those two people were not present. I sampled households from the original APSC sample list, stratifying by district and ensuring a similar balance between treatment and control households as the original intervention. Surveys lasted between 50 minutes and one and a half hours. Semi-structured interviews lasted between 30 minutes and two hours. Simultaneous translation was provided by three of the 11 surveyors who were fluent in English and Telugu.

C.6 Full Results Tables

In this section, I present the full regression results, including the coefficients on all control variables (Column 2 in all tables). I also include a series of additional robustness checks in this analysis: using treatment status as an instrument for whether households *accepted* the voucher (Column 3), whether households *enrolled* in a private school (Column 4), whether children *remained* in a private school for the entire voucher experiment (this estimator is the one presented in the results of the main body of the paper) (Column 5), and whether households enrolled their children in English medium schools (Column 6).

We can also view these tables as results that are robust to alternative measures of school choice (e.g. voucher use and years in private school). Moreover, comparing these measures reveals that the treatment effects are stronger along the intensive margin (i.e. how *much* does each household use private schools, conditional on any attendance) rather than the extensive margin (i.e. any attendance at a private school). These results add support to one of my primary mechanisms, the idea of private sector *permanence*, as households that spent *more* time in private schools are more likely to hold stronger market-oriented beliefs.

C.6.1 Political Participation

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.070	0.066				
	(0.047)	(0.048)				
Accepted Voucher			0.094			
			(0.068)			
Enrolled in Private School				0.114		
				(0.082)		
Attended Private School					0.161	
					(0.140)	
English Medium						0.415
						(0.310)
Household Income		0.003	0.003	0.004	0.006	0.014
		(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Male		0.120**	0.122**	0.122**	0.114**	0.140**
		(0.053)	(0.053)	(0.053)	(0.054)	(0.058)
General Caste		-0.152**	-0.154**	-0.158**	-0.143**	-0.217***
		(0.066)	(0.066)	(0.066)	(0.068)	(0.079)
Muslim		-0.080	-0.078	-0.077	-0.081	-0.054
		(0.088)	(0.088)	(0.088)	(0.090)	(0.095)
Age		0.006	0.006	0.006	0.006*	0.006
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Salaried Employees		-0.068	-0.068	-0.076	-0.115	-0.172*
		(0.068)	(0.067)	(0.068)	(0.072)	(0.098)
Education		0.016**	0.016**	0.016**	0.014**	0.010
		(0.007)	(0.007)	(0.007)	(0.007)	(0.008)
No. School Children in HH		-0.007	-0.005	-0.003	0.004	-0.001
		(0.035)	(0.035)	(0.035)	(0.036)	(0.038)
Constant	-0.272***	-0.544***	-0.549***	-0.557***	-0.647***	-0.624***
	(0.063)	(0.184)	(0.184)	(0.185)	(0.205)	(0.194)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.4: Political Participation Index

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.009	0.009				
	(0.011)	(0.012)				
Accepted Voucher			0.013			
			(0.016)			
Enrolled in Private School				0.016		
				(0.020)		
Attended Private School					0.020	
					(0.034)	
English Medium						0.053
						(0.074)
Household Income		-0.003	-0.003	-0.003	-0.004	-0.002
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Male		0.017	0.017	0.017	0.018	0.020
		(0.013)	(0.013)	(0.013)	(0.013)	(0.014)
General Caste		-0.011	-0.011	-0.011	-0.007	-0.012
		(0.016)	(0.016)	(0.016)	(0.017)	(0.019)
Muslim		0.017	0.018	0.018	0.016	0.018
		(0.021)	(0.021)	(0.021)	(0.022)	(0.023)
Age		0.001	0.001	0.001	0.001	0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Salaried Employees		-0.011	-0.011	-0.012	-0.021	-0.028
		(0.016)	(0.016)	(0.016)	(0.018)	(0.023)
Education		0.005***	0.005***	0.005***	0.005***	0.005**
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
No. School Children in HH		0.001	0.001	0.002	0.002	0.002
		(0.009)	(0.008)	(0.008)	(0.009)	(0.009)
Constant	0.005	-0.019	-0.020	-0.021	-0.025	-0.026
	(0.015)	(0.045)	(0.045)	(0.045)	(0.050)	(0.047)
Observations	1198	1131	1131	1131	1092	1050
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.5: Member of a Political Party

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.005	0.006				
	(0.027)	(0.028)				
Accepted Voucher			0.008			
			(0.039)			
Enrolled in Private School				0.010		
				(0.048)		
Attended Private School					0.026	
					(0.081)	
English Medium						0.077
						(0.178)
Household Income		0.018***	0.018***	0.018***	0.020***	0.023***
		(0.006)	(0.006)	(0.006)	(0.006)	(0.007)
Male		0.046	0.046	0.046	0.039	0.042
		(0.031)	(0.031)	(0.031)	(0.031)	(0.033)
General Caste		-0.026	-0.026	-0.026	-0.019	-0.041
		(0.039)	(0.038)	(0.039)	(0.039)	(0.045)
Muslim		-0.059	-0.058	-0.058	-0.053	-0.047
		(0.052)	(0.051)	(0.051)	(0.052)	(0.054)
Age		-0.001	-0.001	-0.001	-0.001	-0.000
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		-0.059	-0.059	-0.060	-0.067	-0.082
		(0.039)	(0.039)	(0.039)	(0.042)	(0.055)
Education		0.003	0.003	0.003	0.003	0.002
		(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
No. School Children in HH		-0.037*	-0.037*	-0.037*	-0.030	-0.030
		(0.020)	(0.020)	(0.020)	(0.021)	(0.021)
Constant	0.290***	0.233**	0.232**	0.231**	0.166	0.153
	(0.037)	(0.107)	(0.107)	(0.108)	(0.118)	(0.110)
Observations	1195	1128	1128	1128	1089	1047
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.6: Attended a Political Meeting

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.026	0.020				
	(0.021)	(0.021)				
Accepted Voucher			0.028			
			(0.030)			
Enrolled in Private School				0.034		
				(0.036)		
Attended Private School					0.043	
					(0.062)	
English Medium						0.118
						(0.134)
Household Income		0.002	0.002	0.002	0.003	0.006
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Male		0.025	0.025	0.025	0.022	0.032
		(0.023)	(0.023)	(0.023)	(0.024)	(0.026)
General Caste		-0.067**	-0.068**	-0.069**	-0.065**	-0.091***
		(0.029)	(0.029)	(0.029)	(0.030)	(0.035)
Muslim		-0.028	-0.027	-0.027	-0.028	-0.014
		(0.039)	(0.039)	(0.039)	(0.040)	(0.042)
Age		0.002	0.002	0.002	0.002	0.002
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		-0.002	-0.002	-0.004	-0.014	-0.036
		(0.030)	(0.030)	(0.030)	(0.032)	(0.043)
Education		0.000	0.000	0.000	-0.001	-0.002
		(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
No. School Children in HH		0.010	0.011	0.012	0.013	0.013
		(0.016)	(0.016)	(0.016)	(0.016)	(0.017)
Constant	0.009	-0.098	-0.099	-0.101	-0.127	-0.127
	(0.028)	(0.082)	(0.082)	(0.082)	(0.090)	(0.086)
Observations	1197	1129	1129	1129	1090	1048
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.7: Canvassed for a Political Party

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.029*	0.029*				
	(0.017)	(0.017)				
Accepted Voucher			0.042*			
			(0.025)			
Enrolled in Private School				0.051*		
				(0.030)		
Attended Private School					0.070	
					(0.050)	
English Medium						0.175
						(0.114)
Household Income		-0.003	-0.003	-0.003	-0.002	0.000
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Male		0.050***	0.051***	0.051***	0.049**	0.060***
		(0.019)	(0.019)	(0.019)	(0.020)	(0.022)
General Caste		-0.054**	-0.055**	-0.057**	-0.053**	-0.081***
		(0.024)	(0.024)	(0.024)	(0.025)	(0.029)
Muslim		-0.030	-0.029	-0.028	-0.031	-0.021
		(0.032)	(0.032)	(0.032)	(0.033)	(0.035)
Age		0.003**	0.003**	0.003**	0.003**	0.003*
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Salaried Employees		-0.025	-0.025	-0.029	-0.045*	-0.065*
		(0.025)	(0.025)	(0.025)	(0.027)	(0.037)
Education		0.008***	0.008***	0.008***	0.007***	0.006**
		(0.002)	(0.002)	(0.002)	(0.003)	(0.003)
No. School Children in HH		0.001	0.001	0.002	0.004	0.000
		(0.013)	(0.013)	(0.013)	(0.013)	(0.014)
Constant	-0.003	-0.107	-0.109	-0.112*	-0.138*	-0.119*
	(0.023)	(0.068)	(0.068)	(0.068)	(0.075)	(0.072)
Observations	1189	1121	1121	1121	1082	1040
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.8: Distributed Leaflets for a Political Party

C.6.2 Associational Membership

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.071*	0.069*				
	(0.037)	(0.038)				
Accepted Voucher			0.097*			
			(0.053)			
Enrolled in Private School				0.119*		
				(0.065)		
Attended Private School					0.178	
					(0.110)	
English Medium						0.351
						(0.242)
Household Income		0.030***	0.030***	0.030***	0.034***	0.035***
		(0.008)	(0.008)	(0.008)	(0.009)	(0.009)
Male		-0.196***	-0.195***	-0.194***	-0.203***	-0.166***
		(0.042)	(0.041)	(0.041)	(0.042)	(0.045)
General Caste		-0.154***	-0.155***	-0.160***	-0.134**	-0.143**
		(0.052)	(0.052)	(0.052)	(0.054)	(0.062)
Muslim		-0.081	-0.079	-0.078	-0.087	-0.078
		(0.069)	(0.069)	(0.069)	(0.071)	(0.074)
Age		-0.002	-0.002	-0.002	-0.000	-0.002
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		-0.066	-0.066	-0.074	-0.108*	-0.174**
		(0.053)	(0.053)	(0.053)	(0.057)	(0.076)
Education		0.005	0.005	0.004	0.002	-0.002
		(0.005)	(0.005)	(0.005)	(0.005)	(0.006)
No. School Children in HH		-0.039	-0.037	-0.035	-0.028	-0.042
		(0.028)	(0.027)	(0.027)	(0.028)	(0.029)
Constant	0.239***	0.262*	0.257*	0.248*	0.126	0.279*
	(0.050)	(0.145)	(0.144)	(0.145)	(0.161)	(0.151)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.9: Associational Membership Index

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.007	-0.003				
	(0.017)	(0.017)				
Accepted Voucher			-0.005			
			(0.025)			
Enrolled in Private School				-0.006		
				(0.030)		
Attended Private School					-0.005	
					(0.051)	
English Medium						0.001
						(0.112)
Household Income		0.006	0.006	0.006	0.006	0.006
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Male		0.088***	0.087***	0.087***	0.085***	0.084***
		(0.019)	(0.019)	(0.019)	(0.020)	(0.021)
General Caste		-0.011	-0.011	-0.011	-0.004	-0.005
		(0.024)	(0.024)	(0.024)	(0.025)	(0.028)
Muslim		-0.067**	-0.067**	-0.067**	-0.068**	-0.068**
		(0.032)	(0.032)	(0.032)	(0.033)	(0.034)
Age		-0.002*	-0.002*	-0.002*	-0.002	-0.002
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Salaried Employees		-0.015	-0.015	-0.014	-0.021	-0.025
		(0.025)	(0.025)	(0.025)	(0.026)	(0.035)
Education		-0.001	-0.001	-0.001	-0.001	-0.001
		(0.002)	(0.002)	(0.002)	(0.003)	(0.003)
No. School Children in HH		0.012	0.012	0.012	0.010	0.008
		(0.013)	(0.013)	(0.013)	(0.013)	(0.014)
Constant	0.196***	0.189***	0.813***	0.814***	0.807***	0.811***
	(0.014)	(0.066)	(0.067)	(0.068)	(0.074)	(0.070)
Observations	1194	1127	1127	1127	1089	1047
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.10: Member of a Caste Association

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.014	0.016				
	(0.019)	(0.019)				
Accepted Voucher			0.022			
			(0.027)			
Enrolled in Private School				0.027		
				(0.033)		
Attended Private School					0.029	
					(0.056)	
English Medium						0.058
						(0.122)
Household Income		0.005	0.005	0.005	0.005	0.004
		(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Male		0.003	0.003	0.003	0.001	0.005
		(0.021)	(0.021)	(0.021)	(0.022)	(0.023)
General Caste		-0.047*	-0.047*	-0.048*	-0.042	-0.046
		(0.027)	(0.027)	(0.027)	(0.028)	(0.032)
Muslim		0.014	0.014	0.015	0.013	0.014
		(0.036)	(0.036)	(0.036)	(0.037)	(0.038)
Age		-0.001	-0.001	-0.001	-0.000	-0.000
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		-0.047*	-0.048*	-0.049*	-0.058**	-0.066*
		(0.027)	(0.027)	(0.027)	(0.029)	(0.039)
Education		0.009***	0.009***	0.009***	0.009***	0.009***
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
No. School Children in HH		0.018	0.018	0.019	0.019	0.019
		(0.014)	(0.014)	(0.014)	(0.015)	(0.015)
Constant	0.098***	0.028	-0.030	-0.031	-0.045	-0.027
	(0.015)	(0.073)	(0.074)	(0.075)	(0.083)	(0.078)
Observations	1189	1122	1122	1122	1084	1042
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.11: Member of a Cooperative or Labor Union

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.051*	0.046*				
	(0.026)	(0.026)				
Accepted Voucher			0.066*			
			(0.037)			
Enrolled in Private School				0.080*		
				(0.045)		
Attended Private School					0.127*	
					(0.075)	
English Medium						0.249
						(0.167)
Household Income		0.020***	0.021***	0.021***	0.024***	0.026***
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Male		-0.209***	-0.209***	-0.208***	-0.213***	-0.185***
		(0.029)	(0.029)	(0.029)	(0.029)	(0.031)
General Caste		-0.086**	-0.087**	-0.091**	-0.075**	-0.078*
		(0.036)	(0.036)	(0.036)	(0.037)	(0.043)
Muslim		-0.060	-0.059	-0.058	-0.065	-0.057
		(0.048)	(0.048)	(0.048)	(0.049)	(0.051)
Age		0.000	0.000	0.000	0.001	-0.000
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		-0.009	-0.009	-0.014	-0.033	-0.081
		(0.037)	(0.037)	(0.037)	(0.039)	(0.053)
Education		-0.004	-0.004	-0.005	-0.006	-0.010**
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
No. School Children in HH		-0.055***	-0.054***	-0.052***	-0.044**	-0.056***
		(0.019)	(0.019)	(0.019)	(0.020)	(0.020)
Constant	0.703***	0.747***	0.855***	0.849***	0.754***	0.869***
	(0.022)	(0.099)	(0.100)	(0.101)	(0.112)	(0.105)
Observations	1194	1127	1127	1127	1089	1047
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.12: Member of a Self-Help Group

C.6.3 Intention to Vote

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.034	0.027				
	(0.039)	(0.039)				
Accepted Voucher			0.038			
			(0.055)			
Enrolled in Private School				0.047		
				(0.067)		
Attended Private School					0.048	
					(0.111)	
English Medium						0.051
						(0.243)
Household Income		-0.002	-0.002	-0.002	-0.001	0.001
		(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Male		-0.044	-0.044	-0.043	-0.033	-0.037
		(0.043)	(0.043)	(0.043)	(0.043)	(0.046)
General Caste		0.070	0.069	0.068	0.062	0.054
		(0.054)	(0.054)	(0.054)	(0.054)	(0.062)
Muslim		0.120*	0.121*	0.121*	0.107	0.095
		(0.072)	(0.072)	(0.072)	(0.072)	(0.074)
Age		0.004	0.004	0.004	0.004	0.003
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		-0.143***	-0.143***	-0.146***	-0.169***	-0.166**
		(0.055)	(0.055)	(0.055)	(0.058)	(0.077)
Education		0.015***	0.015***	0.015***	0.014**	0.015**
		(0.005)	(0.005)	(0.005)	(0.006)	(0.006)
No. School Children in HH		-0.025	-0.024	-0.023	-0.015	-0.008
		(0.029)	(0.029)	(0.029)	(0.029)	(0.030)
Constant	-0.022	-0.123	-0.036	-0.040	-0.029	0.000
	(0.032)	(0.149)	(0.150)	(0.151)	(0.163)	(0.152)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.13: Electoral Participation Index

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.004	-0.002				
	(0.015)	(0.015)				
Accepted Voucher			-0.003			
			(0.021)			
Enrolled in Private School				-0.004		
				(0.026)		
Attended Private School					-0.006	
					(0.043)	
English Medium						-0.017
						(0.091)
Household Income		-0.007**	-0.007**	-0.007**	-0.006*	-0.006
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Male		0.020	0.020	0.020	0.021	0.016
		(0.017)	(0.016)	(0.016)	(0.017)	(0.018)
General Caste		0.032	0.032	0.032	0.019	0.018
		(0.021)	(0.021)	(0.021)	(0.021)	(0.024)
Muslim		0.012	0.012	0.012	0.018	0.012
		(0.028)	(0.027)	(0.027)	(0.028)	(0.029)
Age		-0.002	-0.002*	-0.002	-0.002	-0.002*
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Salaried Employees		-0.060***	-0.060***	-0.060***	-0.066***	-0.055*
		(0.021)	(0.021)	(0.021)	(0.022)	(0.029)
Education		0.006***	0.006***	0.006***	0.006***	0.007***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
No. School Children in HH		0.014	0.014	0.014	0.013	0.015
		(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Constant	0.921***	1.001***	1.074***	1.074***	1.070***	1.065***
	(0.012)	(0.057)	(0.057)	(0.058)	(0.064)	(0.059)
Observations	1188	1122	1122	1122	1083	1041
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.14: Intend to Vote: Lok Sabha

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.010	-0.011				
	(0.015)	(0.015)				
Accepted Voucher			-0.015			
			(0.021)			
Enrolled in Private School				-0.019		
				(0.026)		
Attended Private School					-0.025	
					(0.043)	
English Medium						-0.056
						(0.090)
Household Income		0.001	0.001	0.000	0.002	0.003
		(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
Male		0.020	0.020	0.019	0.025	0.020
		(0.017)	(0.017)	(0.017)	(0.017)	(0.018)
General Caste		0.042**	0.042**	0.043**	0.035	0.042*
		(0.021)	(0.021)	(0.021)	(0.021)	(0.024)
Muslim		0.013	0.013	0.013	0.013	0.004
		(0.028)	(0.028)	(0.028)	(0.028)	(0.029)
Age		-0.002*	-0.002*	-0.002*	-0.002*	-0.002*
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Salaried Employees		-0.074***	-0.074***	-0.072***	-0.078***	-0.065**
		(0.021)	(0.021)	(0.021)	(0.022)	(0.029)
Education		0.006***	0.006***	0.006***	0.006***	0.007***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
No. School Children in HH		0.012	0.011	0.011	0.011	0.015
		(0.011)	(0.011)	(0.011)	(0.011)	(0.012)
Constant	0.920***	0.951***	1.032***	1.034***	1.022***	1.002***
	(0.012)	(0.058)	(0.058)	(0.059)	(0.064)	(0.060)
Observations	1183	1117	1117	1117	1078	1037
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.15: Intend to Vote: Vidhan Sabha

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.019	0.017				
	(0.012)	(0.012)				
Accepted Voucher			0.025			
			(0.017)			
Enrolled in Private School				0.030		
				(0.021)		
Attended Private School					0.036	
					(0.034)	
English Medium						0.057
						(0.076)
Household Income		0.001	0.001	0.001	0.000	0.001
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Male		-0.032**	-0.032**	-0.032**	-0.030**	-0.028**
		(0.013)	(0.013)	(0.013)	(0.013)	(0.014)
General Caste		0.001	0.000	-0.001	0.003	-0.003
		(0.017)	(0.017)	(0.017)	(0.017)	(0.020)
Muslim		0.039*	0.039*	0.040*	0.032	0.033
		(0.022)	(0.022)	(0.022)	(0.022)	(0.023)
Age		0.003***	0.003***	0.003***	0.003***	0.003***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Salaried Employees		-0.007	-0.007	-0.009	-0.014	-0.023
		(0.017)	(0.017)	(0.017)	(0.018)	(0.024)
Education		0.002	0.002	0.002	0.001	0.001
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
No. School Children in HH		-0.020**	-0.019**	-0.019**	-0.015*	-0.015
		(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Constant	0.945***	0.870***	0.848***	0.846***	0.855***	0.877***
	(0.010)	(0.046)	(0.047)	(0.047)	(0.051)	(0.048)
Observations	1187	1121	1121	1121	1082	1040
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.16: Voted: Panchayat

C.6.4 Comfort with Private Services

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.086**	0.081**				
	(0.034)	(0.033)				
Accepted Voucher			0.114**			
			(0.047)			
Enrolled in Private School				0.139**		
				(0.057)		
Attended Private School					0.244***	
					(0.093)	
English Medium						0.495**
						(0.207)
Household Income		0.009	0.009	0.009	0.010	0.010
		(0.007)	(0.007)	(0.007)	(0.007)	(0.008)
Male		-0.053	-0.051	-0.051	-0.064*	-0.042
		(0.037)	(0.037)	(0.037)	(0.036)	(0.039)
General Caste		0.088*	0.086*	0.081*	0.095**	0.037
		(0.046)	(0.046)	(0.046)	(0.045)	(0.053)
Muslim		-0.050	-0.048	-0.046	-0.047	-0.041
		(0.062)	(0.061)	(0.061)	(0.060)	(0.063)
Age		-0.005**	-0.005**	-0.005**	-0.004*	-0.005*
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		0.228***	0.228***	0.219***	0.188***	0.140**
		(0.047)	(0.047)	(0.047)	(0.048)	(0.065)
Education		0.028***	0.028***	0.027***	0.024***	0.021***
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
No. School Children in HH		0.049**	0.051**	0.054**	0.054**	0.037
		(0.025)	(0.024)	(0.024)	(0.024)	(0.025)
Constant	-0.002	-0.018	-0.024	-0.034	-0.135	0.049
	(0.045)	(0.129)	(0.128)	(0.128)	(0.136)	(0.130)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.17: Private Services Index

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.003	-0.007				
	(0.017)	(0.017)				
Accepted Voucher			-0.010			
			(0.024)			
Enrolled in Private School				-0.012		
				(0.029)		
Attended Private School					-0.010	
					(0.049)	
English Medium						-0.017
						(0.106)
Household Income		0.008**	0.008**	0.008**	0.008**	0.008**
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Male		-0.060***	-0.060***	-0.060***	-0.064***	-0.059***
		(0.019)	(0.019)	(0.019)	(0.019)	(0.020)
General Caste		0.076***	0.076***	0.077***	0.083***	0.085***
		(0.024)	(0.024)	(0.024)	(0.024)	(0.027)
Muslim		0.016	0.016	0.016	0.014	0.001
		(0.032)	(0.032)	(0.032)	(0.032)	(0.033)
Age		-0.001	-0.001	-0.001	-0.001	-0.001
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Salaried Employees		-0.013	-0.013	-0.012	-0.006	0.001
		(0.024)	(0.024)	(0.024)	(0.025)	(0.034)
Education		-0.004	-0.004	-0.004	-0.003	-0.003
		(0.002)	(0.002)	(0.002)	(0.002)	(0.003)
No. School Children in HH		0.010	0.010	0.009	0.006	0.012
		(0.013)	(0.012)	(0.012)	(0.013)	(0.013)
Constant	0.002	-0.032	-0.032	-0.031	-0.011	-0.039
	(0.023)	(0.066)	(0.066)	(0.066)	(0.072)	(0.067)
Observations	1199	1131	1131	1131	1092	1050
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.18: Preference for Private Sector Job

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.022	0.028				
	(0.024)	(0.024)				
Accepted Voucher			0.040			
			(0.034)			
Enrolled in Private School				0.049		
				(0.041)		
Attended Private School					0.110	
					(0.070)	
English Medium						0.256*
						(0.155)
Household Income		0.018***	0.018***	0.018***	0.019***	0.019***
		(0.005)	(0.005)	(0.005)	(0.005)	(0.006)
Male		-0.049*	-0.049*	-0.049*	-0.050*	-0.036
		(0.027)	(0.026)	(0.027)	(0.027)	(0.029)
General Caste		0.039	0.038	0.037	0.045	0.012
		(0.033)	(0.033)	(0.033)	(0.034)	(0.039)
Muslim		-0.090**	-0.089**	-0.088**	-0.092**	-0.100**
		(0.044)	(0.044)	(0.044)	(0.045)	(0.047)
Age		-0.004*	-0.004*	-0.004*	-0.004**	-0.004**
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		0.032	0.032	0.029	0.018	-0.013
		(0.034)	(0.034)	(0.034)	(0.036)	(0.049)
Education		0.005	0.005	0.005	0.004	0.002
		(0.003)	(0.003)	(0.003)	(0.004)	(0.004)
No. School Children in HH		-0.026	-0.025	-0.024	-0.022	-0.026
		(0.018)	(0.018)	(0.018)	(0.018)	(0.019)
Constant	0.080**	0.125	0.123	0.119	0.094	0.152
	(0.032)	(0.093)	(0.092)	(0.093)	(0.103)	(0.097)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.19: Basic Services should be Provided Privately

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.018	0.023				
	(0.017)	(0.017)				
Accepted Voucher			0.032			
			(0.024)			
Enrolled in Private School				0.039		
				(0.030)		
Attended Private School					0.075	
					(0.051)	
English Medium						0.175
						(0.112)
Household Income		0.016***	0.016***	0.016***	0.016***	0.016***
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Male		-0.064***	-0.064***	-0.064***	-0.067***	-0.053**
		(0.019)	(0.019)	(0.019)	(0.020)	(0.021)
General Caste		0.040*	0.040*	0.038	0.048*	0.024
		(0.024)	(0.024)	(0.024)	(0.025)	(0.029)
Muslim		-0.045	-0.045	-0.044	-0.047	-0.051
		(0.032)	(0.032)	(0.032)	(0.033)	(0.034)
Age		-0.005***	-0.005***	-0.005***	-0.005***	-0.005***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Salaried Employees		0.033	0.033	0.030	0.017	-0.008
		(0.025)	(0.024)	(0.025)	(0.026)	(0.035)
Education		0.007***	0.007***	0.007***	0.006**	0.005
		(0.002)	(0.002)	(0.002)	(0.003)	(0.003)
No. School Children in HH		-0.016	-0.015	-0.014	-0.014	-0.019
		(0.013)	(0.013)	(0.013)	(0.013)	(0.014)
Constant	0.138***	0.235***	0.234***	0.231***	0.202***	0.240***
	(0.023)	(0.067)	(0.067)	(0.067)	(0.075)	(0.071)
Observations	1200	1132	1132	1132	1093	1051
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.20: Basic Services should be Financed Privately

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.072***	0.059**				
	(0.026)	(0.026)				
Accepted Voucher			0.085**			
			(0.037)			
Enrolled in Private School				0.103**		
				(0.044)		
Attended Private School					0.169**	
					(0.072)	
English Medium						0.314**
						(0.159)
Household Income		-0.001	-0.001	-0.000	0.000	-0.001
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Male		-0.049*	-0.048*	-0.048*	-0.061**	-0.050*
		(0.029)	(0.029)	(0.028)	(0.028)	(0.030)
General Caste		0.033	0.031	0.027	0.029	-0.022
		(0.036)	(0.036)	(0.036)	(0.035)	(0.041)
Muslim		0.039	0.040	0.041	0.042	0.062
		(0.048)	(0.048)	(0.047)	(0.046)	(0.048)
Age		-0.002	-0.002	-0.002	-0.001	-0.002
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		0.119***	0.119***	0.112***	0.090**	0.065
		(0.037)	(0.036)	(0.036)	(0.037)	(0.050)
Education		0.015***	0.015***	0.015***	0.013***	0.010**
		(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
No. School Children in HH		0.015	0.017	0.019	0.019	0.005
		(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Constant	0.183***	0.201**	0.197**	0.190*	0.137	0.277***
	(0.034)	(0.100)	(0.099)	(0.099)	(0.105)	(0.099)
Observations	1198	1130	1130	1130	1091	1049
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.21: Voucher Child Continued in Private School

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.103**	0.078*				
	(0.042)	(0.041)				
Accepted Voucher			0.110*			
			(0.058)			
Enrolled in Private School				0.134*		
				(0.070)		
Attended Private School					0.210*	
					(0.116)	
English Medium						0.315
						(0.249)
Household Income		-0.007	-0.007	-0.006	-0.006	-0.006
		(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Male		-0.108**	-0.107**	-0.107**	-0.122***	-0.120***
		(0.046)	(0.045)	(0.045)	(0.045)	(0.047)
General Caste		0.054	0.051	0.046	0.047	-0.013
		(0.057)	(0.057)	(0.057)	(0.056)	(0.064)
Muslim		0.000	0.002	0.004	0.012	0.051
		(0.076)	(0.076)	(0.075)	(0.074)	(0.076)
Age		-0.001	-0.001	-0.001	0.000	-0.001
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		0.221***	0.221***	0.212***	0.191***	0.186**
		(0.058)	(0.058)	(0.058)	(0.060)	(0.079)
Education		0.027***	0.027***	0.026***	0.025***	0.023***
		(0.006)	(0.006)	(0.006)	(0.006)	(0.007)
No. School Children in HH		0.199***	0.201***	0.203***	0.197***	0.174***
		(0.030)	(0.030)	(0.030)	(0.030)	(0.030)
Constant	0.319***	0.023	0.017	0.008	-0.079	0.105
	(0.056)	(0.159)	(0.158)	(0.158)	(0.169)	(0.156)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.22: No. Children in HH in Private Schools

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.001	0.009				
	(0.029)	(0.029)				
Accepted Voucher			0.013			
			(0.041)			
Enrolled in Private School				0.016		
				(0.050)		
Attended Private School					0.049	
					(0.085)	
English Medium						0.175
						(0.183)
Household Income		0.011*	0.011*	0.011*	0.011	0.009
		(0.006)	(0.006)	(0.006)	(0.007)	(0.007)
Male		0.050	0.050	0.050	0.054*	0.068**
		(0.032)	(0.032)	(0.032)	(0.033)	(0.034)
General Caste		0.031	0.030	0.030	0.054	0.062
		(0.041)	(0.040)	(0.040)	(0.042)	(0.047)
Muslim		-0.108**	-0.108**	-0.108**	-0.107**	-0.124**
		(0.054)	(0.054)	(0.054)	(0.055)	(0.056)
Age		-0.004*	-0.004*	-0.004*	-0.004	-0.004*
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		0.130***	0.130***	0.129***	0.116***	0.077
		(0.041)	(0.041)	(0.041)	(0.044)	(0.058)
Education		0.013***	0.013***	0.013***	0.012***	0.010**
		(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
No. School Children in HH		-0.032	-0.031	-0.031	-0.031	-0.029
		(0.021)	(0.021)	(0.021)	(0.022)	(0.022)
Constant	0.683***	0.753***	0.752***	0.751***	0.691***	0.731***
	(0.039)	(0.113)	(0.112)	(0.113)	(0.124)	(0.115)
Observations	1201	1133	1133	1133	1094	1052
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.23: Choice of Private Health Facility

C.6.5 Willingness to Pay

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.095**	-0.065*				
	(0.041)	(0.039)				
Accepted Voucher			-0.093*			
			(0.056)			
Enrolled in Private School				-0.113*		
				(0.068)		
Attended Private School					-0.238**	
					(0.118)	
English Medium						-0.464*
						(0.262)
Household Income		0.007	0.007	0.006	0.007	0.012
		(0.009)	(0.009)	(0.009)	(0.009)	(0.010)
Male		0.084*	0.083*	0.083*	0.084*	0.060
		(0.044)	(0.044)	(0.044)	(0.045)	(0.049)
General Caste		0.008	0.009	0.014	0.019	0.073
		(0.055)	(0.055)	(0.055)	(0.058)	(0.067)
Muslim		-0.081	-0.083	-0.084	-0.092	-0.099
		(0.073)	(0.073)	(0.073)	(0.076)	(0.080)
Age		0.007**	0.007**	0.007**	0.007**	0.006*
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		0.052	0.052	0.059	0.086	0.131
		(0.056)	(0.056)	(0.056)	(0.061)	(0.083)
Education		-0.001	-0.001	-0.001	0.001	0.004
		(0.006)	(0.006)	(0.006)	(0.006)	(0.007)
No. School Children in HH		0.036	0.035	0.032	0.030	0.029
		(0.029)	(0.029)	(0.029)	(0.030)	(0.032)
Constant	0.123**	-0.299**	-0.294*	-0.286*	-0.208	-0.328**
	(0.056)	(0.152)	(0.152)	(0.153)	(0.173)	(0.164)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.24: Willingness to Pay Index

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.032	-0.033				
	(0.058)	(0.060)				
Accepted Voucher			-0.046			
			(0.084)			
Enrolled in Private School				-0.057		
				(0.103)		
Attended Private School					-0.132	
					(0.178)	
English Medium						-0.284
						(0.374)
Household Income		0.015	0.015	0.015	0.017	0.019
		(0.014)	(0.014)	(0.014)	(0.014)	(0.015)
Male		0.041	0.042	0.042	0.037	0.012
		(0.066)	(0.066)	(0.066)	(0.068)	(0.071)
General Caste		-0.122	-0.121	-0.118	-0.118	-0.085
		(0.084)	(0.084)	(0.084)	(0.087)	(0.096)
Muslim		-0.059	-0.061	-0.063	-0.063	-0.068
		(0.115)	(0.114)	(0.115)	(0.118)	(0.122)
Age		0.005	0.005	0.005	0.006	0.006
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Salaried Employees		-0.022	-0.021	-0.018	-0.005	0.005
		(0.084)	(0.083)	(0.084)	(0.090)	(0.120)
Education		0.020**	0.020**	0.020**	0.022**	0.025**
		(0.008)	(0.008)	(0.008)	(0.009)	(0.010)
No. School Children in HH		0.027	0.027	0.026	0.029	0.030
		(0.045)	(0.045)	(0.045)	(0.046)	(0.048)
Constant	-0.113	-0.485**	-0.480**	-0.477**	-0.456*	-0.533**
	(0.083)	(0.236)	(0.236)	(0.237)	(0.263)	(0.247)
Observations	1078	1015	1015	1015	979	941
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.25: Willingness to Pay: School Voucher

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.142**	-0.094				
	(0.063)	(0.058)				
Accepted Voucher			-0.134			
			(0.082)			
Enrolled in Private School				-0.164		
				(0.101)		
Attended Private School					-0.313*	
					(0.170)	
English Medium						-0.534
						(0.363)
Household Income		0.011	0.011	0.010	0.011	0.021
		(0.014)	(0.013)	(0.013)	(0.014)	(0.015)
Male		0.035	0.035	0.035	0.038	0.028
		(0.067)	(0.066)	(0.067)	(0.069)	(0.074)
General Caste		0.097	0.100	0.106	0.120	0.182*
		(0.077)	(0.076)	(0.076)	(0.081)	(0.094)
Muslim		-0.039	-0.044	-0.050	-0.061	-0.081
		(0.113)	(0.113)	(0.113)	(0.118)	(0.125)
Age		0.010**	0.010**	0.011**	0.010**	0.009*
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Salaried Employees		0.068	0.069	0.080	0.112	0.177
		(0.081)	(0.081)	(0.081)	(0.088)	(0.121)
Education		-0.010	-0.010	-0.009	-0.007	-0.005
		(0.008)	(0.008)	(0.008)	(0.009)	(0.010)
No. School Children in HH		0.080*	0.080*	0.076*	0.071	0.058
		(0.045)	(0.045)	(0.045)	(0.046)	(0.049)
Constant	0.374***	-0.294	-0.291	-0.280	-0.124	-0.316
	(0.103)	(0.238)	(0.237)	(0.238)	(0.265)	(0.256)
Observations	994	930	930	930	903	865
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.26: Willingness to Pay: PDS

C.6.6 State Claim Making Networks

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.068**	-0.061**				
	(0.030)	(0.030)				
Accepted Voucher			-0.087**			
			(0.043)			
Enrolled in Private School				-0.106**		
				(0.053)		
Attended Private School					-0.170*	
					(0.090)	
English Medium						-0.328*
						(0.194)
Household Income		-0.026***	-0.026***	-0.026***	-0.026***	-0.027***
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Male		0.099***	0.098***	0.098***	0.111***	0.106***
		(0.034)	(0.034)	(0.034)	(0.035)	(0.036)
General Caste		0.014	0.016	0.020	-0.003	0.041
		(0.042)	(0.042)	(0.042)	(0.044)	(0.050)
Muslim		-0.038	-0.040	-0.041	-0.010	-0.027
		(0.056)	(0.056)	(0.056)	(0.058)	(0.059)
Age		-0.004*	-0.004*	-0.004*	-0.005*	-0.005**
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		-0.093**	-0.093**	-0.086**	-0.059	-0.022
		(0.043)	(0.043)	(0.043)	(0.046)	(0.061)
Education		0.008*	0.008*	0.008*	0.010**	0.012**
		(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
No. School Children in HH		0.023	0.022	0.020	0.014	0.016
		(0.022)	(0.022)	(0.022)	(0.023)	(0.024)
Constant	0.045*	0.312***	0.378***	0.386***	0.446***	0.394***
	(0.025)	(0.115)	(0.117)	(0.118)	(0.131)	(0.122)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.27: State Claim Making Networks Index

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.037*	-0.033				
	(0.020)	(0.020)				
Accepted Voucher			-0.047			
			(0.029)			
Enrolled in Private School				-0.057		
				(0.035)		
Attended Private School					-0.103*	
					(0.060)	
English Medium						-0.173
						(0.125)
Household Income		-0.019***	-0.019***	-0.019***	-0.020***	-0.021***
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Male		0.039*	0.038*	0.038*	0.043*	0.036
		(0.023)	(0.022)	(0.022)	(0.023)	(0.024)
General Caste		-0.014	-0.014	-0.012	-0.033	-0.028
		(0.028)	(0.028)	(0.028)	(0.030)	(0.033)
Muslim		-0.006	-0.006	-0.006	0.003	0.006
		(0.038)	(0.038)	(0.038)	(0.039)	(0.040)
Age		0.002	0.002	0.002	0.002	0.002
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		-0.007	-0.006	-0.003	0.017	0.040
		(0.029)	(0.029)	(0.029)	(0.031)	(0.041)
Education		0.003	0.003	0.003	0.004	0.005
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
No. School Children in HH		0.037**	0.036**	0.035**	0.032**	0.035**
		(0.015)	(0.015)	(0.015)	(0.015)	(0.016)
Constant	0.168***	0.151*	0.027	0.031	0.079	0.041
	(0.016)	(0.077)	(0.078)	(0.079)	(0.088)	(0.082)
Observations	1173	1107	1107	1107	1068	1029
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.28: State Channel: Access to Government School

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.007	0.003				
	(0.035)	(0.035)				
Accepted Voucher			0.005			
			(0.051)			
Enrolled in Private School				0.006		
				(0.065)		
Attended Private School					-0.002	
					(0.118)	
English Medium						0.057
						(0.186)
Household Income		-0.017**	-0.017**	-0.017**	-0.015*	-0.014*
		(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Male		0.083**	0.083**	0.083**	0.090**	0.108***
		(0.040)	(0.039)	(0.039)	(0.040)	(0.041)
General Caste		0.052	0.051	0.051	0.028	0.046
		(0.045)	(0.045)	(0.045)	(0.047)	(0.051)
Muslim		0.008	0.008	0.008	0.021	0.001
		(0.062)	(0.061)	(0.061)	(0.063)	(0.064)
Age		-0.005	-0.005*	-0.005*	-0.006**	-0.007**
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		-0.019	-0.019	-0.020	-0.010	-0.028
		(0.051)	(0.050)	(0.050)	(0.057)	(0.062)
Education		0.009*	0.009*	0.009*	0.011**	0.007
		(0.005)	(0.005)	(0.005)	(0.005)	(0.006)
No. School Children in HH		0.050*	0.050*	0.050*	0.050*	0.045*
		(0.027)	(0.026)	(0.026)	(0.027)	(0.027)
Constant	0.762***	0.908***	0.967***	0.967***	0.981***	1.032***
	(0.029)	(0.132)	(0.141)	(0.141)	(0.157)	(0.146)
Observations	631	594	594	594	568	551
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.29: State Channel: Access to BPL Card

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.084**	-0.073**				
	(0.033)	(0.034)				
Accepted Voucher			-0.103**			
			(0.047)			
Enrolled in Private School				-0.129**		
				(0.059)		
Attended Private School					-0.217**	
					(0.100)	
English Medium						-0.361*
						(0.184)
Household Income		-0.013*	-0.014*	-0.014*	-0.015*	-0.018**
		(0.008)	(0.008)	(0.008)	(0.008)	(0.009)
Male		0.084**	0.081**	0.081**	0.091**	0.109***
		(0.037)	(0.037)	(0.037)	(0.039)	(0.040)
General Caste		0.066	0.066	0.076	0.060	0.115*
		(0.047)	(0.047)	(0.047)	(0.051)	(0.064)
Muslim		-0.004	-0.004	-0.007	0.013	0.000
		(0.065)	(0.065)	(0.065)	(0.068)	(0.071)
Age		-0.008***	-0.008***	-0.008***	-0.009***	-0.010***
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		-0.130***	-0.130***	-0.122**	-0.087	-0.055
		(0.050)	(0.049)	(0.050)	(0.055)	(0.070)
Education		0.006	0.006	0.006	0.007	0.008
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
No. School Children in HH		0.016	0.014	0.011	0.005	0.007
		(0.026)	(0.026)	(0.026)	(0.028)	(0.029)
Constant	0.337***	0.641***	0.452***	0.455***	0.585***	0.500***
	(0.027)	(0.135)	(0.143)	(0.143)	(0.165)	(0.156)
Observations	748	713	713	713	684	662
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.30: State Channel: Access to Government Hospital

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.071***	-0.061**				
	(0.027)	(0.027)				
Accepted Voucher			-0.087**			
			(0.038)			
Enrolled in Private School				-0.107**		
				(0.047)		
Attended Private School					-0.170**	
					(0.079)	
English Medium						-0.311**
						(0.149)
Household Income		-0.029***	-0.029***	-0.030***	-0.032***	-0.033***
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Male		0.031	0.029	0.026	0.035	0.021
		(0.030)	(0.030)	(0.030)	(0.032)	(0.033)
General Caste		-0.009	-0.008	-0.001	-0.004	0.030
		(0.037)	(0.037)	(0.037)	(0.040)	(0.047)
Muslim		0.046	0.040	0.041	0.071	0.063
		(0.056)	(0.056)	(0.056)	(0.059)	(0.062)
Age		-0.005**	-0.005**	-0.004**	-0.005**	-0.004*
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		-0.006	-0.003	0.004	0.029	0.086
		(0.039)	(0.039)	(0.040)	(0.044)	(0.058)
Education		0.011***	0.011***	0.012***	0.012***	0.016***
		(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
No. School Children in HH		0.016	0.014	0.011	0.007	0.016
		(0.021)	(0.021)	(0.021)	(0.022)	(0.023)
Constant	0.841***	1.171***	1.271***	1.280***	1.349***	1.227***
	(0.022)	(0.108)	(0.111)	(0.112)	(0.128)	(0.119)
Observations	836	789	789	789	758	737
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.31: State Channel: NREGA Employment

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.014	-0.010				
	(0.031)	(0.032)				
Accepted Voucher			-0.015			
			(0.047)			
Enrolled in Private School				-0.018		
				(0.057)		
Attended Private School					-0.003	
					(0.097)	
English Medium						0.018
						(0.233)
Household Income		-0.010	-0.010	-0.010	-0.008	-0.011
		(0.008)	(0.008)	(0.008)	(0.008)	(0.009)
Male		0.042	0.041	0.041	0.046	0.062
		(0.036)	(0.036)	(0.036)	(0.037)	(0.038)
General Caste		-0.034	-0.034	-0.033	-0.043	-0.020
		(0.044)	(0.044)	(0.044)	(0.046)	(0.060)
Muslim		-0.048	-0.048	-0.048	-0.023	-0.048
		(0.057)	(0.057)	(0.057)	(0.059)	(0.060)
Age		0.001	0.001	0.001	0.001	0.001
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		-0.084*	-0.084*	-0.082*	-0.085	-0.093
		(0.046)	(0.046)	(0.046)	(0.053)	(0.082)
Education		-0.003	-0.003	-0.003	-0.003	-0.004
		(0.005)	(0.004)	(0.004)	(0.005)	(0.005)
No. School Children in HH		0.008	0.008	0.008	0.008	0.003
		(0.024)	(0.024)	(0.024)	(0.025)	(0.025)
Constant	0.726***	0.772***	0.937***	0.938***	0.914***	0.942***
	(0.025)	(0.127)	(0.126)	(0.127)	(0.143)	(0.132)
Observations	860	815	815	815	777	752
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.32: State Channel: Dealing with Police or Land Administration

C.6.7 Non-State Claim Making Networks

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.086***	0.083***				
	(0.029)	(0.030)				
Accepted Voucher			0.118***			
			(0.042)			
Enrolled in Private School				0.144***		
				(0.052)		
Attended Private School					0.222**	
					(0.089)	
English Medium						0.451**
						(0.200)
Household Income		0.019***	0.019***	0.019***	0.019***	0.021***
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Male		-0.024	-0.022	-0.022	-0.038	-0.020
		(0.033)	(0.033)	(0.033)	(0.034)	(0.037)
General Caste		-0.067	-0.070*	-0.075*	-0.051	-0.093*
		(0.041)	(0.041)	(0.042)	(0.043)	(0.051)
Muslim		0.030	0.033	0.034	0.009	0.013
		(0.055)	(0.055)	(0.055)	(0.057)	(0.061)
Age		0.003	0.003	0.003	0.004	0.004
		(0.002)	(0.002)	(0.002)	(0.002)	(0.003)
Salaried Employees		-0.019	-0.019	-0.028	-0.065	-0.125**
		(0.042)	(0.042)	(0.042)	(0.046)	(0.063)
Education		-0.000	-0.000	-0.001	-0.002	-0.005
		(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
No. School Children in HH		-0.027	-0.025	-0.022	-0.018	-0.024
		(0.022)	(0.022)	(0.022)	(0.023)	(0.024)
Constant	-0.057**	-0.251**	-0.150	-0.160	-0.252*	-0.153
	(0.024)	(0.113)	(0.115)	(0.116)	(0.130)	(0.125)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.33: Non-State Claim Making Networks Index

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.102***	0.099***				
	(0.022)	(0.023)				
Accepted Voucher			0.140***			
			(0.033)			
Enrolled in Private School				0.171***		
				(0.040)		
Attended Private School					0.294***	
					(0.073)	
English Medium						0.600***
						(0.168)
Household Income		0.011**	0.011**	0.012**	0.012**	0.013*
		(0.005)	(0.005)	(0.005)	(0.006)	(0.007)
Male		-0.019	-0.018	-0.018	-0.028	-0.003
		(0.026)	(0.026)	(0.026)	(0.028)	(0.032)
General Caste		-0.056*	-0.058*	-0.064**	-0.053	-0.106**
		(0.032)	(0.032)	(0.033)	(0.036)	(0.045)
Muslim		0.075*	0.076*	0.078*	0.079*	0.077
		(0.043)	(0.043)	(0.044)	(0.047)	(0.053)
Age		0.000	0.000	0.000	0.001	0.001
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		0.008	0.007	-0.004	-0.045	-0.119**
		(0.032)	(0.032)	(0.033)	(0.038)	(0.055)
Education		-0.004	-0.004	-0.005	-0.008**	-0.012**
		(0.003)	(0.003)	(0.003)	(0.004)	(0.005)
No. School Children in HH		-0.030*	-0.028*	-0.025	-0.020	-0.034
		(0.017)	(0.017)	(0.017)	(0.019)	(0.021)
Constant	0.136***	0.115	-0.039	-0.051	-0.149	-0.005
	(0.018)	(0.088)	(0.089)	(0.091)	(0.107)	(0.110)
Observations	1173	1107	1107	1107	1068	1029
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.34: Non-State Channel: Access to Government School

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.012	0.000				
	(0.037)	(0.038)				
Accepted Voucher			0.000			
			(0.055)			
Enrolled in Private School				0.001		
				(0.069)		
Attended Private School					0.018	
					(0.124)	
English Medium						-0.036
						(0.202)
Household Income		0.014	0.014*	0.014*	0.011	0.010
		(0.008)	(0.008)	(0.008)	(0.009)	(0.009)
Male		-0.068	-0.068	-0.068	-0.074*	-0.089**
		(0.043)	(0.042)	(0.042)	(0.043)	(0.044)
General Caste		-0.065	-0.065	-0.065	-0.042	-0.060
		(0.048)	(0.047)	(0.048)	(0.050)	(0.055)
Muslim		0.015	0.016	0.016	0.002	0.023
		(0.066)	(0.065)	(0.065)	(0.067)	(0.068)
Age		0.006*	0.006*	0.006*	0.007**	0.008**
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		-0.008	-0.008	-0.008	-0.023	-0.006
		(0.054)	(0.053)	(0.053)	(0.060)	(0.066)
Education		-0.007	-0.007	-0.007	-0.009*	-0.005
		(0.005)	(0.005)	(0.005)	(0.005)	(0.006)
No. School Children in HH		-0.045	-0.045	-0.045	-0.046	-0.040
		(0.028)	(0.028)	(0.028)	(0.029)	(0.029)
Constant	0.263***	0.092	0.109	0.109	0.101	0.062
	(0.030)	(0.141)	(0.150)	(0.150)	(0.165)	(0.157)
Observations	627	590	590	590	565	548
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.35: Non-State Channel: Access to BPL Card

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.091***	0.081***				
	(0.030)	(0.030)				
Accepted Voucher			0.114***			
			(0.042)			
Enrolled in Private School				0.142***		
				(0.052)		
Attended Private School					0.240***	
					(0.090)	
English Medium						0.414**
						(0.169)
Household Income		0.012*	0.013*	0.013*	0.014*	0.017**
		(0.007)	(0.007)	(0.007)	(0.008)	(0.008)
Male		-0.065**	-0.062*	-0.062*	-0.078**	-0.089**
		(0.033)	(0.033)	(0.033)	(0.035)	(0.037)
General Caste		-0.089**	-0.089**	-0.099**	-0.083*	-0.139**
		(0.042)	(0.042)	(0.042)	(0.046)	(0.058)
Muslim		-0.008	-0.009	-0.006	-0.027	-0.016
		(0.057)	(0.057)	(0.058)	(0.062)	(0.065)
Age		0.005**	0.005**	0.005**	0.006**	0.007**
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		0.079*	0.079*	0.070	0.033	-0.010
		(0.044)	(0.044)	(0.044)	(0.050)	(0.064)
Education		-0.005	-0.005	-0.005	-0.007	-0.007
		(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
No. School Children in HH		-0.021	-0.019	-0.015	-0.010	-0.013
		(0.023)	(0.023)	(0.023)	(0.025)	(0.026)
Constant	0.730***	0.537***	0.728***	0.723***	0.612***	0.719***
	(0.024)	(0.119)	(0.125)	(0.126)	(0.147)	(0.141)
Observations	750	715	715	715	686	664
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.36: Non-State Channel: Access to Government Hospital

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.058*	0.045				
	(0.033)	(0.034)				
Accepted Voucher			0.064			
			(0.048)			
Enrolled in Private School				0.079		
				(0.059)		
Attended Private School					0.106	
					(0.098)	
English Medium						0.185
						(0.184)
Household Income		0.032***	0.033***	0.033***	0.035***	0.036***
		(0.008)	(0.008)	(0.008)	(0.009)	(0.009)
Male		0.003	0.005	0.007	-0.006	0.004
		(0.038)	(0.038)	(0.038)	(0.039)	(0.041)
General Caste		-0.017	-0.017	-0.023	-0.013	-0.025
		(0.047)	(0.046)	(0.046)	(0.049)	(0.058)
Muslim		-0.001	0.004	0.003	-0.023	-0.014
		(0.071)	(0.071)	(0.071)	(0.073)	(0.076)
Age		0.005*	0.005*	0.005*	0.006**	0.005*
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		-0.111**	-0.113**	-0.119**	-0.138**	-0.179**
		(0.050)	(0.050)	(0.050)	(0.055)	(0.072)
Education		-0.007	-0.007	-0.007	-0.007	-0.008
		(0.005)	(0.005)	(0.005)	(0.005)	(0.006)
No. School Children in HH		-0.007	-0.006	-0.003	-0.002	-0.005
		(0.026)	(0.026)	(0.026)	(0.027)	(0.028)
Constant	0.277***	-0.112	-0.197	-0.204	-0.254	-0.175
	(0.027)	(0.137)	(0.140)	(0.141)	(0.159)	(0.146)
Observations	833	786	786	786	755	734
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.37: Non-State Channel: NREGA Employment

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.036	0.047				
	(0.034)	(0.035)				
Accepted Voucher			0.070			
			(0.052)			
Enrolled in Private School				0.085		
				(0.064)		
Attended Private School					0.103	
					(0.108)	
English Medium						0.257
						(0.269)
Household Income		0.003	0.003	0.003	0.002	0.007
		(0.009)	(0.009)	(0.009)	(0.009)	(0.010)
Male		0.006	0.009	0.010	-0.001	0.004
		(0.040)	(0.040)	(0.040)	(0.041)	(0.044)
General Caste		-0.013	-0.015	-0.018	-0.009	-0.058
		(0.049)	(0.048)	(0.049)	(0.051)	(0.069)
Muslim		0.033	0.032	0.032	0.015	0.032
		(0.064)	(0.063)	(0.063)	(0.065)	(0.069)
Age		-0.002	-0.002	-0.002	-0.002	-0.002
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Salaried Employees		-0.009	-0.011	-0.018	-0.041	-0.089
		(0.051)	(0.051)	(0.052)	(0.059)	(0.094)
Education		0.010**	0.010**	0.009*	0.010**	0.009
		(0.005)	(0.005)	(0.005)	(0.005)	(0.006)
No. School Children in HH		-0.021	-0.019	-0.019	-0.017	-0.020
		(0.027)	(0.026)	(0.026)	(0.027)	(0.029)
Constant	0.491***	0.523***	0.787***	0.786***	0.741***	0.771***
	(0.028)	(0.141)	(0.140)	(0.141)	(0.160)	(0.152)
Observations	859	814	814	814	776	751
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.38: Non-State Channel: Dealing with Police or Land Administration

C.6.8 Teachers Non-Teaching Duties

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.011	-0.012				
	(0.021)	(0.021)				
Accepted Voucher			-0.017			
			(0.029)			
Enrolled in Private School				-0.021		
				(0.036)		
Attended Private School					-0.013	
					(0.060)	
English Medium						0.001
						(0.132)
Household Income		0.019***	0.019***	0.019***	0.018***	0.020***
		(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Male		-0.015	-0.015	-0.015	-0.017	-0.020
		(0.023)	(0.023)	(0.023)	(0.023)	(0.025)
General Caste		0.022	0.022	0.023	0.029	0.018
		(0.029)	(0.029)	(0.029)	(0.029)	(0.034)
Muslim		-0.001	-0.001	-0.002	0.004	0.016
		(0.038)	(0.038)	(0.038)	(0.039)	(0.040)
Age		-0.002	-0.002	-0.002	-0.002	-0.002
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		0.031	0.031	0.032	0.036	0.031
		(0.029)	(0.029)	(0.029)	(0.031)	(0.042)
Education		0.011***	0.011***	0.011***	0.010***	0.010***
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
No. School Children in HH		0.001	0.001	0.001	0.005	0.004
		(0.015)	(0.015)	(0.015)	(0.015)	(0.016)
Constant	0.773***	0.662***	0.882***	0.883***	0.875***	0.850***
	(0.017)	(0.079)	(0.080)	(0.080)	(0.088)	(0.082)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.39: Government Teachers Serve as Election Monitors

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.014	0.013				
	(0.020)	(0.020)				
Accepted Voucher			0.018			
			(0.029)			
Enrolled in Private School				0.022		
				(0.035)		
Attended Private School					0.060	
					(0.059)	
English Medium						0.103
						(0.129)
Household Income		0.005	0.005	0.005	0.007	0.006
		(0.004)	(0.004)	(0.004)	(0.005)	(0.005)
Male		0.017	0.017	0.017	0.019	0.030
		(0.022)	(0.022)	(0.022)	(0.023)	(0.024)
General Caste		-0.016	-0.017	-0.018	-0.014	-0.023
		(0.028)	(0.028)	(0.028)	(0.029)	(0.033)
Muslim		-0.055	-0.055	-0.054	-0.059	-0.069*
		(0.037)	(0.037)	(0.037)	(0.038)	(0.039)
Age		-0.004**	-0.004**	-0.004**	-0.004**	-0.004**
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		0.006	0.006	0.004	-0.001	-0.008
		(0.029)	(0.028)	(0.029)	(0.031)	(0.041)
Education		0.004	0.004	0.004	0.004	0.003
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
No. School Children in HH		-0.019	-0.019	-0.018	-0.022	-0.028*
		(0.015)	(0.015)	(0.015)	(0.015)	(0.016)
Constant	0.651***	0.774***	0.945***	0.943***	0.896***	0.953***
	(0.016)	(0.077)	(0.078)	(0.078)	(0.087)	(0.081)
Observations	1202	1134	1134	1134	1095	1053
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.40: Government Teachers Serve as Census Enumerators

C.6.9 Teacher Perceptions

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	-0.031	-0.029				
	(0.030)	(0.031)				
Accepted Voucher			-0.041			
			(0.044)			
Enrolled in Private School				-0.050		
				(0.053)		
Attended Private School					-0.076	
					(0.089)	
English Medium						-0.166
						(0.190)
Household Income		-0.002	-0.002	-0.002	-0.001	-0.002
		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Male		0.052	0.052	0.052	0.062*	0.063*
		(0.034)	(0.034)	(0.034)	(0.034)	(0.036)
General Caste		-0.002	-0.002	0.000	-0.011	0.032
		(0.043)	(0.042)	(0.043)	(0.044)	(0.049)
Muslim		-0.006	-0.007	-0.007	-0.020	-0.016
		(0.057)	(0.057)	(0.057)	(0.058)	(0.059)
Age		-0.002	-0.002	-0.002	-0.001	-0.003
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Salaried Employees		-0.029	-0.029	-0.025	-0.022	-0.028
		(0.044)	(0.043)	(0.044)	(0.046)	(0.061)
Education		-0.000	-0.000	-0.000	0.001	0.001
		(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
No. School Children in HH		0.009	0.008	0.007	0.006	0.006
		(0.023)	(0.023)	(0.023)	(0.023)	(0.024)
Constant	3.523***	3.589***	3.695***	3.699***	3.690***	3.700***
	(0.024)	(0.117)	(0.119)	(0.119)	(0.131)	(0.122)
Observations	1185	1119	1119	1119	1081	1039
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.41: Government Teachers Care about the Well-Being of Their Students

	ITT	ITT	IV: Accepted Voucher	IV: Enrolled	IV: Five Years	IV: English School
Voucher Winner	0.005	0.009				
	(0.010)	(0.011)				
Accepted Voucher			0.013			
			(0.015)			
Enrolled in Private School				0.015		
				(0.019)		
Attended Private School					0.026	
					(0.031)	
English Medium						0.024
						(0.066)
Household Income		-0.003	-0.003	-0.003	-0.002	-0.002
		(0.002)	(0.002)	(0.002)	(0.002)	(0.003)
Male		-0.001	-0.001	-0.001	-0.001	-0.001
		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
General Caste		-0.011	-0.011	-0.012	-0.003	-0.005
		(0.015)	(0.015)	(0.015)	(0.015)	(0.017)
Muslim		-0.006	-0.006	-0.006	-0.011	-0.003
		(0.020)	(0.020)	(0.020)	(0.020)	(0.021)
Age		-0.003***	-0.003***	-0.003***	-0.003***	-0.003***
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Salaried Employees		-0.018	-0.018	-0.019	-0.027*	-0.034
		(0.015)	(0.015)	(0.015)	(0.016)	(0.021)
Education		-0.001	-0.001	-0.001	-0.000	-0.000
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
No. School Children in HH		-0.003	-0.002	-0.002	-0.004	-0.003
		(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Constant	0.967***	1.105***	1.094***	1.093***	1.080***	1.078***
	(0.009)	(0.041)	(0.042)	(0.042)	(0.045)	(0.042)
Observations	1183	1116	1116	1116	1079	1037
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.42: Government Teachers Treat All Students Equally

C.7 First-Stage Regressions

I present the first-stage regressions for all instrumented variables. I present the first-stage for having accepted a voucher in Table C.43, for having enrolled in private school in Table C.44, and for enrolling in an English medium school in Table C.45.

	Accepted Voucher	Accepted Voucher	Accepted Voucher
Voucher Winner	0.700***	0.702***	0.704***
	(0.023)	(0.023)	(0.024)
Observations	1202	1202	1134
F-Stat	943.992	946.919	98.982
District Fixed Effects	No	Yes	Yes
Controls	No	No	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.43: First-Stage Regression for Accepted Voucher

	Enrolled in Private School	Enrolled in Private School	Enrolled in Private School
Voucher Winner	0.573***	0.578***	0.579***
	(0.025)	(0.024)	(0.025)
Observations	1202	1202	1134
F-Stat	543.462	555.668	59.298
District Fixed Effects	No	Yes	Yes
Controls	No	No	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.44: First-Stage Regression for Enrolled in Private School

	English Medium	English Medium	English Medium
Voucher Winner	0.160***	0.162***	0.164***
	(0.027)	(0.026)	(0.026)
Observations	1116	1116	1053
F-Stat	35.874	37.587	12.476
District Fixed Effects	No	Yes	Yes
Controls	No	No	Yes

Standard errors in parentheses
* $p < .1$, ** $p < .05$, *** $p < .01$

Table C.45: First-Stage Regression for English Medium

APPENDIX D: SURVEY INSTRUMENT FOR CHAPTER 5

This Appendix presents the survey instrument used for the survey reported in Chapter 5.

APF Student Code:

Andhra Pradesh School Choice Political Change Survey
University of Pennsylvania and Poverty Action Lab

To be filled out BEFORE the interview

District Name:	District Code:
PU Name:	PU Code:
APF Student Name:	APF Student Code:
Name of Respondent:	Interviewer:

Date of Interview:
Household identifier (e.g. house number, landmark, or name):
Time of Interview Start:

Interview the head of the household. If the head of the household is not present, interview the adult most responsible for making household decisions. If that person is not available, end interview and find a time to return when the head of the household will be present.

Introduction

"My name is [surveyor name], and I am from the Poverty Action Lab in Chennai. I am conducting a survey on behalf of a PhD student at the University of Pennsylvania, a university in the United States of America. We are surveying participants from the voucher lottery experiment you participated in about your opinions on village life and politics.

We do not represent any government body. The information gathered in the survey is for the purposes of an academic study only; it is not connected to any program or scheme and will not in any way affect the benefits that you or your family receives. ***All of your answers will be confidential***, meaning that we will not share your name or any details identifying this survey with anybody.

Your opinions are important and we hope to learn from you. While there is no immediate benefit to you from this research, we intend to share the general conclusions with others so that they can understand this area and its people better, and hopefully improve conditions over the long term. If you have any questions about the research, you should feel free to ask me while I'm here or write to my supervisor at this address, or call him at this phone number. Emmerich Davies, Plot #286, Ayyappa Society, Madhapur, Hyderabad, 500081 or 09910685950.

Participation in this survey is completely voluntary. You are free to refuse to participate without causing any problem to me or anyone else. You can stop the survey at any time and can skip any questions that you do not wish to answer. If you do participate, we will not use your name in any reports. The survey should take about 45 minutes to one hour.

Do you have any questions that you would like to ask?

Would you be willing to participate in the survey?

1. Yes
2. No

APF Student Code:

Section 1: Background Household Information

Q1.1 What is your relationship to [Azim Premji Scholarship Program Child Name]:
1. Father
2. Mother
3. Grandmother/Father
4. Uncle/Aunt
5. Older Brother/Sister
6. Other (Please specify) _____

Q1.2 Respondent's Gender
1. Male
2. Female

Q1.3 What is your age? _____

Q1.4 What is your Caste Category?
1. General
2. OBC
3. SC
4. ST

Q1.5 What is your religion?
1. Hindu
2. Muslim
3. Christian
4. Buddhist
5. Sikh
6. Jain
7. Parsi
8. Other (Please Specify) _____

Q1.6 What is your occupation? (Multicoding allowed).
1. Agriculture
2. Agricultural labour (other's land)
3. Laborer (Non-Agricultural)
4. Non-Farm Enterprise (e.g. Shopkeeper)
5. Salaried Employee
6. Housewife
7. Student
8. Retired
9. Other (Please Specify) _____
10. Unemployed

Q1.7 What was your highest level of schooling? _____

Q1.8 How many people live in your household? _____

Q1.9 How many school age children are there in this household? _____

APF Student Code:

Q1.10 How many members of your household live outside of the village for more than one month in a year for work? _____

Q1.11 How many members of your household live outside of the village for more than one month in a year for education? _____

Q1.12 Are any of your household members daily wage labourers? How many?
1. Yes. _____
2. No. -> Skip to Q1.14
3. Refuse to answer -> Skip to Q1.14
4. Not applicable -> Skip to Q1.14

Q1.13 What is the average daily wage they earn total?

Q1.14 Are any of your household members salaried employees? How many?
1. Yes. _____
2. No. -> Skip to Q1.16
3. Refuse to answer -> Skip to Q1.16
4. Not applicable -> Skip to Q1.16

Q1.15 What is their total salary? _____

Q1.16 How much land does your household own? (in cents and acres)
_____cents _____ acres

Q1.17 Does your household own any livestock such as cows, buffalo, goats, horses, chickens? How many? (Allow multi-coding)
1. Cows? _____
2. Buffalo? _____
3. Goats? _____
4. Horses? _____
5. Chickens? _____
6. None of these things

Q1.18 Do you own any of these things? How many? (Allow multi-coding)
1. Bicycle ____
2. Motorcycle ____
3. Three-wheeler ____
4. Car _____
5. TV ____
6. Radio _____
7. Refrigerator ____
8. Gas stove _____
9. Phone/Mobile _____
10. None of these things

Q1.19 Do you own or rent your house?
1. Own
2. Rent
3. Don't know
4. Refuse to answer

APF Student Code:

Q1.20 In the last year, have you paid any of the following? (Multi-coding allowed)

1. House tax
2. Water tax
3. Other taxes or fees paid to the Gram Panchayat
4. Contributions to festivals
5. Contributions to community projects (like the school)
6. Contributions to the temple, mosque or church
7. Income tax

APF Student Code:

Section 2: Access to and Use of Government Services

Education

Child roster. Fill this roster out child by child. Ask respondent how many children are in the house and their names. Then ask each question for each child before continuing to the next child.

2.1 Please tell me the names of all the members of this household who are currently in school or college	2.2 How old is _____?	2.3 In what standard is _____?	2.4 What type of school or college is _____ currently enrolled in? 1. Anganwadi 2. Elementary School 3. Secondary School 4. College	2.5 Is the school a government, private, or madrassa school? 1. Government 2. Private 3. Madrassa or other religious school 4. Hindu school	2.6 What is the language of instruction in this school? 1. English 2. Telugu 3. Hindi 4. Urdu 5. Other	2.7 Overall, how satisfied are you with the quality of your child's education? 1. Very Satisfied 2. Somewhat Satisfied 3. Neither satisfied or dissatisfied 4. Somewhat dissatisfied 5. Very dissatisfied
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

APF Student Code:

Names of all the children in this household	Q2.8 Did you have to pay any fees for admission in this school? 1. Yes 2. No 3. Don't Know 4. Refuse to answer	Q2.9 Did you have to make any informal payments for admission in this school? 1. Yes 2. No 3. Don't Know 4. Refuse to answer	Q2.10 Do you have to pay any tuition for this school? 1. Yes 2. No 3. Don't Know 4. Refuse to answer	Q2.11 Do you have to make any informal tuition payments for this school? 1. Yes 2. No 3. Don't Know 4. Refuse to answer	Q2.12 Do you send this child to private tuition? 1. Yes 2. No -> Skip to Q. 2.14 3. Don't Know -> Skip to Q. 2.14 4. Refuse to answer -> Skip to Q. 2.14	Q2.13 How much do you spend on private tuition per month?
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

APF Student Code:

The following questions apply *only* to the APSC scholarship child and the school you sent them to for the past five years.

Q2.14 During school hours was your scholarship child's teacher:
1. Always present?
2. Mostly present?
3. Sometimes present?
4. Never present?
5. Don't know
6. Can't Remember

Q2.15 Did you have the mobile number of your scholarship child's teacher?
1. Yes
2. No
3. Don't know
4. Can't Remember

Q2.16 Were you ever invited for a meeting with a teacher or headmaster regarding your scholarship child's performance in school?
1. Yes
2. No
3. Don't know
4. Can't Remember

Q2.17 Did you ever attend a meeting with a teacher or headmaster regarding your scholarship child's performance in school?
1. Yes
2. No
3. Don't know
4. Can't Remember

Q2.18 If you wanted to hold a same day meeting with your scholarship child's teacher or headmaster, was this possible?
1. Yes, always possible
2. Yes, sometimes possible
3. No, never possible
4. Don't know
5. Can't Remember

Q2.19 How effective was your scholarship child's school at solving problems such as discipline, learning levels, or lack of homework with your scholarship's child's education?
1. Very effective
2. Somewhat effective
3. Not at all effective
4. Never had any problems with scholarship child's education
5. Don't know
6. Can't remember

Q2.20 How many days per month *should* teachers be in the school teaching?
1. _____
2. Don't know
3. Refuse to answer

APF Student Code:

Q2.21 How many hours per day *should* teachers be in school teaching?

1. _____
2. Don't know
3. Refuse to answer

Q2.22 How do you think that the building grounds and teaching aids in your scholarship child's school compared with those in other schools in the neighbouring villages?

1. Much better
2. Better
3. The same
4. Worse
5. Much worse
6. Don't know
7. Refused to answer

Q2.23 How do you think that the quality of the teachers in your scholarship child's school compared with those in the other schools in the neighbouring villages?

1. Much better
2. Better
3. The same
4. Worse
5. Much worse
6. Don't know
7. Refused to answer

Q2.24 Looking at all the factors, how you think your scholarship child's school compared with the schools in neighbouring villages?

1. Much better
2. Better
3. The same
4. Worse
5. Much worse
6. Don't know
7. Refused to answer

Q2.25 In what school have you admitted [*Name of APSC Child]?*

1. Government high school
2. Private Telugu Medium School
3. Private English Medium School
4. Government Residential School
5. Private Residential School
6. Welfare hostel
7. Madrassa or other Muslim religious school
8. Hindu school
9. Still in 5th class or below and receiving scholarship -> Skip to Q 2.30
10. Still in 5th class or below and not receiving scholarship -> Skip to Q2.30

Q2.26 Did you have to make an informal payment to have [*Name of APSC Child*] admitted to secondary school?

1. Yes
2. No
3. Refuse to answer
4. Don't know
5. Not applicable

Q2.27 If so, how much? _____

APF Student Code:

Q2.28 Did you have to make an informal payment to receive a transfer certificate for [*Name of APSC Child]*?
1. Yes
2. No
3. Refuse to answer
4. Don't know

Q2.29 If so, how much? _____

Q.2.30 What school would you have preferred to have your [*Name of APSC Child*] admitted?
1. Government high school
2. Private Telugu Medium School
3. Private English Medium School
4. Government Residential School
5. Private Residential School
6. Welfare Hostel
7. Madrassa or other Muslim religious school
8. Hindu school
9. Same school as child was admitted. -> Skip to Q 2.32

Q2.31 Why did you not have your [*Name of APSC Child*] admitted in that school? [*Multiple coding allowed*]
1. The school was too expensive
2. The school was too far away
3. The child did not like the school
4. Other (Please Specify) _____

I now want to ask some questions about other government services other than education.

Q2.32 If a family member falls sick, where would you take them?
1. Government Doctor or Nurse
2. Government Dr. or Nurse in Private facility
3. Private Doctor or Nurse
4. Non-Government organisation clinic/hospital
5. Mobile services van or health camp
6. Pharmacy
7. Traditional Healer such as ayurveda
8. Other (please specify) _____
9. Nowhere

Q2.33 How much would you pay to access this facility?
1. _____
2. No payment
3. Don't know

Q2.34 Where is the closest government health centre?
1. In the village
2. Outside the village

Q2.35 What sources of drinking water do you use? (*Multi-coding allowed*)
1. Household government water connection (tap)
2. Private water source (own), *such* as private boring or well
3. Common government source (public), *such* as handpump or tank
4. Private water source (other's), *such as* private tanker or neighbour's water supply
5. River or lake
6. Other

APF Student Code:

Q2.36 How long does it take to reach your closest water source?
1. Less than 15 mins
2. 15-30 mins
3. More than 30 mins

Q2.37 Do you have a government water connection in your home?
1. Yes
2. No -> skip to Q2.42

Q2.38 How often does water flow in the connection?
1. Daily
2. Every 2-3 days
3. Weekly
4. Never
5. Not applicable (No government water connection)

Q2.39 How long have you had a government water connection?
1. _____
2. Not applicable (No government water connection)
3. Don't know

Q2.40 How much did you pay to establish the connection?
1. _____
2. No payment
3. Not applicable (No government water connection)
4. Don't know

Q2.41 How satisfied are you with your government water connection?
1. Very satisfied
2. Somewhat satisfied
3. Neither satisfied or dissatisfied
4. Somewhat dissatisfied
5. Very dissatisfied
6. Not applicable (do not have a government water connection)

Q2.42 Do you have electricity in your home?
1. Yes
2. No -> skip to Q2.46

Q2.43 How long have you had a connection?
1. _____
2. Not applicable (No government water connection)
3. Don't know

Q2.44 How much did you pay to establish the connection?
1. _____
2. No payment
3. Not applicable (No government water connection)
4. Don't know

APF Student Code:

Q2.45 How satisfied are you with your electricity connection?
1. Very satisfied
2. Somewhat satisfied
3. Neither satisfied or dissatisfied
4. Somewhat dissatisfied
5. Very dissatisfied
6. Not applicable (do not have a government electricity connection)

Q2.46 Does your household qualify for a Below Poverty Line or "white" ration card?
1. No, don't qualify -> skip to Section 3
2. Yes, qualify but don't have a card -> skip to Section 3
3. Yes, have Below Poverty Line card

Q2.47 How long have you had a Below Poverty Line card? (Years)
1. _____
2. Not applicable (Do not have a Below Poverty Line card)

Q2.48 How much did it cost to get the Below Poverty Line card?
1. _____
2. No payment
3. Not applicable (Do not have a Below Poverty Line card)
4. Don't know

Q2.49 How satisfied are you with the quality of government rations?
1. Very satisfied
2. Somewhat satisfied
3. Neither satisfied or dissatisfied
4. Somewhat dissatisfied
5. Very dissatisfied
6. Not applicable (do not have a Below Poverty Line card)

APF Student Code:

Section 3: Associational Activities

Moving from welfare schemes, I want to ask you some questions about organisations you might belong to and activities you might participate in in the village.

Q3.1 Other than political parties, are you a member of any religious/caste organisation or association?
1. Yes
2. No
3. Don't Know
4. Refuse to Answer

Q3.2 Aside from caste and religious organisation, do you belong to any other associations and organisations like co-operatives, farmers' associations, trade unions, welfare organisations, school management committees, or cultural and sports organisations?
1. Yes
2. No
3. Don't Know
4. Refuse to Answer

Q3.3 Are you a member of your village's School Management Committee?
1. Yes
2. No
3. No committee exists in this village -> skip to Q3.5
4. Don't know
5. Refused to answer

Q3.4 Have you attended your village's School Management Committee Meeting in the last year?
1. Yes
2. No
3. Don't Know
4. No SMC active
5. Refuse to Answer

Q3.5 Are you a member of your village's Academic Monitoring Committee?
1. Yes
2. No
3. No AMC exists in this village -> skip to Q3.7
4. Refuse to answer

Q3.6 Have you attended your village's Academic Monitoring Committee Meeting in the last year?
1. Yes
2. No
3. Don't know
4. No AMC active
5. Refuse to answer

Q3.7 Are you a member of a local Self-Help Group (SHG)?
1. Yes
2. No
3. Don't know
4. Refuse to Answer

APF Student Code:

Section 4: Voting and Participation

I would now like to ask you some questions about your voting and political participation over the last 4 years. Some of these questions are sensitive and I would like to re-emphasize that you have the right to not answer or stop the interview at any point if you do not feel comfortable answering any question. In all these questions, we want to know whether you participated or not, but not who you supported. Please do not tell us who you voted for or what politicians you support at any point.

Q4.1 While talking to people about the 2009 elections to the Lok Sabha, we find that some people were not able to vote. How about you? Were you able to vote or not?

1. Not able to vote
2. Able to vote - > Skip to Q4.3
3. Don't know - > Skip to Q4.3
4. Refuse to Answer - > Skip to Q4.3

Q4.2 (*If not voted)* What was the main reason due to which you could not vote in this election?

1. Out of station
2. Not well
3. No interest/did not feel like voting
4. Prevented/Fear of violence
5. No identity card/identity proof
6. No good choice
7. Someone had voted in place of me before I went to vote
8. Other (Specify) _____
9. Don't Know/Can't Remember
10. Refused to answer

Q4.3 Do you plan on voting in the 2014 Lok Sabha elections?

1. Yes
2. No -> Skip to Q4.5
3. Don't Know -> Skip to Q4.5
4. Refuse to answer -> Skip to Q4.5

Q4.4 Do you plan on voting for the same party or candidate in 2014 than you did in 2009?

1. Yes
2. No
3. Don't Know
4. Undecided
5. Don't intend to vote
6. Refused to answer

Q4.5 And what about the assembly elections – did you vote in the 2009 Legislative Assembly Elections?

1. Not able to vote
2. Able to vote
3. Don't know
4. Refuse to Answer

Q4.6 Do you plan on voting in the 2014 Legislative Assembly elections?

1. Yes
2. No -> skip to Q4.8
3. Don't Know -> skip to Q4.8
4. Refuse to answer -> skip to Q4.8

APF Student Code:

Q4.7 Do you plan on voting for the same party or candidate in 2014 than you did in 2009?

1. Yes
2. No
3. Don't Know
4. Undecided
5. Don't intend to vote
6. Refused to answer

Q4.8 And what about the panchayat (corporate) elections – did you vote in the 2013 panchayat (2009 corporate) elections?

1. Not able to vote
2. Able to vote -> skip to Q4.10
3. Don't know
4. Refuse to Answer

Q4.9 (*If not voted)* What was the main reason due to which you could not vote in this election?

1. Out of station
2. Not well
3. No interest/did not feel like voting
4. Prevented/Fear of violence
5. No identity card/identity proof
6. No good choice
7. Someone had voted in place of me before I went to vote
8. Other (Specify)
9. Don't Know
10. Refused to answer

Q4.10 Did you vote for the same candidate or party in the 2013 panchayat (2009 corporate) election that you did in the 2006 panchayat (corporate) elections?

1. Yes
2. No
3. Same candidate did not run
4. Can't Remember
5. Refuse to answer

Q4.11 Are you a member of a political party?

1. Yes
2. No
3. Refuse to answer
4. Don't Know

Q4.12 Did you attend your village's last gram sabha meeting?

1. Yes
2. No
3. Refuse to Answer
4. Don't Know

Q4.13 Have you participated in a political meeting or gathering such as an election meeting, procession, or rally over the past year?

1. Yes
2. No
3. Refuse to Answer
4. Don't Know

APF Student Code:

Q4.14 Have you participated in door to door canvassing in the past year?
1. Yes
2. No
3. Refuse to Answer
4. Don't Know

Q4.15 Have you distributed election leaflets or put up posters in the past year?
1. Yes
2. No
3. Refuse to Answer
4. Don't Know

Q4.16 Has any candidate, party worker, or canvasser come to your house to ask for your vote over the past year?
1. Yes
2. No
3. Refuse to Answer
4. Don't Know

Q4.17 Has any candidate, party worker, or canvasser asked for your vote in exchange for a material gift, money, or job over the past year?
1. Yes
2. No
3. Refuse to Answer
4. Don't know

Q4.18 While voting, what is the most important consideration for you? The candidate, your caste or community's interest or something else?
1. Candidate
2. Party
3. Caste/Community
4. I/members of my family have benefitted, or expect to benefit from the candidate
5. I am impressed by the candidate's personality
6. The candidate is accessible
7. This village will benefit broadly from the candidate
8. Something else (Please specify) _____
9. Don't Know
10. Refuse to Answer

Q4.19 For you, in this upcoming Lok Sabha and Legislative election, what are the biggest/most important issues? (*Record exactly in the order mentioned and probe for 2nd and 3rd responses. If respondent struggles, prompt with the following issues "For example household issues such as health and education, or jobs, village infrastructure issues such as roads, electricity, or water, community issues such as the uplift of your caste, state issues such as the division of Andhra Pradesh into Telangana and Andhra Pradesh or International issues such as relations with Pakistan and the U.S?").*
1. _____
2. _____
3. _____

APF Student Code:

Q4.20 Do government school teachers in this village engage in any of the following non-teaching activities? (Code all that respondent mentions) (Multi-coding allowed)

1. Serving as election monitors?
2. Serving as census enumerators?
3. Work as private tutors?
4. Campaigning for a political party or candidate?
5. Other (Please specify)? _____
6. Don't know?

Q4.21 Do private school teachers in this village engage in any of the following non-teaching activities? (Code all that respondent mentions). (Multi-coding allowed)

1. Serving as election monitors?
2. Serving as census enumerators?
3. Work as private tutors?
4. Campaigning for a political party or candidate?
5. Other (Please specify)? _____
6. Don't know?

Q4.22 Do government health care workers engage in any of the following non-health related activities? (Code all that respondent mentions): (Multi-coding allowed)

1. Serving as election monitors?
2. Serving as census enumerators?
3. Private health-care activities such as a working as a nurse or a doctor for a fee?
4. Campaigning for a political party or candidate?
5. Other (Please specify)? _____
6. Don't know

Q4.23 Do private health care workers engage in any of the following non-health related activities? (Code all that respondent mentions): (Multi-coding allowed)

1. Serving as election monitors?
2. Serving as census enumerators?
3. Campaigning for a political party or candidate?
4. Other (Please specify)? _____
5. Don't know

APF Student Code:

Section 5: Perception and Trust in Government

I would now like to ask you some questions about your thoughts about government employees, politicians, and other service workers

Q5.1 Do you think that *government* teachers care about the well-being of their students?
1. Very much care
2. Somewhat care
3. Somewhat don't care
4. Very much don't care
5. Don't know
6. Refused to answer

Q5.2 Do you think that *private* teachers care about the well-being of their students?
1. Very much care
2. Somewhat care
3. Somewhat don't care
4. Very much don't care
5. Don't know
6. Refused to answer

Q5.3 Do you think that the Gram Panchayat officials care about the well-being of villagers?
1. Very much care
2. Somewhat care
3. Somewhat don't care
4. Very much don't care
5. Don't know
6. Refused to answer

Q5.4 Do you think that Block and District officials care about the well-being of villagers?
1. Very much care
2. Somewhat care
3. Somewhat don't care
4. Very much don't care
5. Don't know
6. Refused to answer

Q5.5 Do you think that politicians, like the MLA or MP care about the well-being of villagers?
1. Very much care
2. Somewhat care
3. Somewhat don't care
4. Very much don't care
5. Don't know
6. Refused to answer

Q5.6 Do you think that the Central Government (Government of India) cares about the well-being of villagers?
1. Very much care
2. Somewhat care
3. Somewhat don't care
4. Very much don't care
5. Don't know
6. Refused to answer

APF Student Code:

Q5.7 Do you think that *government* school teachers treat all students equally?
1. Yes
2. No
3. Don't Know
4. Refused to answer

Q5.8 Do you think that *private* school teachers treat all students equally?
1. Yes
2. No
3. Don't Know
4. Refused to answer

Q5.9 Do you think that Gram Panchayat officials treat all villagers equally?
1. Yes
2. No
3. Don't Know
4. Refused to answer

Q5.10 Do you think that Mandal and District officials treat all villagers equally?
1. Yes
2. No
3. Don't Know
4. Refused to answer

Q5.11 If the Central Government decided to give each villager 1,000 Rupees cash assistance following a drought or a bad harvest, how much do you think you would get after it passed through various levels of government?
1. _____
2. No amount
3. Don't Know
4. Refused to Answer

APF Student Code:

Section 6: Claim Making

I would now like to ask you some questions about how you get things done in your village. Sometimes there are people who are well connected, meaning they know how to get things done both inside and outside the village. These people can help others with their problems, helping them to make contact with government agencies and to access government schemes and benefits.

Q6.1 Are there any such people in your village or ward?
1. Yes
2. No -> skip to Q6.3
3. Don't know -> skip to Q6.3
4. Refused to answer -> skip to Q6.3

Q6.2 How would you describe such people? (Multi-coding allowed)
1. Elders
2. Caste or religious leaders
3. "Effective" people like leaders, landowners, "big men"
4. Educated people
5. Youth
6. Political party members
7. Other (please specify) _____

Q6.3 Who helps in replacing a non-performing ***government*** teacher?
1. Gram Panchayat Officials
2. Other Government Officials
3. Politicians/Political Parties
4. Village or Neighbourhood Groups/Organisations
5. Caste/Religious Groups/Leaders
6. Effective People/Fixers
7. NGO
8. Headmaster
9. Other (please specify) _____
10. No one has helped
11. Don't Know

Q6.4 Who helps in replacing a non-performing ***private school*** teacher?
1. Gram Panchayat Officials
2. Other Government Officials
3. Politicians/Political Parties
4. Village or Neighbourhood Groups/Organisations
5. Caste/Religious Groups/Leaders
6. Effective People/Fixers
7. NGO
8. Headmaster
9. Other (please specify) _____
10. No one has helped
11. Don't Know

APF Student Code:

Q6.5 Who helps in having one's child admitted to a preferred government school?

1. Gram Panchayat Officials
2. Other Government Officials
3. Politicians/Political Parties
4. Village or Neighbourhood Groups/Organisations
5. Caste/Religious Groups/Leaders
6. Effective People/Fixers
7. NGO
8. Other (please specify) _____
9. No one has helped
10. Don't know

Q6.6 Did anyone help your family acquire a white Below Poverty Line card?

1. Gram Panchayat Officials
2. Other Government Officials
3. Politicians/Political Parties
4. Village or Neighbourhood Groups/Organisations
5. Caste/Religious Groups/Leaders
6. Effective People/Fixers
7. NGO
8. Other (please specify)_____
9. No one has helped
10. Don't know

Q6.7 Thinking back to the last time you had to take a relative to the hospital. Did anyone help have your sick relative admitted to the hospital?

1. Gram Panchayat Officials
2. Other Government Officials
3. Politicians/Political Parties
4. Village or Neighbourhood Groups/Organisations
5. Caste/Religious Groups/Leaders
6. Effective People/Fixers
7. NGO
8. Other (please specify) _____
9. No one has helped
10. Don't know

Q6.8 Who helps in getting wage employment through NREGA or other government schemes?

1. Gram Panchayat Officials
2. Other Government Officials
3. Politicians/Political Parties
4. Village or Neighbourhood Groups/Organisations
5. Caste/Religious Groups/Leaders
6. Effective People/Fixers
7. NGO
8. Other (please specify) _____
9. No one has helped
10. Don't know

APF Student Code:

Q6.9 Who helps gain access to dealing with the land administration agency or the police?

1. Gram Panchayat Officials
2. Other Government Officials
3. Politicians/Political Parties
4. Village or Neighbourhood Groups/Organisations
5. Caste/Religious Groups/Leaders
6. Effective People/Fixers
7. NGO
8. Other (please specify) _____
9. No one has helped
10. Don't know

APF Student Code:

Section 7: Privatization, Market-Beliefs, and Effectiveness of Government

PDS Transfers

There have recently been debates on whether government rations should be provided through government ration shops, or if households should be given money to buy whatever food they choose. The amount of the cash transfer will be based on the difference in the price of an item between a kirana store and the ration store, multiplied by your monthly entitlement of that item. For example, if your household is eligible to purchase 10kgs of rice from the ration store at Rs. 5/kg, and the price of rice at the kirana store is Rs. 20/kg, then the government is currently providing you a subsidy of Rs. 15/kg (Rs. 20/kg – Rs. 5/kg) and a total of Rs. 150 (Rs. 15/kg *10 kgs). Under a cash transfer program, the same cash transfer of Rs. 150 would be provided to you as cash every month. **The amount of the cash transfer will be adjusted every year to account for inflation**. All the questions in this section refer to monthly cash transfers for the next month.

Q7.1 Would you prefer a monthly cash transfer from the government of Rs. 200 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?
1. Yes -> skip to Q7.19
2. No

Q7.2 Would you prefer a monthly cash transfer from the government of Rs. 250 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?
1. Yes -> skip to Q7.19
2. No

Q7.3 Would you prefer a monthly cash transfer from the government of Rs. 300 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?
1. Yes -> skip to Q7.19
2. No

Q7.4 Would you prefer a monthly cash transfer from the government of Rs. 350 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?
1. Yes -> skip to Q7.19
2. No

Q7.5 Would you prefer a monthly cash transfer from the government of Rs. 400 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?
1. Yes -> skip to Q7.19
2. No

Q7.6 Would you prefer a monthly cash transfer from the government of Rs. 450 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?
1. Yes -> skip to Q7.19
2. No

Q7.7 Would you prefer a monthly cash transfer from the government of Rs. 500 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?
1. Yes -> skip to Q7.19
2. No

Q7.8 Would you prefer a monthly cash transfer from the government of Rs. 550 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?
1. Yes -> skip to Q7.19
2. No

APF Student Code:

Q7.9 Would you prefer a monthly cash transfer from the government of Rs. 600 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?

1. Yes -> skip to Q7.19
2. No

Q7.10 Would you prefer a monthly cash transfer from the government of Rs. 650 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?

1. Yes -> skip to Q7.19
2. No

Q7.11 Would you prefer a monthly cash transfer from the government of Rs. 700 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?

1. Yes -> skip to Q7.19
2. No

Q7.12 Would you prefer a monthly cash transfer from the government of Rs. 750 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?

1. Yes -> skip to Q7.19
2. No

Q7.13 Would you prefer a monthly cash transfer from the government of Rs. 800 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?

1. Yes -> skip to Q7.19
2. No

Q7.14 Would you prefer a monthly cash transfer from the government of Rs. 850 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?

1. Yes -> skip to Q7.19
2. No

Q7.15 Would you prefer a monthly cash transfer from the government of Rs. 900 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?

1. Yes -> skip to Q7.19
2. No

Q7.16 Would you prefer a monthly cash transfer from the government of Rs. 950 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?

1. Yes -> skip to Q7.19
2. No

Q7.17 Would you prefer a monthly cash transfer from the government of Rs. 1000 INSTEAD of your current monthly grain/fuel entitlements at the Ration Shop?

1. Yes -> skip to Q7.19
2. No

Q7.18 What is the minimum amount of cash you would prefer to have in place of discounted commodities at your ration shop?

Q7.19 How much do you think the Government of India spends on government rations per household per month?

1. _____
2. Don't know

Q7.20 The Government of India spends approximately Rs. 750 per month per household on food through fair price shops. Would you prefer for rations to be distributed through government ration shops at subsidised prices, or would you prefer to be given this money to buy food as you please?

1. Rations to be distributed through government ration shops
2. Given money to buy rations as you please.

APF Student Code:

School Voucher Transfers

There have recently been debates on whether education should be provided by the government or if households should be given money to send their children to whatever schools they please. All the questions in this section refer to yearly cash transfers for the next year.

Q7.21 If you were given a choice between receiving an annual education scholarship from the government of Rs. 3,000 per year or Rs. 250 per month, that you can spend on your child's education in any way you wish (including private school fees, books, uniform, transport, and private tuition), or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.22 Would you prefer an annual education scholarship from the government of Rs. 3,500 per year or approximately Rs. 290 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.23 Would you prefer an annual education scholarship from the government of Rs. 4,000 per year or approximately Rs. 330 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.24 Would you prefer an annual education scholarship from the government of Rs. 4,500 per year or approximately Rs. 375per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.25 Would you prefer an annual education scholarship from the government of Rs. 5,000 per year or approximately Rs. 417 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.26 Would you prefer an annual education scholarship from the government of Rs. 5,500 per year or approximately Rs. 458 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.27 Would you prefer an annual education scholarship from the government of Rs. 6,000 per year or approximately Rs. 500 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.28 Would you prefer an annual education scholarship from the government of Rs. 6,500 per year or approximately Rs. 542 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

APF Student Code:

Q7.29 Would you prefer an annual education scholarship from the government of Rs. 7,000 per year or approximately Rs. 583 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.30 Would you prefer an annual education scholarship from the government of Rs. 7,500 per year or approximately Rs. 625 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.31 Would you prefer an annual education scholarship from the government of Rs. 8,000 per year or approximately Rs. 667 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.32 Would you prefer an annual education scholarship from the government of Rs. 8,500 per year or approximately Rs. 708 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.33 Would you prefer an annual education scholarship from the government of Rs. 9,000 per year or approximately Rs. 750 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.34 Would you prefer an annual education scholarship from the government of Rs. 9,500 per year or approximately Rs. 792 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.35 Would you prefer an annual education scholarship from the government of Rs. 10,000 per year or approximately Rs. 833 per month, that you can spend on your child's education in any way you wish, or of being able to send your child to the government school for free (as it currently is), what would you prefer?

1. Cash transfer -> skip to Q7.37
2. Government school

Q7.36 What is the minimum amount of cash you would prefer to have instead of government provision of primary education per year?

Q7.37 How much do you think the Government of India spends on providing primary education per child per year?

1. _____
2. Don't know

Q7.38 The Government of India spends approximately Rs. 8,400 per year per child (or Rs. 700 per month per child) in providing primary education. Would you prefer to receive this money as an education scholarship and be able to choose whatever school you please, or would you prefer to send your child to the government school for free (as it currently is)?

1. Government should provide education
2. Receive the money as cash and choose schools as they please

APF Student Code:

Q7.39 If you were looking for a job today, would you prefer a government job, a private sector job, or to be self-employed?

1. Government job
2. Private job
3. I would prefer to be self-employed.

Q7.40 If you were seeking health services or education for a family member today, would you prefer the service from a government body or from a private body?

1. Government body
2. Private body

Q7.41 Which statement about the provision of health care and education do you agree with more?

1. The Government of India should both finance and administer the provision of these services
2. The Government of India should finance these services, but private actors should administer these services
3. Private actors should both finance and administer these services.

APF Student Code:

Thank you very much for participating in this survey, your responses are very valuable for us and will hopefully contribute to debates on how to improve this area in the future. As mentioned previously, your responses will not be shared with anyone but the principal researchers on this project.

To be completed AFTER interview, but BEFORE leaving respondent's house

Time of Finish:

Interviewer, please note the house material (on average):

1. "Kaccha" (mud, wood, other "rough materials)
2. Tin/metal
3. Concrete/pucca
4. Other

Please note the house roof material:

1. "Kaccha" (mud, wood, other "rough" materials)
2. Tin/metal
3. Concrete/pucca
4. Other

Interview Quality: (*Multiple coding allowed)*

1. No major problems, respondent cooperative.
2. Respondent at first reluctant, but satisfactory interview and all responses obtained.
3. Respondent reluctant, all responses obtained but reason to be skeptical about validity.
4. Respondent reluctant and several responses not obtained.
5. Respondent encountered difficulty with questions to personal physical problems or problems of recall.
6. Interviewer failed to ask two or more questions.
7. Order of questions altered to facilitate interview.
8. Interview marred by interruptions or presence of other persons (*Note who was present.)*

Note any other impressions of interview:

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