



The Non-Democratic Roots of Mass Education: Evidence from 200 Years

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THE NON-DEMOCRATIC ROOTS OF MASS EDUCATION: EVIDENCE FROM 200 YEARS

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June 19, 2020

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Education shapes many of the things we care about most. Around the world, its provision is a political matter. Governments regulate, fund, and manage schools, and they choose policies that affect the quantity and quality of schooling. Judging by the quantity of primary schooling available, the historical record paints a remarkably positive picture of governmental intervention in education. While in the early-twentieth century only a handful of countries provided universal access to primary education, today most exhibit universal primary school enrollment rates.

A large literature in political science and economics argues that “the spread of democratic voting rights played a leading role in explaining ... the rise of primary schooling” (Lindert 2004, 105). The argument builds on median voter theories linking democratization and redistribution: because a transition from autocracy to democracy entails a shift in political power from rich to poor, democratization will lead to more pro-poor redistributive policies.¹ Primary schooling, the literature argues, is “the sharpest edge of progressive redistribution” (Ansell 2010, 2); “the kind of tax-based education that redistributed the most from rich to poor” (Lindert 2004, 107). Hence the poor will demand more of it, and politicians will address this demand in societies where the poor can vote (e.g., Lindert 2004; Brown and Hunter 2004; Stasavage 2005; Ansell 2010). While recent studies of the determinants of healthcare provision,² land reform,³ income and wealth taxation,⁴ and welfare spending⁵ have questioned the idea that democracies redistribute more than autocracies, democracy remains salient in explanations of why some

¹ Meltzer and Richard (1981); Boix (2003); Acemoglu and Robinson (2006a).

² Ross (2006).

³ Albertus (2015).

⁴ Mares and Queralt (2015); Scheve and Stasavage (2016).

⁵ Ansell and Samuels (2014).

governments provide more primary education than others, backed by a consistent empirical finding that democratization and suffrage extensions are associated with higher primary school enrollment rates and spending (Brown 1999; Mariscal and Sokoloff 2000; Lake and Baum 2001; Kaufman and Segura-Ubiergo 2001; Lindert 2002, 2004; Brown and Hunter 1999, 2004; Stasavage 2005; Avelino, Brown, and Hunter 2005; Ansell 2008, 2010; Harding and Stasavage 2014). Indeed, recent surveys of the literature characterize the argument that democracies provide higher quantities of education as an established truth (Busemeyer and Trampusch 2011; Gift and Wibbels 2014, 294; Hoffman 2015).

This article challenges the idea that democratization was a leading force driving the global expansion of primary schooling. When using median voter theories to predict an expansion of primary schooling after democratization, past studies implicitly assume that the median voter lacked access to primary schooling before democracy emerged. This testable assumption has not been empirically examined, and there are reasons to doubt its validity. First, primary schooling can be perceived as an attractive policy even by governments who are not interested in pro-poor redistribution. Governments have expanded primary schooling to foster industrialization (Gellner 1983), forge a national identity (Weber 1976; Darden and Grzymala-Busse 2006; Alesina and Reich 2013), promote loyalty and domestic order (Paglayan 2017; Cantoni et al. 2017), or strengthen military power (Ramirez and Boli 1987; Darden and Mylonas 2015; Aghion et al. 2019), among other goals. Second, non-democratic regimes that espouse a left-wing ideology or rely on support from the poor to maintain power may provide mass primary schooling to redistribute from rich to poor (Kosack 2013; Manzano 2017). Whatever the reasons for the provision of primary schooling under non-democratic regimes, if the median voter determines policy choices in a democracy, and the median voter already had access to primary schooling before democracy emerged, then transitioning to democracy should not lead to an expansion of primary schooling; democracy should lead to an expansion of

primary schooling only when the median voter previously lacked access to it. The question, then, is how widespread was access to primary schooling before countries democratized?

Drawing on new country-level datasets spanning 200 years of education provision, I document that most of the expansion of primary schooling took place before democracy emerged. On average, central governments began to regulate primary education about a century before a country's first transition to democracy, and over two-thirds of school-age children were already enrolled in primary school a decade before democratization. Difference-in-differences and interrupted time series estimates provide evidence consistent with the prediction that in countries where a majority of the population already had access to primary schooling before democracy emerged, democratization led to an increase in secondary but not in primary schooling, even though a sizable minority of the population remained excluded from primary education. Democracy did lead to an expansion of primary schooling in countries where a majority of the population lacked access to primary schooling; these, however, represent only one-fourth of all democratizing countries.

Why, then, do past studies conclude that the empirical evidence indicates that democracy led to an expansion of primary schooling? I show that this conclusion stems from methodological limitations affecting these studies' internal and/or external validity due to: (i) the absence of controls for long-standing country-level characteristics that could simultaneously affect a country's political and educational trajectories; (ii) the absence of controls for the global upward trend in the quantity of primary education provision observed during the postwar period, both in countries that democratized and in those that

did not;⁶ (iii) limited geographic coverage focusing on a single region or country; and/or, crucially, (iv) reliance on school enrollment or spending data from the 1960s on, raising questions about the relationship between regime type and education provision in earlier periods—central in the case of state-controlled primary education systems, which have been around for well over a century (Ansell and Lindvall 2013). In sum, we lack empirical research that convincingly assesses the presence of a causal relationship between democracy and primary schooling for a large number of countries and regions over a period that encompasses most of the history of public schooling.

Once we examine the long history of primary school systems worldwide, and address the methodological issues limiting past studies' internal validity, democracy no longer plays a leading role in explaining the global expansion of primary schooling. While democratization can promote the expansion of primary schooling, the key condition under which it does—when a majority of the population lacked access to primary schooling before democracy emerged—seldom holds. The rise and spread of primary school systems took place mostly under non-democratic regimes.

These findings underscore the importance of future research on the non-democratic roots of mass education and have implications for the literatures on the political economy of development, the politics of redistribution, modernization theory, and the determinants of public goods provision.

Theories of Democracy and Education Revisited

A common prediction in political economy theories of education provision is that democratization, especially the extension of voting rights to the poor or non-rich, will lead

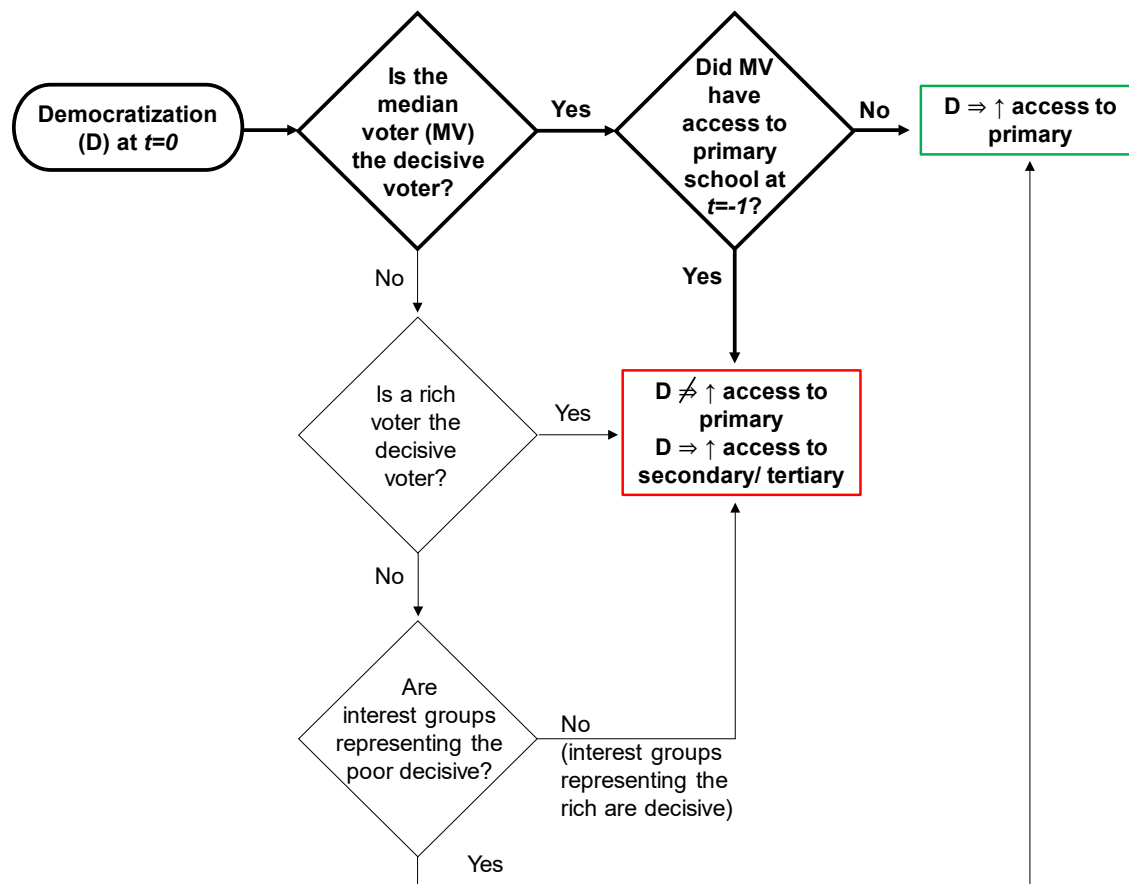
⁶ Ross (2006) finds that, after including country and year fixed effects, there is no longer evidence that democracy reduces infant or child mortality, suggesting the need for a similar study on education.

to the expansion of primary schooling because: (1) a majority of voters in the new democracy will demand increased access to primary schooling to improve their (and their children's) economic position; and (2) politicians in a democracy will be more responsive to this demand than autocrats. The main criticism of redistributive arguments of this type is that the assumption that politicians in democracies are responsive to the policy preferences of the median voter is unrealistic.

This article makes a different point: it argues that, even if democratically-elected politicians are responsive to the median voter—and I find evidence suggesting that, in the realm of education provision, they are—this does not imply that democratization will lead to an expansion of primary schooling, because it is possible that the median voter already had access to primary schooling *before* acquiring the right to vote. That is, I don't object to the assumption that democratically elected politicians are influenced by what the majority of voters want, but rather to the prediction that this implies an expansion of primary schooling.

In a median voter framework, I argue, the prediction about how democratization will impact the quantity of primary schooling depends on how much provision there was before and, specifically, whether or not the median voter already had access to primary schooling prior to democratization. If they did, then median voter theories would predict no expansion of primary schooling as a result of democratization—but we might see an increase in secondary or tertiary education provision if the median voter lacked access to these. By contrast, median voter theories would predict increased provision of primary schooling if the median voter lacked access to it before democratization. These predictions are laid out in the bolded section of the flowchart in Figure 1. The average effect of democratization on access to primary education will be a weighted average of the effect of democratization under the two scenarios and will depend on the proportion of countries that fall under each scenario.

Figure 1. Main Argument and Alternative Theories



Note: Main argument in bold; alternative theories in regular font.

Alternative Theories

The literature also suggests alternative explanations that are important to consider about why democratization might not lead to an expansion of primary schooling besides the possibility that the median voter already had access to it. Later, I will test these alternative theories empirically. Many of these alternative theories argue that the median voter is not decisive in a democracy. First, it could be that democracies respond to the interests of wealthy voters, who are more likely to vote and lobby, and can capture the policymaking process by purposefully designing institutions prior to a democratic transition to prevent future redistribution (Ansell and Samuels 2014; Albertus and Menaldo 2014). If this were the case, we would not expect democratization to lead to an

expansion of primary schooling, but it could lead to increased secondary and/or tertiary education. Second, it could be that elected politicians respond not to voters (rich or poor) but to organized interest groups such as corporate lobbyists or labor unions (Gilens and Page 2014). If this were the case, the effect of democratization on education provision would depend on whether the interest groups that represent the preferences of poor and uneducated voters are sufficiently strong to influence policy (Kosack 2013).^{7,8}

⁷ Additionally, where race or ethnicity are a more salient political cleavage than socioeconomic class, democratic politicians may have incentives to exclude some groups from access to education (Miguel 2004; Kramon and Posner 2016).

⁸ Some scholars have also criticized median voter theories' assumption about demand for education, noting that individuals may sometimes not demand education *even if they lack access to it* (Bursztyn 2016; Platas 2019), either because they underestimate the economic returns to schooling or because they value education but cannot afford to make it a priority given their more pressing short-term needs. Platas (2019) finds that parents in Malawi estimate the economic returns to four years of primary schooling to be the same as no schooling at all. Jensen (2010) and Nguyen (2008) provide experimental evidence that parents underestimate the returns to schooling in Dominican Republic and Madagascar, respectively. Bursztyn (2016, 1101) provides evidence from a survey experiment in Brazil that "poor decisive voters prefer the government to allocate resources . . . [to] favor redistributive programs that increase their incomes in the short run, such as cash transfers" over educational investments, not because they do not value education but because they "have more urgent needs" and cannot "afford to have fewer resources for present consumption in order to have more education for their children" (Bursztyn 2010, 1125). The possibility that poor parents might be reluctant to send their children to primary schools due to short-term financial constraints is especially relevant in pre-

In sum, while median voter theories of redistribution and theories of democratic capture (by rich voters or interest groups representing them) are often presented in contrast to one another, with the former predicting increased pro-poor redistribution after democratization and the latter predicting no increase in redistribution, I argue that median voter theories' prediction about the effect of democratization on the quantity of primary education will depend on the level of provision before democratization. In particular, democratization will lead to increased access to primary education if the median voter previously lacked access to it, but not otherwise. To predict the overall effect of democratization, then, a crucial question is how much provision of primary schooling existed across countries before they transitioned to democracy. The next section surveys existing theories of why there might have been high levels of provision of primary education under non-democratic regimes.

Primary School Systems Under Non-Democracies

As mentioned in the introduction, this article documents that, worldwide, most of the expansion of primary schooling occurred before democracy emerged. While this may be a counterintuitive finding to many political scientists and economists, historians have documented several cases of mass provision of primary education under non-democratic regimes, starting with Prussia in the eighteenth century and including the USSR in the twentieth. In this section, I survey this literature to parse out four common arguments about the reasons for the provision of mass education under non-democracies. For each argument found in the literature, I add qualitative historical evidence from primary sources in online annotations, and quantitative exploratory tests in Online Appendix B.

industrial societies where children contributed to farming and agriculture (Brockliss and Sheldon 2012).

Together, this evidence suggests that autocrats often expected benefits from providing primary schooling to the masses.

Before proceeding, it is important to note that, although there is a prevalent notion in political science that primary education is a “good” or “service” that increases the skills of the poor, schooling and skills need not go hand in hand. The dissociation that exists between schooling and skills is the subject of many empirical studies in development economics and economics of education (Hanushek and Woessmann 2015; World Bank 2018; Angrist, Djankov, Goldberg, and Patrinos 2019) and is illustrated in Figure 2. Across countries, the correlation between the quantity of schooling (measured by average years of schooling among young individuals) and students’ math skills (measured by average country scores on PISA) is 0.07. A weak correlation (0.26) also exists between education spending and math skills. This dissociation underscores an aspect of education provision that is insufficiently integrated into political economy theories:⁹ politicians may increase the quantity of schooling for reasons other than improving the level of skills.¹⁰

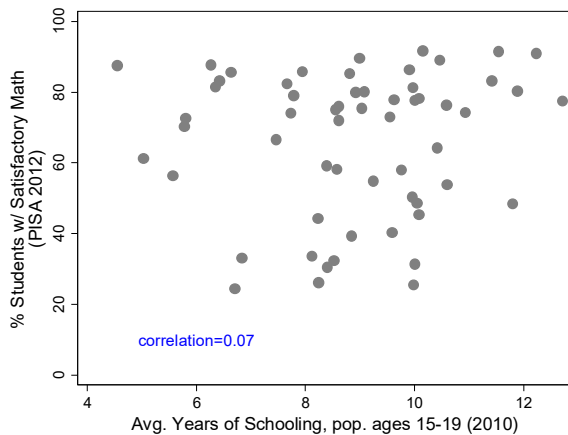
Building on the work of historians, other social scientists, and my own work, I argue that while non-democratic regimes’ decision to provide primary education for the lower classes sometimes stems from an incentive (1) to improve the skills and income of the poor (i.e. pro-poor redistribution), other times it can stem from an incentive (2) to mold the political values and behaviors of the masses and convince them to be content with the status quo as part of an effort to enhance the regime’s legitimacy and stability, and/or (3) to improve the average level of skills in the population as part of a state effort to promote industrialization or military power.

⁹ See Harding and Stasavage (2014) for an exception.

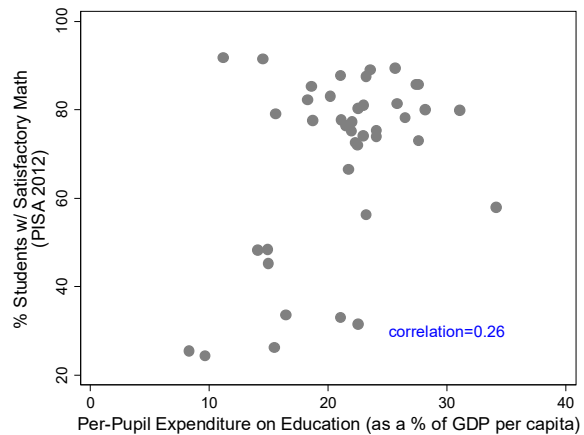
¹⁰ Additionally, education policies may *seek*, but fail, to promote skills.

Figure 2. Quantity and quality of education, by country

Panel A:
Student achievement and
Years of Schooling



Panel B:
Student achievement and
Education Spending



SOURCES: PISA (2012); Barro and Lee (2013); and World Bank EdStats.

Molding political values and behaviors. Some of the earliest and most famous cases of state intervention in primary education by non-democratic regimes, including 1760s Prussia and 1830s France, focused on shaping the moral character of the poor. Prussia extended compulsory primary schooling in rural areas through a Royal Decree signed by Frederick II in 1763. France passed its first Primary Education Act in 1833 during the July Monarchy. In both countries, elites used the term “moral education” to describe the main goal behind their decision to establish a public primary school system. Moral education included a range of goals such as inculcating “loyalty, obedience, and devotion” to the sovereign, fostering “the attachment of citizens to the fundamental laws of the state”, disseminating a national identity to forge unity, teaching a common language to facilitate compliance with state directives, and making citizens “willing to bear their share of the national burden” by paying taxes and fighting for their country (Brownson 1839; Mann 1844; Guizot 1860; Alexander 1919, Reisner 1922; Weber 1976; Barkin 1983; Ramirez and Boli 1987; Melton 1988; Brockliss and Sheldon 2012). In these early state

efforts to organize and provide primary schooling, “there appears to have been little interest in expanding the pool of well-educated workers” (Brockliss and Sheldon 2012, 92; see also Budde 2012; Squicciarini and Voigtlander 2015, 2016). Elites also “showed little interest in using schooling to promote social mobility” (Brockliss and Sheldon 2012, 92). In fact, some rulers stated that primary schools should be careful *not* to promote industrialization or social mobility.¹¹

A similar theme emphasizing the benefits of moral education for the poor can be found among nineteenth-century elites in Latin America (Paglayan 2017). Argentina and Chile, whose policies influenced educational debates throughout the region, passed their first law establishing a national primary education system in 1884 and 1860, respectively, both under tight oligarchic regimes. In both countries, the political debates on whether to establish a centralized primary education system provide ample evidence that elites across the ideological spectrum saw shaping the moral character of the poor as the most promising contribution of a public system of mass primary education (Sarmiento 1845, 1849; Montt 1859; Tedesco 1986; Egaña Baraona 2000; Guevara, Paglayan, and Perez-Navarro 2018).

While the idea that non-democratic regimes can use schooling to shape political values and behaviors and sustain the status quo has a long tradition among historians, in political science the more dominant view—promoted by modernization theories—has been that schooling *empowers* individuals to demand political rights (Almond and Verba 1963; Lipset 1960) and, therefore, autocrats seeking to maintain their power will block its expansion to the masses (Bourguignon and Verdier 2000). Recent exceptions in political

¹¹ Using data from the World Values Survey (multiple years), Figure B1 shows a positive relationship between an individual’s educational attainment and their willingness to fight for their country in autocracies but not in democracies.

economy that highlight autocrats' use of mass schooling to indoctrinate future citizens include Darden and Grzymala-Busse (2006), Paglayan (2017), Cantoni et al. (2017), and Testa (2018).

Skills for industrialization and military strength. While in the examples discussed above elites seldom mentioned the goal of industrialization, autocrats in other parts of the world, especially during the twentieth century, turned to the provision of mass primary schooling partly to support state-led industrialization. The USSR and China are key examples. In the USSR, primary education expanded dramatically under Stalin in the 1920s and 30s and was perceived as crucial “for the success of such projects as the Five Year Plans, ... Industrial development needed more skilled workers of all kinds. No possible source of talent could be left untapped, and the only way of meeting these needs was by the rapid development of a planned system of mass education” (Grant 1964, 22). The Soviet regime’s deliberate expansion of mass education in support of industrialization, military and world supremacy was what most impressed the U.S. education missions to the USSR in the 1950s (U.S. Department of Health, Education, and Welfare 1959, 1960). In China, primary schooling expanded at an unprecedented rate in the 1950s. The Communist Party reshaped the curriculum partly to increase labor productivity by teaching practical technical skills to transform China from a backward economy to a major economic power (Elliott 1982). To be sure, primary schools in both countries sought not only to increase workforce skills but also to shape future citizens’ political values to make them willing to work and fight for their country.¹²

¹² Exploratory quantitative tests provide mixed evidence for the industrialization argument. Figure B2 shows that central governments began to regulate primary schooling during pre-industrial times, while Figure B3 suggests that industrialization increased after central governments began to regulate primary schooling.

In principle, nothing prevents democratically elected politicians from also providing mass primary education to shape future citizens' political values and behaviors or to develop a more skilled workforce or military. However, Olson (1993) and Acemoglu and Robinson (2006b) theorize that autocratic rulers' longer time horizons may give them stronger incentives to adopt policies whose benefits accrue mostly over the long run. Educational investments may be especially sensitive to politicians' time horizons because it usually takes many years before these investments can translate into a more loyal citizenry or a more industrialized economy.

Redistribution from rich to poor. Autocracies may also expand the provision of primary schooling to redistribute from rich to poor if they embrace a left-wing ideology or need the lower class to survive. Manzano (2017, 128) criticizes standard theories because they assume that “a dictatorial government . . . tends to defend the interests of the rich, who prefer a limited public intervention in educational provision.” She argues that “there are autocratic experiences in which dictators appeal to the less affluent sectors of society as their bases of support” (Manzano 2017, 40) and documents that 46 percent of all dictatorships between 1960-2000 championed a left-wing ideology that favored the interests of the poor (Manzano 2017, 111). Kosack's (2013) examination of education policymaking in Ghana, Brazil, and Taiwan from 1930 to 2000 reveals that autocrats who assumed power after organizing and mobilizing the poor were especially bold in their efforts to expand access to primary schooling.¹³

Global ideas about the role of education. Besides the motivations discussed so far for why non-democratic regimes might deliberately expand primary schooling, these systems

¹³ Using data on the ideology of governments from Brambor, Lindvall, and Stjernquist (2017), Figure B4 provides suggestive visual evidence that transitioning from a non-leftist to a left-wing non-democracy leads to an increase in primary school enrollment rates.

could also have expanded under non-democracies by coincidence, as a result of forces affecting all regimes, not just non-democracies. A key driver of this secular expansion proposed by sociologists is the diffusion of ideas about the importance of primary education systems to support nation-state formation and economic development. During the nineteenth century, European rulers became convinced that their success in building a nation-state required a state-controlled primary school system that taught people a common language and set of political values. This idea traveled quickly and took root in other parts of the world, including autocracies but also democratic countries like the United States (Boli, Ramirez and Meyer 1985; Ramirez and Boli 1987; Green 1990). It was just a historical coincidence, the argument goes, that at the time when this idea was circulating, most regimes were still non-democratic. More recently, especially since the development of human capital theory in the 1960s, the term “education” has become increasingly associated with economic development (Green 1990; Brockliss and Sheldon 2012; Bonal 2016; Hanushek 2016). Competition for economic, technological and military supremacy during the Cold War, and the active dissemination by international organizations like the U.N. and the World Bank of ideas highlighting education’s role in fostering economic growth, may have accelerated the expansion of primary schooling during the postwar—again, regardless of the type of regime. For instance, in 1990, 140 countries signed the *Convention on the Rights of the Child* agreeing to commit themselves to ensure free access to primary education for all.¹⁴

¹⁴ Figure B5 provides suggestive visual evidence that the expansion of primary schooling under non-democracies was not merely a historical coincidence; that these regimes have incentives of their own to expand primary schooling. It shows that reversals from democracy to non-democracy are, on average, followed by an acceleration of primary

In sum, there are multiple reasons why we might observe provision of primary schooling under non-democratic regimes—some pointing to deliberate attempts by these regimes to shape political values, skills, or the distribution of wealth; others pointing to provision under non-democratic regimes by coincidence, as a result of the spread of ideas about the benefits of education for nation- and state-building at a time when most existing regimes were non-democratic. From the perspective of what median voters theories will predict about the effect of democratization on access to primary schooling, it does not matter why there was provision of it under non-democratic regimes; what matters is how much provision there was and whether a majority of the population already had access to it before democratization. Later on, I will show that access to primary schooling in most autocracies that became democracies was high.

Existing Empirical Research

Table A1 of Online Appendix A summarizes the data, methods, and conclusions of past studies. As noted in recent surveys of the literature (Gift and Wibbels 2014; Hoffman 2015), one of the most consistent empirical findings in cross-national studies of the relationship between regime type and education provision is that democracies provide higher quantities of education than non-democracies, especially *primary* education. While the literature usually argues that democracy *leads to* increases in enrollment rates and education expenditures, the methods used warrant caution against causal interpretations. First, some early studies likely overestimate democracy’s impact because they lack controls for long-standing country characteristics that could explain why some countries both

school enrollment rates that is not observed in countries that remain democratic. I thank Reviewer 1 for suggesting this empirical test.

became democratic and have higher levels of education provision.¹⁵ It could just be that certain countries had cultural, economic, or political characteristics that prompted them both to provide a lot of primary education and, eventually, to democratize.

Acknowledging this, most studies include country fixed effects in the analysis, which prevents us from confounding the effect of democracy with the effect of permanent country characteristics affecting both who democratizes and how much education is provided. While these studies find that *within* a country, transitions from autocracy to democracy are followed by an increase in primary school enrollment rates, school attendance, and primary education expenditures (e.g., Stasavage 2005; Ansell 2008; Harding and Stasavage 2014), this evidence is still insufficient to isolate the effect of democracy. We also need to net out the role of common shocks or events that could have led to the secular expansion of education in democracies and autocracies alike, including, for example, the role of Cold War competition, international organizations, and the global diffusion of ideas about the benefits of education discussed above. This is what including year fixed effects allows us to do. Ross (2006) finds that after accounting not just for country but also for *year* fixed effects, there is no longer evidence that democracy lowers infant or child mortality. However, few peer-reviewed studies of the relationship between democracy and education provision include both country and year fixed effects, and those that do arrive at conflicting conclusions, perhaps because they cover different periods and sets of countries

¹⁵ E.g., Brown (1999) compares primary school enrollment in democracies and non-democracies in 136 countries from 1960-1987; finds democracies have higher enrollment rates than non-democracies with similar observable characteristics such as GDP per capita; and concludes that “institutions associated with individual rights and electoral competition have an important effect on primary school enrollment” (p. 681).

(e.g., Lindert (2004) studies developed countries from 1880-1930; Lott (1999) analyzes 99 countries over 1985–92).

Finally, because World Bank and UNESCO education statistics are available from the 1960s on, most studies focus on this recent period. The few peer-reviewed studies that explore the relationship between democracy and education provision over a longer period raise questions about external validity due to their limited geographic coverage: Lindert (2004) focuses on OECD countries, Mariscal and Sokoloff (2000) on the Americas, and Aghion et al. (2019) on Europe.

In sum, we lack empirical research that convincingly assesses the presence of a causal relationship between regime type and the quantity of education provision for a large number of countries and over a period that encompasses most of the history of state-controlled education systems. This article seeks to help fill this important gap.

Research Design

To assess the role of democratic institutions in explaining the global expansion of primary education, the article proceeds in four steps. First, I examine: What came first, states' interest in the provision of primary education or democracy? To determine when states became interested in primary education, I employ two historical datasets: an original dataset documenting the year when central governments in 33 European and Latin American countries began to regulate the provision of primary education; and a dataset compiled by Lee and Lee (2016) with information about the year when central governments in 109 countries began to monitor primary education systems by collecting statistics about the number of students enrolled in school.

Second, I ask: Besides regulating and monitoring schools, to what extent did non-democratic regimes expand access to primary education? To measure the quantity of provision, I use the most common measure in the literature, country-level primary school enrollment rates (SERs). Two new historical datasets (Lee and Lee 2016; Paglayan 2017)

spanning from 1820 to 2010 enable me to examine the relationship between regime type and primary education provision over a much longer period than has been possible before.

Third, I use difference-in-differences and interrupted time series methods to estimate the impact of democratization on primary SERs. I examine democracy’s average impact over the whole period (1820-2010) and separately for democratic transitions taking place before or after 1945. The 1945 cutoff is informed by two factors. First, primary SERs across developing countries accelerated after that year (Figure A2). Examining whether democratization contributed to this acceleration is an important question. Second, as discussed earlier, others have argued that the idea that education can contribute to individual earnings and economic development only became widespread after World War II. As a result, demand for education during the postwar may have been stronger, and—if democracies respond to popular demand—the effect of democratization may have been stronger, too.

Fourth, I use difference-in-differences models that allow for heterogeneous treatment effects of democratization to examine which of the three theories discussed earlier (median voter, capture by rich voters, capture by organized interest groups representing the rich) best explains the findings on the average effect of democratization.

Historical Datasets

Timing of initial state intervention in primary education. State intervention in primary education systems can take many forms. For 33 countries in Europe and Latin America, I used over 80 country-specific history of education books, articles, and Ph.D. dissertations published in English, Spanish, or Portuguese, supplemented by consultations with history of education experts,¹⁶ to code the year when central governments began to: (i) fund

¹⁶ Text sources provide 91% of the data; expert consultations, conducted when the dates could not be found in texts in English, Spanish, or Portuguese, provide 9% of the data.

primary schools; (ii) manage them; (iii) establish a mandatory curriculum for all primary schools; (iv) establish certification requirements for primary school teachers; (v) train prospective teachers; (vi) mandate local authorities to provide universal access to schooling; (vii) mandate free provision for the poor; and (viii) establish compulsory primary education. Data collection details and brief country narratives are available in Online Appendix C. Because central governments sometimes began intervening in primary education after subnational governments, the dataset may not always capture the earliest expression of politicians' interest in education, but it allows us to make conservative statements of the form "politicians were interested in primary schooling *at least as far back as X*."

To extend the analysis to all regions, I examine an additional form of governmental intervention in education involving the use of official inspections and gathering of school-level statistics to monitor the state of primary schooling. Lee and Lee (2016) identify the first year when official statistics about student enrollment in public primary schools became available in 111 countries—of which 109 can be matched to information about regime type. Other forms of state intervention—e.g., provision of funding or introduction of a mandatory curriculum—usually occurred before official enrollment statistics became available, so again, the timing of these statistics provides a conservative estimate that "politicians were interested in primary schooling *at least as far back as X*."¹⁷

¹⁷ See Online Appendix D for additional evidence on the appropriateness of using Lee and Lee's (2016) data on the timing of education statistics to make inferences about the timing of state intervention in primary education vis-à-vis the timing of democratization.

School enrollment rates (SERs). I employ two datasets that measure primary SERs. The first is an original country-level dataset constructed by Paglayan (2017) containing annual primary SERs as a proportion of the population ages 5-14 for 38 countries in Europe and Latin America from 1828 to 1945, though there is variation in the start date due to variation in the timing of emergence of state-controlled primary education systems. The construction of this dataset involved contrasting and merging historical data on student enrollment from several secondary sources (Benavot and Riddle 1988; Mitchell 2003; Flora 1983; the U.S. Bureau of Education’s annual *Reports of the Commissioner of Education* for 1872-1915) and supplementing these with country-specific primary and secondary sources. The second dataset, assembled by Lee and Lee (2016), contains quinquennial country-level data on primary school enrollment rates as a proportion of the school-aged population for 111 countries from 1820 to 2010. The authors merged postwar data on primary SERs from UNESCO with more historical data compiled from similar—but not the same—sources I used.

Each dataset has its advantages and limitations and using both helps me assess the robustness of the conclusions. On one hand, my dataset starts earlier. Although Lee and Lee provide extrapolated SERs for all countries since 1820, in reality only 9 countries in their dataset have non-extrapolated pre-1870 data, compared to 17 countries in mine. Indeed, my dataset contains one extra decade of historical data for Argentina, Brazil, and England, two decades for Costa Rica, Ecuador, France, and Spain, and four decades for Austria, Germany and Norway. On the other hand, their dataset covers all regions. Although data preceding 1870 are scarce in Lee and Lee (2016), 63 countries in their dataset have enrollment data beginning in 1900, 85 have data preceding 1920, and 105 preceding 1950. This enables us to improve on the external validity of past studies that employ data from UNESCO or the World Bank, which are only available after the 1960s.

I also examine the relationship between democratization and secondary and tertiary enrollment rates using data from Lee and Lee (2016).

Democratization. I use three sources to measure democratization: the Polity Project; Boix, Miller, and Rosato (2012) (hereafter, BMR); and the Political Institutions and Political Events (PIPE) Data Set by Przeworski et al. (2013). For comparability with past studies, which mostly use *polity2* (which considers whether there are open and competitive elections and constraints on the Executive), I construct a binary measure following the convention that a country is democratic if *polity2* ranges between 6 and 10. As an alternative measure of increases in the political voice of the poor I use the introduction of universal male suffrage, obtained from PIPE. For a less demanding measure, I use BMR, which counts as democratic any country that has competitive elections and has enfranchised more than 50% of adult males. The main text presents results based on Polity to facilitate comparison with past studies, but the main conclusions hold when considering all measures.

State-Controlled Primary School Systems Emerged Under Autocracies

Comparing the timing of democratization and initial state intervention in primary education reveals that, worldwide, states began to intervene in primary education well before the poor were enfranchised.

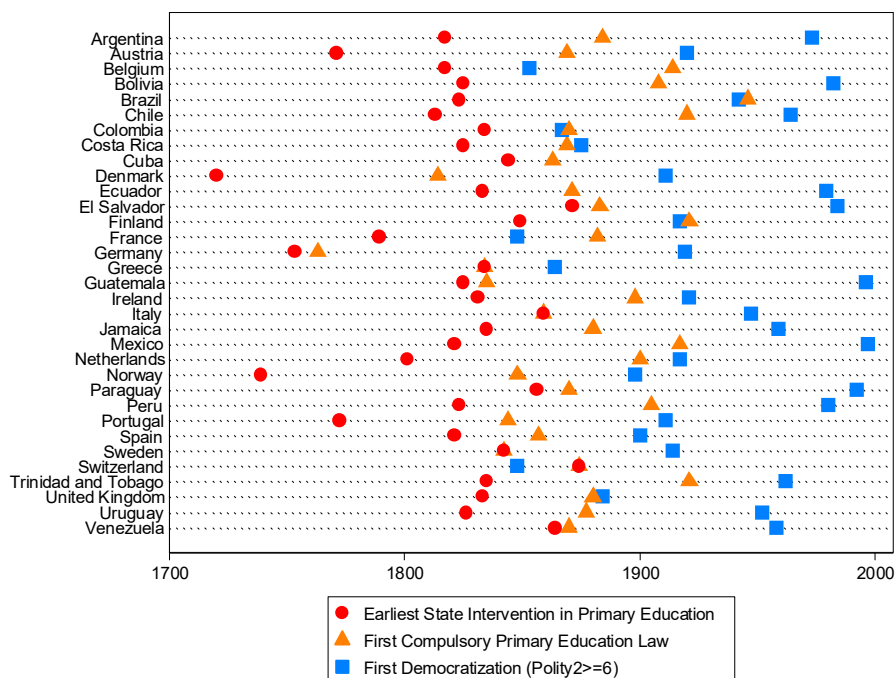
In Europe and Latin America, central governments began to intervene in primary education on average 107 years before democratization as measured by Polity or BMR, and 91 years before the introduction of universal male suffrage. In general, the earliest interventions entailed funding and managing schools. About a decade later, central governments began to establish curriculum and teacher certification requirements and established a monopoly over teacher training. Education statistics appeared about another decade later. Compulsory primary schooling laws were usually the latest form of state

intervention but were still introduced about 52 years before democratization and 36 years before universal male suffrage. These findings are not driven by a few isolated cases; they reflect a general pattern shown in Figure 3 (Panel A). Orange triangles indicate when a compulsory education law was first passed. Red dots indicate when any other form of central government intervention in primary education first took place. Blue squares indicate the timing of democratization as measured by Polity. The pattern is clear: the red dots precede the orange triangles, which precede the blue squares.¹⁸

The same pattern appears outside of Europe and Latin America. For 109 countries, Panel B of Figure 3 shows that political authorities began to monitor and gather official statistics about primary school systems on average 61 years before democratization in Europe and Latin America and 63 years before democratization elsewhere.

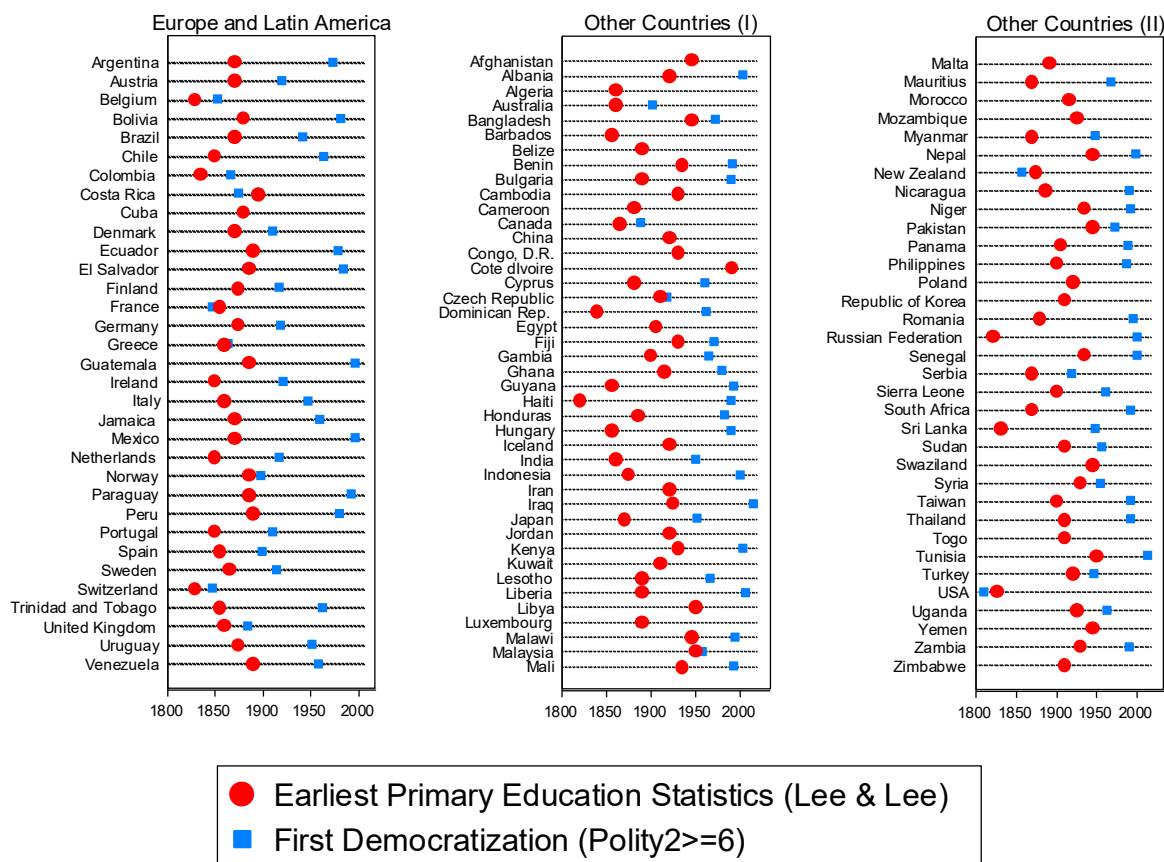
Figure 3. Timing of Democratization and State Intervention in Primary Education, by Country

Panel A: Europe and Latin America (33 countries)



¹⁸ Figure A3 looks at other forms of education intervention and measures of democracy.

Panel B: All Regions (109 countries)



Sources: Author for timing of primary education interventions in Panel A (see Online Appendix C); Lee and Lee (2016) for timing of primary school enrollment statistics in Panel B; Polity Project for timing of democracy.

Sizable Expansion of Primary Schooling Under Autocracies

How elites regulated public primary education early on created enduring patterns of authority and organization (Ansell and Lindvall 2013). Curriculum plans and teacher training programs established under non-democracies sometimes remained in place decades after democratization (Guevara, Paglayan, and Perez-Navarro 2018).

But states didn't just regulate or monitor primary education; they also expanded its provision even in the absence of mass elections. Among countries that experienced at least one transition to democracy, on average 60 percent of children were already enrolled in

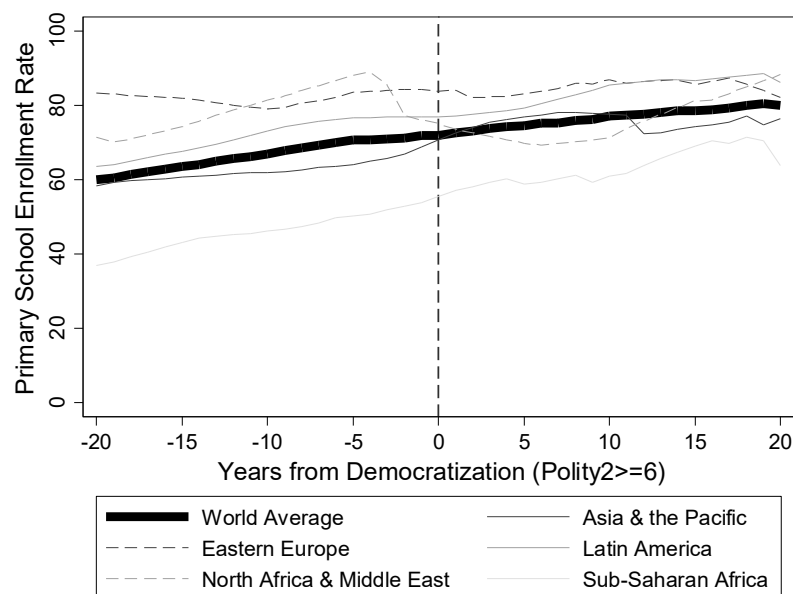
primary school two decades before the country's first democratic transition, 70 percent were enrolled just before democratization, and no dramatic change in the enrollment trend occurred after democratization. This is shown in Panel A of Figure 4; the thick black line represents the average primary SER twenty years before and after a country's first transition to democracy. Indeed, in all regions except Sub-Saharan Africa a large majority of children were already enrolled in primary school at least two decades before democratization; and in all regions, democratization was not followed by a sharp acceleration of primary school enrollment rates. These observations hold regardless of how we measure democracy (Figure A4). Additionally, in every region, a majority of children gained access to primary schooling well before there was a regional move toward democracy (Figure A6).

These patterns are not driven by a few non-democratic regimes in each region. In 65% of countries that ever transitioned to democracy, a majority of school-age children were already enrolled in primary school 20 years before the first democratic transition. That proportion climbs to 75% of countries if we look at enrollment 10 or 5 years before democratization (Figure 4, Panel B).

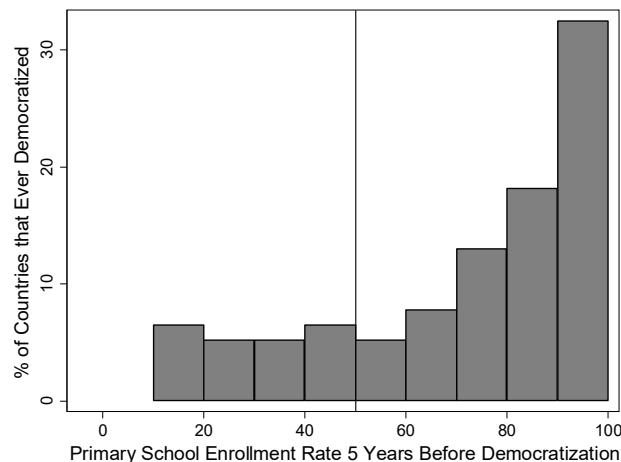
In sum, non-democratic regimes regulated, monitored, and provided high quantities of primary education. In most countries, a majority of children were already enrolled in primary school well before the first transition to democracy.

Figure 4. Primary School Enrollment Rates in Countries that Experienced Democratization, 1820-2010

Panel A: Average enrollment rates before and after democratization, world and regional means



Panel B: Distribution of enrollment rates 5 years before democratization



Note: For visualization purposes, in Panel A quinquennial data on enrollment rates were linearly interpolated to obtain annual estimates. Trends based on the original (quinquennial) data are shown in Figure A5.

Sources: Lee and Lee (2016) for enrollment rates; Polity Project for timing of democracy.

Average Effect of Democracy on Access to Primary Education

Figure 5 provides visual evidence suggesting that, on average, democratization had little or no positive effect on primary SERs. The figure displays, in black, the average SER among democratizing countries before and after their first transition to democracy, and in grey, the average trend in comparison countries that, at any given point in time, were non-democratic.¹⁹ Panel A displays these trends for the entire period 1820-2010; Panel B for democratizations that occurred between 1820 and 1945; and Panel C, for those occurring after 1945.

Beginning with the full period 1820-2010, Panel A shows that, historically, countries that became democratic already had higher primary SERs before transitioning to democracy, but democratization was not followed by a faster increase in SERs in democracies compared to non-democracies. A similar pattern emerges when using universal male suffrage or BMR's measure of democracy (Figure A7).

The conclusion is the same if we focus on more recent democratizations, but Panel C helps us understand why past studies that did not include year fixed effects in the analysis concluded differently. The left-side graph depicts average SERs before and after democratization; the right-side illustrates the same trends but with the y-axis ranging from 0 to 100 percent (like Panels A and B).²⁰ Recall that most studies compare education provision before and after democratization *within* countries that democratize, accounting for country, but not year, fixed effects. This is analogous to focusing on the black line only, which shows that democratic transitions coincided with an acceleration of education provision. While looking at the black line alone might lead us to conclude that democratization *caused* that acceleration, the grey line shows that countries that did not

¹⁹ See bottom of Figure 5 for details about the construction of the comparison group.

²⁰ Figure A15 shows the variation behind the average trends depicted in Panel C.

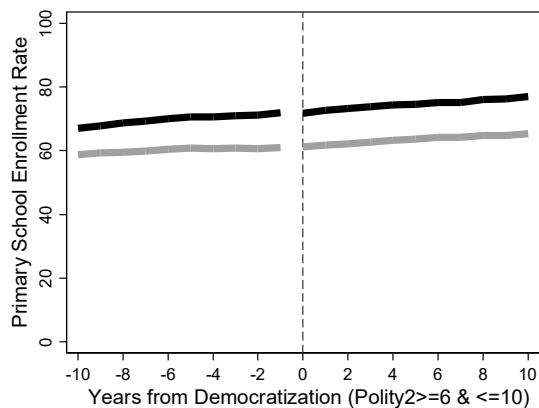
democratize experienced the same acceleration. The inclusion of year fixed effects helps net out any common time shocks driving educational expansion across all regime types. Not accounting for this secular global trend would lead us to overestimate democratization's impact.²¹

There is also no evidence to conclude that democratic transitions occurring before 1945 had a positive impact on primary school coverage. Panel B shows that in countries that became democratic between 1820 and 1945, primary SERs were higher *and* growing faster compared to non-democratic countries *before* they adopted democratic institutions, but once democracy emerged, there is no longer a divergence in SERs between democratic and non-democratic countries.

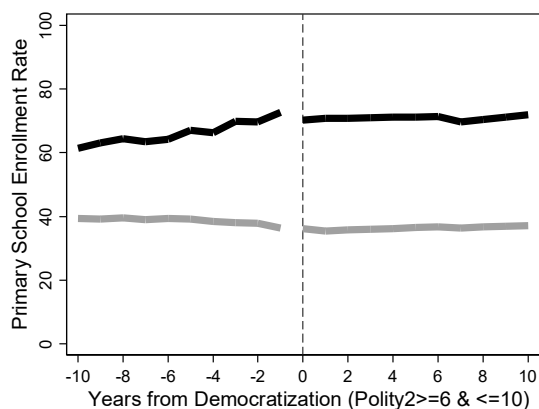
²¹ Including country and year fixed effects would leave no variance to be explained if almost every country was democratizing *and* experiencing educational expansion. However, that is not the case here: by the end of the period of analysis, 68 countries are democratic and 41 are non-democratic. The year fixed effects simply model the trend in school enrollment rates among non-democratic countries, enabling us to estimate the counterfactual trend for democratic countries in the post-democratization period.

Figure 5. Average Primary School Enrollment Rates Before and After Democratization, Treated and Comparison Countries, 1820-2010 and Subperiods

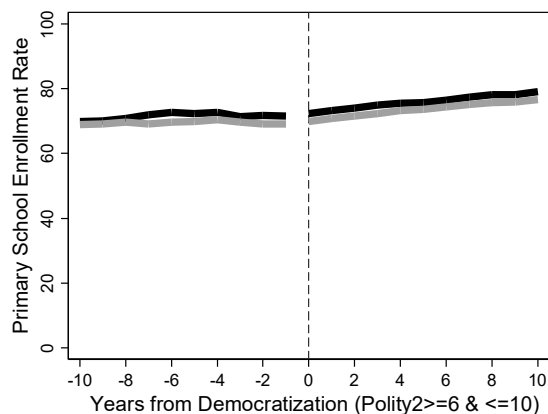
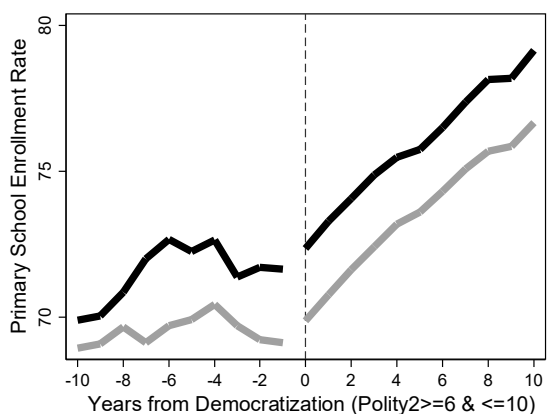
Panel A: 1820-2010



Panel B: 1820-1945



Panel C: 1945-2010



Note: Democratizing countries' trend in black; non-democracies' in grey. For visualization purposes, quinquennial enrollment rates at the country level were interpolated to obtain

annual estimates. For each country that democratized in year $t=T$, I compute the average primary school enrollment rate of a comparison group, which in any given year t is composed of countries that were non-democratic in that year. I then compute the average primary school enrollment rate across all comparison groups, depicted by the grey line. Sources: Lee and Lee (2016) for enrollment rates; Polity Project for timing of democracy.

To quantify the average impact of democratization on primary SERs and compute confidence intervals around the estimated effects, I use difference-in-differences (DD, equation 1) and interrupted time series with a comparison group (ITS, equation 2):

$$(1) Y_{i,t} = \gamma_i + \phi_t + \delta_1 \cdot T_{i,t} + \epsilon_{i,t}$$

$$(2) Y_{i,t} = \gamma_i + \phi_t + \beta_0(\text{year}_{i,t} - \text{year}_i^*) \cdot \text{EverD}_i + \beta_1 \text{EverD}_i \cdot P_{i,t} \\ + \beta_2(\text{year}_{i,t} - \text{year}_i^*) \cdot \text{EverD}_i \cdot P_{i,t} + \epsilon_{i,t}$$

γ_i accounts for country fixed effects and ϕ_t accounts for year fixed effects. In the DD model (equation 1), $T_{i,t}$ equals 1 if country i in year t was a democracy and equals 0 otherwise. δ_1 is the average treatment effect of democratization on primary SERs under the identifying assumption that SERs in countries that democratized, had they not done so, would have changed just as much as they did in countries that did not become democratic. Visual evidence of parallel pre-treatment trends in Panels A and C of Figure 5 suggests that DD is a valid approach when estimating the average impact of democratization for the full period (1820-2010) and for the post-war period (1945-2010). However, the absence of parallel pre-treatment trends in Panel B highlights the need to use a different causal inference method for 1820-1945. I use ITS for that period.

In an ITS model, the identifying assumption is not that the trend of treated countries would have been parallel to that of comparison countries absent democratization, but that treated countries' trend in the post-treatment period would have changed by the same (linear) amount as comparison countries' trend had they not experienced democratization

(Shadish, Cook, and Campbell 2002). In equation 2, $(year_{i,t} - year_i^*)$ is the number of years relative to democratization in country i ; $EverD_i$ equals 1 if country i ever democratized during the period of analysis, and equals 0 otherwise; and $P_{i,t}$ takes a value of 1 if country i had already democratized in year t , and equals 0 otherwise. The ϕ_t dummies trace out the trend of comparison countries. β_0 is the linear difference in the pre-treatment trend between treated and comparison countries; β_1 is the average one-time shift in treated countries' trend in the first year under democracy; and β_2 measures the linear change in the slope of treated countries' trend after democratization. Under the identifying assumption, $(\beta_1 + k\beta_2)$ measures the effect of democracy k years after democratization. This magnitude can be thought of as the *difference* between treated and comparison countries in the *difference* between their post-treatment slopes net of *differences* in their pre-treatment slopes. Intuitively, if treated countries' enrollment rate was already growing faster than control countries' in the pre-democracy period, and diverged even more during the post-democratization period, we would interpret the additional amount of divergence as the positive impact of democratization. Conversely, if we observed that, after democracy, treated countries' trend diverged less from control countries' than in the pre-democracy period, we would interpret the reduction in the amount of divergence as the negative impact of democratization on SERs.

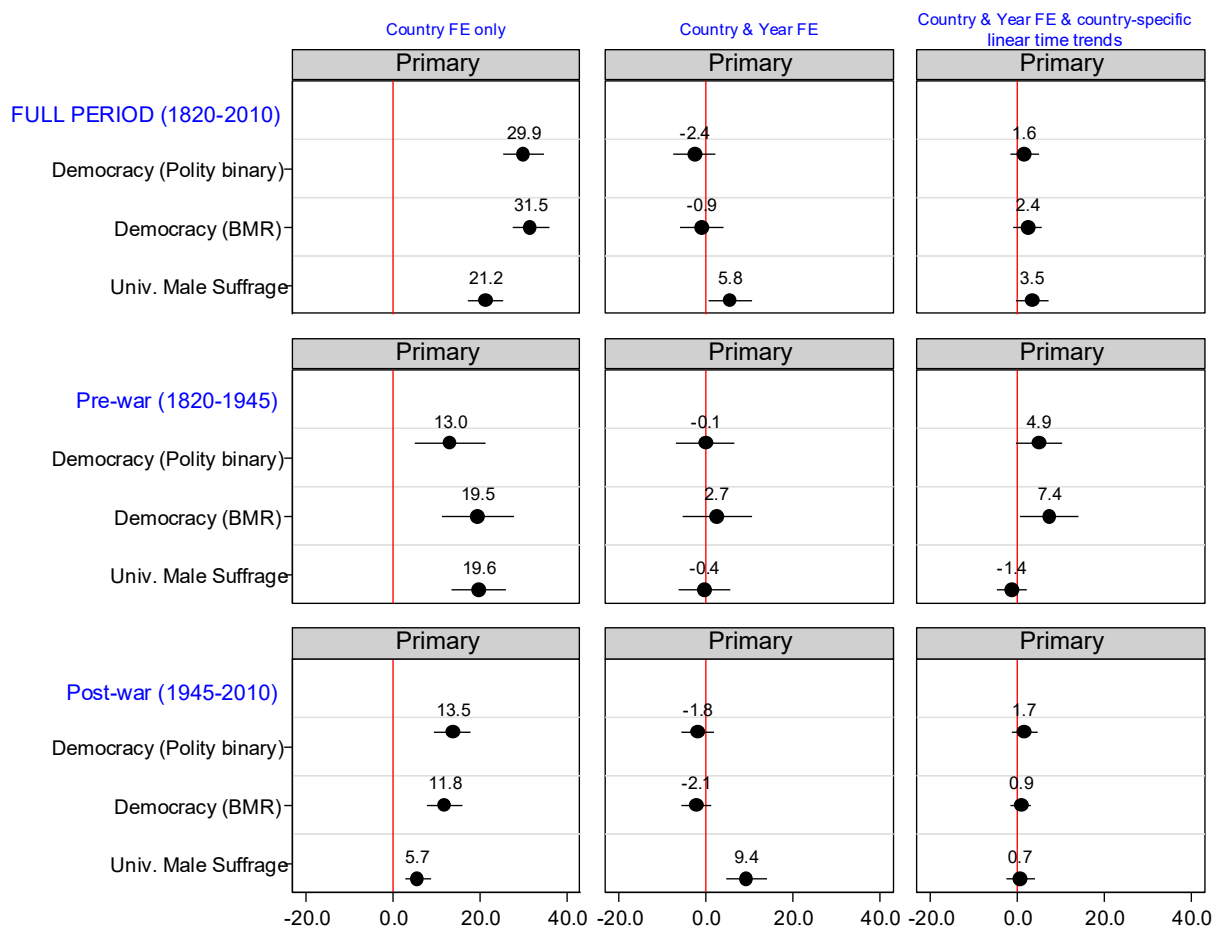
The results of equations 1 and 2, shown in Figure 6, provide limited support for the claim that democratization led to an average increase in primary SERs. Panel A plots the coefficient on democracy obtained from (i) a regression with country fixed effects but not year fixed effects, the most common method used in prior studies; (ii) a DD model including both country *and* year fixed effects (equation 1); and (iii) a model that adds country-specific linear time trends to equation 1, to control for observable and unobservable features of a country that change linearly over time. Panel B provides the

estimated impact of democracy 10 years after democratization based on the ITS model, particularly relevant for the period 1820-1945. 95% confidence intervals based on standard errors clustered at the country level are reported.

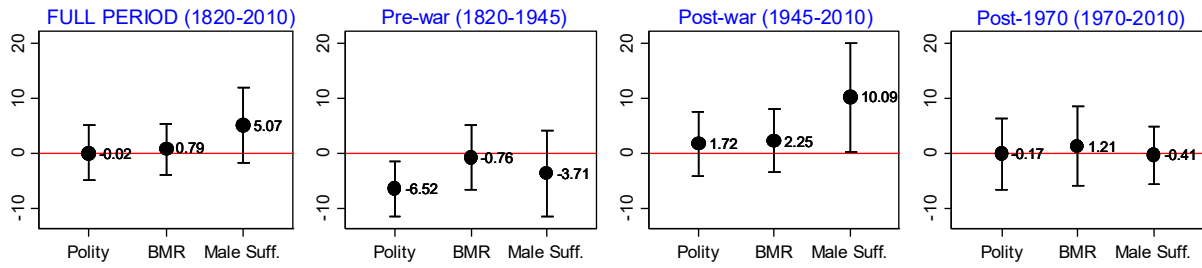
The results for the full period 1820-2010 do not provide support for the claim that democratization played a leading role in explaining the global expansion of primary schooling. Panel A confirms that accounting for country but not for year fixed effects leads us to severely overestimate democracy's impact on primary SERs. For instance, using Polity to measure democracy, as most past studies do, the results with only country fixed effects suggest that democratization increases primary SERs by 30 percentage points. However, once year fixed effects are added, the coefficient on democracy is no longer statistically different from zero and the point estimate is negative. Moreover, all the coefficients on democracy, regardless of which of the three measures of democracy is used, are estimated with enough precision to rule out the claim that democracy was an important driver of the expansion of primary schooling. Recall that the average primary school enrollment in democratizing countries already exceeded 70 percent before democratization, so even if we take the upper bound of the 95% confidence interval in models with country and year fixed effects (5.7 p.p. on average across the three measures of democracy) or models including also country-specific linear time trends (5.8 p.p. on average), the estimated effect of democratization would represent a substantively small effect.

Figure 6. Estimated Effect of Democratization on Primary School Enrollment Rates, 1820-2010 and Subperiods

Panel A: Difference-in-Differences Estimates



Panel B: Interrupted Time Series Estimates



Note: Point estimates and 95% confidence intervals from standard errors clustered at the country level. In Panel B, point estimates reflect the effect of democracy within 10 years of democratization. 109 countries contribute data to estimate the equations that span the entire period (1830-2010) and the postwar period (1945-2010); 98 countries contribute data to estimate the equations that focus on the prewar period (1830-1944).

Sources: Lee and Lee (2016) for enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democracy.

A more appropriate comparison with prior studies is to focus on the impact of democratizations occurring during the postwar period, 1945-2010. Again, Panel A of Figure 6 shows that estimating the impact of these democratic transitions using country but not year fixed effects overestimates democracy's impact. Once year fixed effects are added, the estimated coefficient for democracy becomes negative and is no longer statistically significant if democracy is measured using either Polity or BMR. The only measure of democracy that appears to have a positive effect on primary SERs is the introduction of universal male suffrage, but as with the results for the full period, this effect also becomes statistically insignificant once we account for country-specific linear time trends.

Finally, for democratic transitions occurring between 1820-1945, the DD estimates in Panel A overestimate the impact of democracy because they overlook that primary SERs were growing faster in democratizing countries prior to democratization. If we account for the difference in the pre-treatment slopes and assume that this difference would have remained the same in the absence of democratization, our conclusion about the impact of democracy changes considerably. As Panel B of Figure 6 shows, ITS estimates of the impact of democratization do not support the claim that democracy leads to an expansion of primary SERs. The point estimates for all measures of democracy are negative (and statistically significant in the case of Polity). Moreover, even if we take the upper bound of the 95% confidence interval from the ITS models (2.5 p.p. on average across the three measures of democracy), this represents a substantively small effect considering that the average primary school enrollment in countries that democratized between 1820-1945 was already above 70 percent before democratization.

Robustness

The preceding findings provide limited support for the claim that democracy, on average, leads to an expansion of primary schooling. The conclusion that democracy did not play a leading role in driving the expansion of primary schooling holds if we: (i) use Tobit

instead of OLS to correct for the possibility of sample selection bias due to the presence of a censored (upward-bounded) dependent variable (Table A2); (ii) look at the effect of continuous changes in regime type instead of using binary measures of democracy (Table A3); (iii) employ a different historical dataset of primary SERs for the 1820-1945 period (Figure A8); (iv) use public spending on primary education (available from Stasavage 2005) instead of enrollment rates to measure the quantity of primary education provision (Figure A9); and (v) examine the impact of democratization separately for each region (Figure A10; Table A4).

Disentangling the Average Null Effect of Democracy: The Role of Provision Before Democratization

At least three different theories discussed earlier predict the absence of an average positive effect of democratization on primary SERs: democratic capture by rich voters, democratic capture by interest groups representing rich voters, or democratic responsiveness to a median voter who already had access to primary schooling before democratization. Of these three theories, the evidence presented in this section is most consistent with the median voter-based explanation.

As a first step, I estimate the effect of democratization on secondary and tertiary education enrollment rates and find evidence of a positive, statistically significant average effect of democracy on secondary SERs, especially when considering democratizations occurring after 1945 (Panels B and C of Figure A11). Because the upper class is more likely to demand secondary than primary education, it may be tempting to conclude that democracy did not lead to the expansion of access to primary education but led to the expansion of secondary schooling due to capture of the democratic policymaking process by the rich or by interest groups representing the rich.

However, three pieces of evidence suggest that capture theories are not adequate for explaining the dynamics of education provision after democratization.

First, to assess the possibility that the average null effects of democracy on primary SERs are explained by a median voter framework, I re-estimate equation 1 for the full period allowing for heterogeneous treatment effects of democracy depending on whether or not a majority of children were enrolled in primary school before democratization. Panel A of Table 1 reports OLS results. Panel B reports Tobit results.

Table 1. Heterogeneous Effect of Democratization Depending on Whether a Majority of Children Already Had Access to Primary Education Before Democratization, 1820-2010

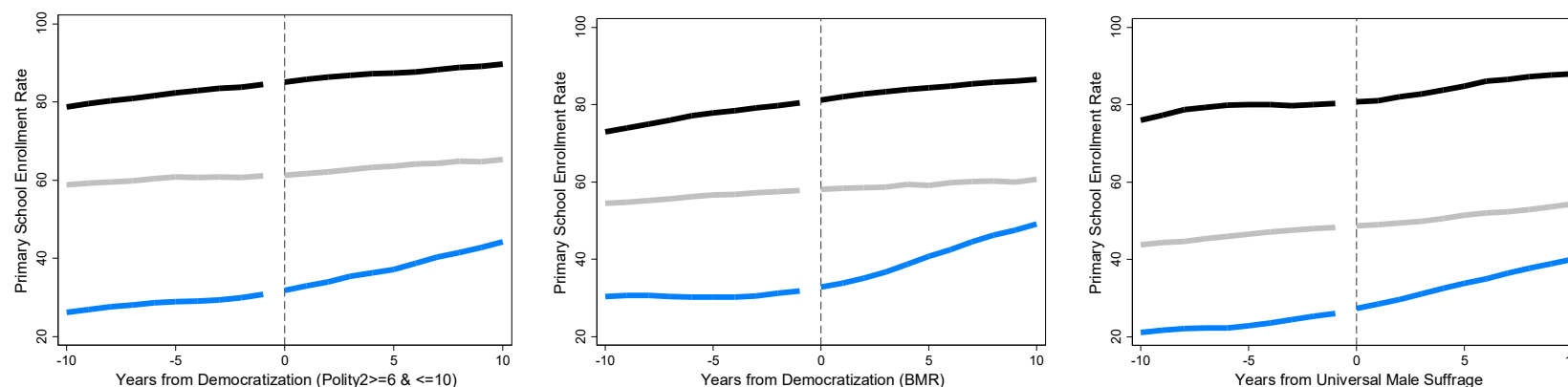
	<i>Panel A: OLS</i>			<i>Panel B: Tobit</i>		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
	school enrollment rate			school enrollment rate		
Independent variable:						
Polity2 between 6 and 10						
<i>democracy</i>	5.3 (3.5623)	-5.1 (3.2870)	-2.6 (2.6150)	5.1 (3.0542)	-5.2 (3.3095)	-2.6 (2.5901)
<i>democracy x majority enrolled in primary</i>	-8.6 * (4.1463)	13.2 ** (3.9961)	3.6 (3.2115)	-8.0 * (3.8664)	13.1 ** (4.0243)	3.6 (3.1808)
Democracy (BMR)						
<i>democracy</i>	8.0 * (3.2197)	-12.2 ** (2.7032)	-7.2 ** (2.2573)	6.2 * (2.9740)	-12.4 ** (2.7360)	-7.2 ** (2.2366)
<i>democracy x majority enrolled in primary</i>	-9.7 ** (3.4496)	18.2 ** (3.0982)	6.1 * (2.4868)	-7.2 * (3.4015)	18.2 ** (3.1331)	6.1 * (2.4640)
Universal male suffrage (PIPE)						
<i>democracy</i>	15.7 ** (3.1897)	-17.3 ** (2.6090)	-9.4 ** (1.4518)	15.9 ** (3.3165)	-17.3 ** (2.6001)	-9.4 ** (1.4394)
<i>democracy x majority enrolled in primary</i>	-10.2 ** (2.9843)	18.7 ** (2.6514)	3.1 * (1.2598)	-9.9 ** (3.3067)	18.5 ** (2.6297)	3.1 * (1.2490)

Note: Results based on a linear difference-in-differences model with country and year fixed effects similar to the one given by Equation 1 but allowing for heterogeneous treatment effects depending on the level of primary school enrollment rates prior to democratization. OLS estimates (Panel A) and Tobit estimates (Panel B). Standard errors clustered at the country level in parenthesis. Stars denote statistical significance at the *0.05 and **0.01 level. The number of countries contributing data is 109.

Sources: Lee and Lee (2016) for enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democracy.

The results provide some support for median voter theories. In countries where most children *lacked* access to primary education before democratization, a transition to democracy leads to *increases* in primary SERs based on two of three measures of democracy (BMR and universal male suffrage) and to reductions in the provision of secondary and tertiary education. However, a majority of children lacked access to primary schooling before democratization in only one-fourth of countries that democratized; in the remaining three-fourths, a majority of children already had access to primary schooling (but not to secondary education) before democracy emerged. Here, in line with the theoretical predictions of a median voter framework, democratization does not lead to an increase in primary SERs based on two of three measures of democracy (Polity and BMR) but leads to increased enrollment in secondary education. Figure 7 provides visual evidence of these effects.

Figure 7. Average Primary School Enrollment Rates Before and After Democratization, Treated Countries by Whether or Not a Majority of Children Were Already Enrolled in Primary Schooling Before Democratization, and Comparison Countries, 1820-2010

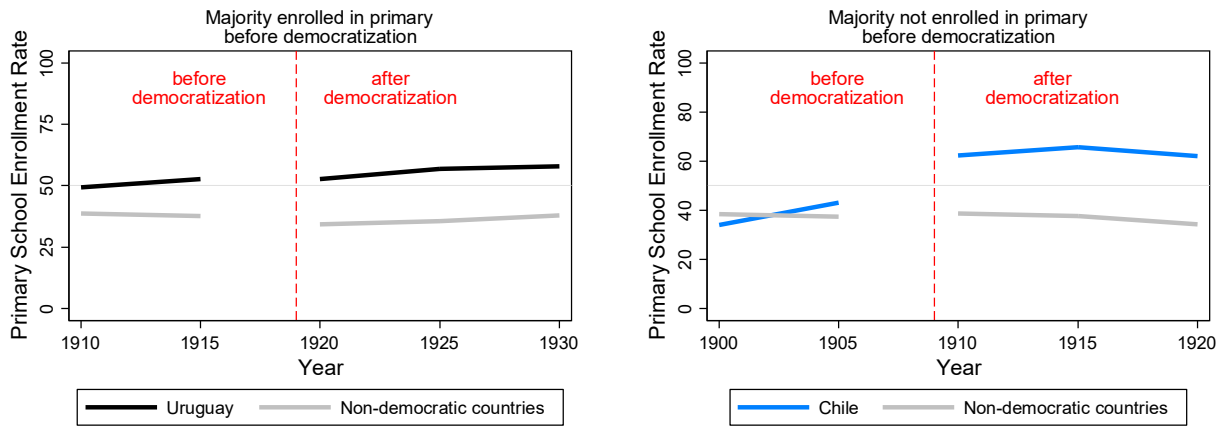


Note: Average primary school enrollment rate in democratizing countries where a majority of children were enrolled in primary education before democratization (black line); in democratizing countries where a majority of children were not enrolled in primary education before democratization (blue); and in control countries (light grey).

Sources: Lee and Lee (2016) for enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democracy.

To illustrate these dynamics, consider Chile and Uruguay, two countries with similar levels of economic development, state capacity, and colonial history, and whose first transition to democracy occurred at a similar time. However, in Uruguay, a majority of the population had access to primary schooling before democracy emerged; in Chile, they did not. Figure 9 shows that, in line with median voter theories, primary schooling barely increased in Uruguay after democratization, but expanded considerably in Chile.

Figure 8. Primary Education in Uruguay and Chile Before and After Democratization



Sources: Lee and Lee (2016) for enrollment rates; BMR for timing of democratization.

Second, to further assess the likelihood that capture theories explain the main results, I follow Albertus and Menaldo's (2014) empirical approach, which assumes that democratic capture by the rich is likely when the rich can anticipate a transition to democracy but not when democracy is precipitated by an unexpected social revolution. Estimating a linear difference-in-differences model that allows for heterogeneous treatment effects of democracy depending on whether or not democratization was immediately preceded by a revolution, I find no support for the claim that there is a difference in the effect of democratization on primary, secondary, or tertiary enrollment rates depending on whether or not elites can anticipate, and therefore capture, a transition to democracy (Table A5).

Third, I test the argument that democracy’s impact depends not on the median voter’s previous access to primary schooling but on the existence of a powerful organization representing the interests of the poor. Ideally, we would want cross-national time-series data about the degree to which labor unions and other mass organizations influence the policymaking process. The Varieties of Democracy dataset provides a measure of the relative power of different socioeconomic groups at the time of democratization, but based on this variable (*v2pepwsoc*), there are no countries where, at the time of democratization, non-elites wielded considerable power. As an alternative, to measure differences in the degree to which the poor are represented in the new democracy, I estimate heterogeneous treatment effects of democracy by whether or not the new democratic government was left-wing or not, using data from the “Ideology of Heads of Government, 1870-2012” dataset by Brambor, Lindvall, and Stjernquist (2017). The results do not provide consistent evidence for the claim that there is a difference in the effect of democratization on primary SERs depending on whether or not the new democratic government is left-wing (Table A6).

In sum, the absence of an average positive effect of democracy on primary SERs, and the presence of an average positive effect on secondary SERs, can be explained best within the framework of theories of redistribution in which the median voter determines policy decisions. Theories proposing that rich voters and organizations representing the interest of the rich control education policymaking receive less empirical support.²²

²² The three theories tested in this section assume that individuals are self-interested. However, altruistic individuals may demand primary education for others even if they themselves already have access to it. I thank Reviewer 3 for noting this possibility. Figure A13 provides a test of this argument. Building on existing research suggesting that women are more altruistic and more likely to care about children in general than men, I use

Discussion

Why do past studies conclude that democratization led to the expansion of primary schooling? This section considers how the research design of four influential studies—Brown (1999), Mariscal and Sokoloff (2000), Lindert (2004), and Stasavage (2005)—affected their conclusion. Using Lee and Lee’s (2016) dataset, I first estimate models similar to those estimated in each study; then, where relevant, I add country fixed effects (Brown 1999; Mariscal and Sokoloff 2000) and/or year fixed effects (Brown 1999; Mariscal and Sokoloff 2000; Stasavage 2005).

I find that Brown’s (1999) conclusion that democratization increases primary SERs among developing countries in 1960-1987, and Stasavage’s (2005) conclusion that democratization in Africa led to greater primary education spending, no longer hold once we include year fixed effects (Figure A9 and Panel B of Figure A12). For Mariscal and Sokoloff (2000), I find that the exclusion of both country and year fixed effects explains their finding that democratization increases primary enrollment in the Americas during 1860-1945 (Figure A12, Panel C). I do find some visual evidence suggesting that Lindert’s conclusion that democratization led to an average increase in primary SERs is valid for the sample he analyzed (21 countries from 1880-1930). However, even in these countries, most of the expansion of primary schooling occurred before democratization. Overlooking

difference-in-differences to test the prediction that granting suffrage rights to women leads to increases in primary SERs. The persistence of a positive and statistically significant coefficient on universal female suffrage even in models with country and year fixed effects is consistent with the argument that democratization may lead to the expansion of primary schooling when voters have altruistic values.

this fact led Lindert to overstate democracy’s role, claiming that it played “a leading role” in explaining the rise of primary schooling (Figure A12, Panel A).

Conclusion

This article challenges the centrality given to democracy in explanations of why some governments provide more primary education than others. Using new historical datasets to examine the relationship between primary education and democracy in 109 countries over a 200-year period, and methods that improve on past studies’ efforts to address concerns about omitted variable bias, I find that, consistent with the predictions of median voter theories of redistribution following democratization, transitions to democracy lead to a (small) increase in primary school coverage only when a majority of the population lacked access to primary schooling under non-democracy. However, this condition rarely holds: In three-fourths of countries that experienced democratization, a majority of the population already had access to primary schooling *before* democratizing. In these cases, democratization does not lead to further expansion of primary education.

The findings contribute to the literature on the comparative politics of education provision and have implications for the literatures on redistribution under democracies, the determinants of public goods provision, modernization theory, and authoritarian politics. They also underscore the importance of future research on the non-democratic roots of mass education.

First, while a common argument is that democratization does not translate into pro-poor redistributive policies because the policymaking process is captured by the upper classes (Ross 2006; Ansell and Samuels 2014; Albertus and Menaldo 2014), this article suggests that effect of democratization on the quantity of primary education provision is better explained by median voter theories than by theories of democratic capture by the rich. Democracies are responsive to the majority—but at a cost to the poorest in society: when the majority already has access to primary schooling before democratization,

democratic governments do not expand access to primary education even if a sizable portion of the poor lacks access to it.

Second, while studies of the political economy of development and the determinants of public goods provision usually conceptualize schools as one of many publicly-provided “goods” or “services” that increase individual wellbeing, the qualitative evidence presented in the online annotations of this article suggests that the provision of primary schooling has sometimes been divorced from concerns about citizens’ wellbeing. Further, the poor correlation between years of schooling and skills acquisition that this study documents indicates that years of schooling and enrollment rates are problematic measures of a “good” or “service” that benefits individuals. Measures of educational quality or the economic returns to schooling would represent a considerable improvement if the goal is to explain variation in the degree to which governments provide things that citizens value or benefit from. Future research could also complement this study by examining whether democratization improves educational quality.

Third, proponents of modernization theory often argue that education empowers citizens to demand democracy (Lipset 1960)—and perhaps because of the influence of this theory, past studies assumed that access to primary schooling before democratization was low. This study shows that modernization theory’s testable implication that autocrats will refrain from providing mass education (Bourguignon and Verdier 2000) rarely holds. An interesting question stemming from this article is whether and when the provision of mass education under non-democracy, even in those cases when it sought mostly to indoctrinate the masses, backfired. Acemoglu et al. (2005) find that the timing of democratization is not endogenous to the expansion of education that precedes it. Friedman et al. (2016) find experimental evidence that increasing girls’ schooling in Kenya increased women’s empowerment inside the household but also increased their acceptance of the political

status quo. Examining the conditions under which the provision of education helps cement or undermine non-democratic regimes would be a fruitful area for future research.

Despite the findings presented, democracies may still promote more human development than autocracies. If we agree with Sen (1999) that human development entails the ability to freely determine how we want to live our lives, and that this requires certain political and civil rights that can only be present under democratic regimes, then almost by definition democracy will be preferable to non-democratic regimes in promoting human development—even when it does not lead to more access to primary schooling.

The most important puzzle that emerges from this study concerns the high levels of primary education provision observed under non-democracies. Recent subnational studies find evidence of elite-driven primary education expansion in specific countries (e.g., Gao (2018) in China; Andersson and Berger (2019) in Sweden). This article documents a general worldwide pattern of high access to primary schooling before democratization. Existing theories of autocratic regimes or the comparative politics of education literature have devoted insufficient attention to understanding what explains this pattern. Some recent studies suggest that external threats to territorial integrity (Darden and Mylonas 2015), the presence of mass domestic conflict and political instability (Paglayan 2017), and autocratic rulers' left-wing ideologies, including communism (Manzano 2017), all catalyzed non-democratic elites' incentives to provide mass education. The findings presented here underscore that expanding this line of inquiry is crucial for understanding what led to the global expansion of primary schooling. The rise and spread of primary education systems took place mostly under non-democratic regimes.

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Online Supplementary Materials

Online Appendix A (pages 1-29)

Supplementary Figures and Tables

Online Appendix B (pages 30-34)

Primary School Systems Under Non-Democracies

Online Appendix C (pages 35-63)

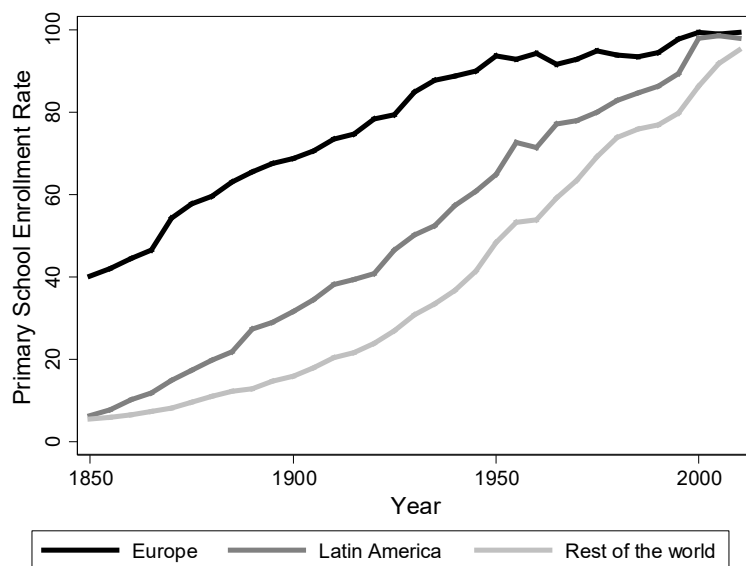
Timing of Initial Central Government Intervention in Primary Education, and Sources Used, by Country

Online Appendix D (pages 64-66)

Timing of Education Statistics

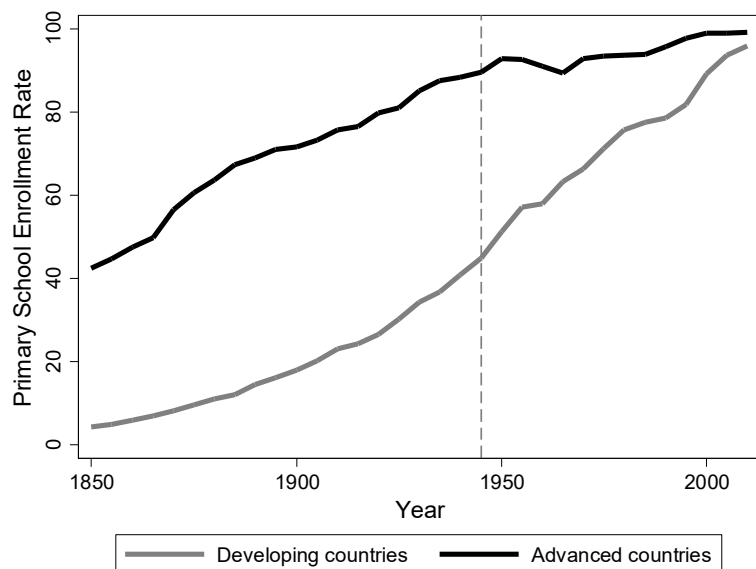
Online Appendix A: Supplementary Figures and Tables

Figure A1. Average Primary School Enrollment Rate in Europe, Latin America, and the Rest of the World, 1850-2010



SOURCE: Enrollment data from Lee and Lee (2016).

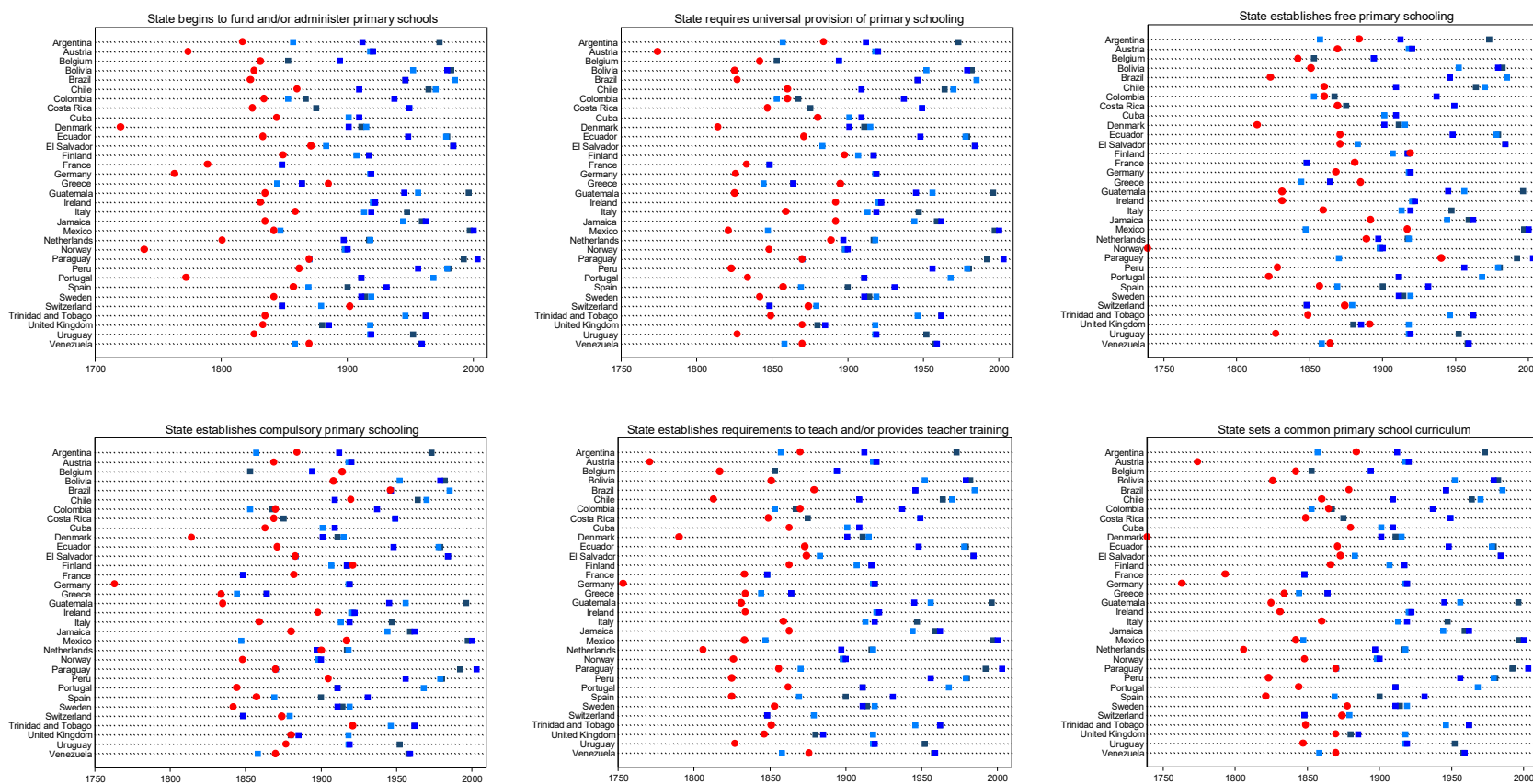
Figure A2. Average Primary School Enrollment Rate in Developing and OECD Countries, Before and After 1945



NOTE: Vertical dashed line marks the year 1945.

SOURCE: Enrollment data from Lee and Lee (2016).

Figure A3. Timing of Different Types of State Intervention in Primary Education vs. Timing of Democratization

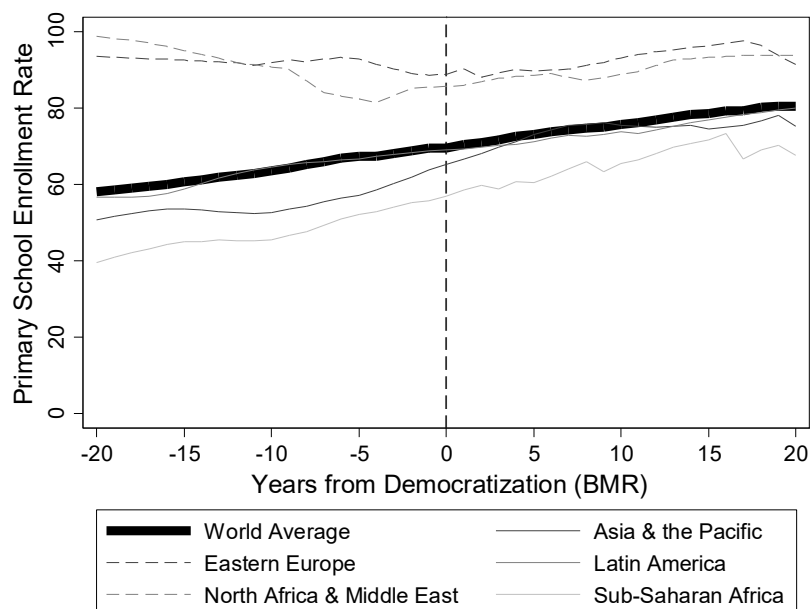


NOTE: Red dots indicate the first year in which the state intervened in primary education in the specific way indicated by the graph title; light blue squares indicate the timing of universal male suffrage; blue squares indicate the timing of the first transition to democracy according to Boix-Miller-Rosato (BMR); navy blue squares indicate the timing of the first transition to democracy according to Polity IV.

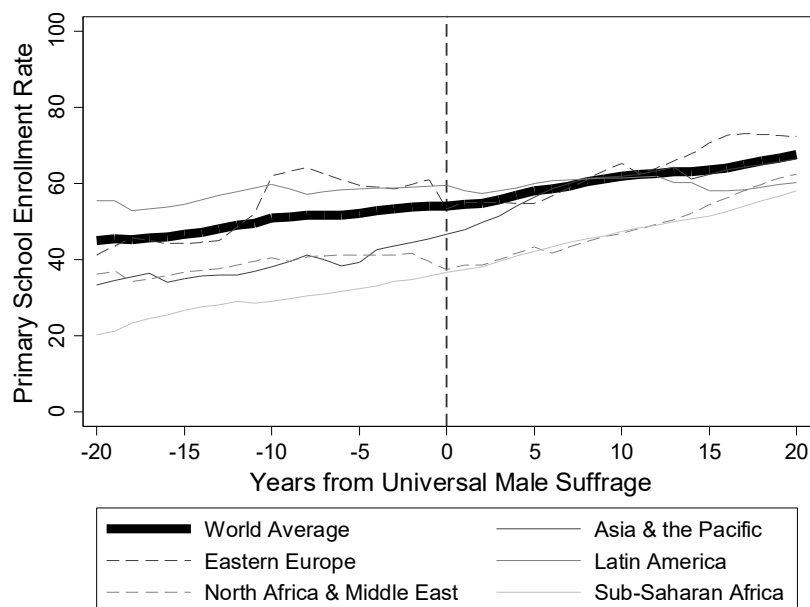
SOURCES: Author for timing of first central government intervention in primary education (see Online Appendix C); Polity Project, BMR, and Przeworski et al. (2013) for timing of democratization.

Figure A4. Primary School Enrollment Rate Before and After Democratization, World and Regional Means, 1820-2010 – Additional measures of democracy

Panel A: Independent variable is democracy as measured by BMR



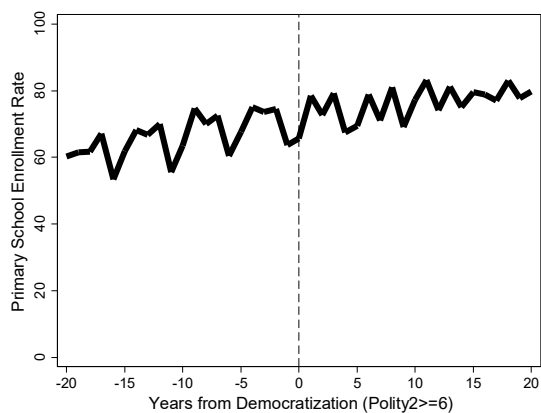
Panel B: Independent variable is universal male suffrage as measured by PIPE



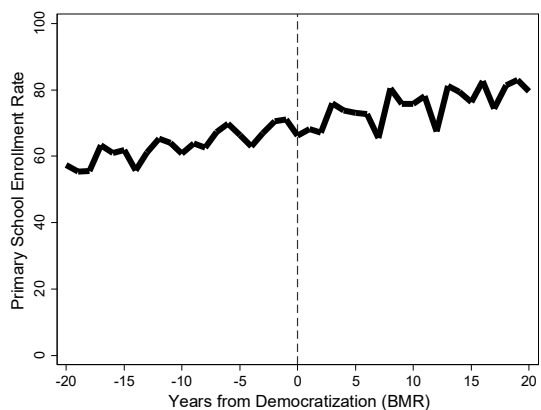
SOURCES: Lee and Lee (2016) for enrollment; BMR and Przeworski et al. (2013) for timing of democratization.

Figure A5. Primary School Enrollment Rate Before and After Democratization, World Mean, 1820-2010 – Non-interpolated (i.e. quinquennial) data

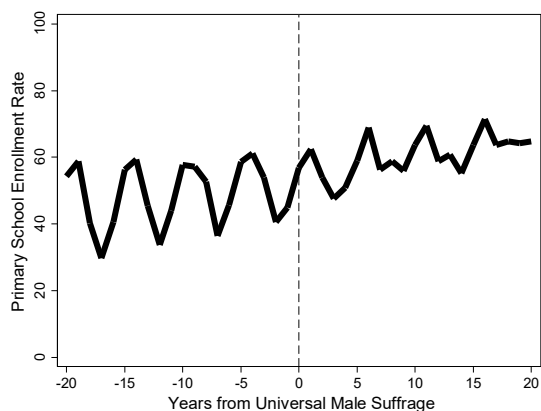
Panel A: Independent variable is binary measure of democracy (polity2 between 6 & 10)



Panel B: Independent variable is democracy as measured by BMR

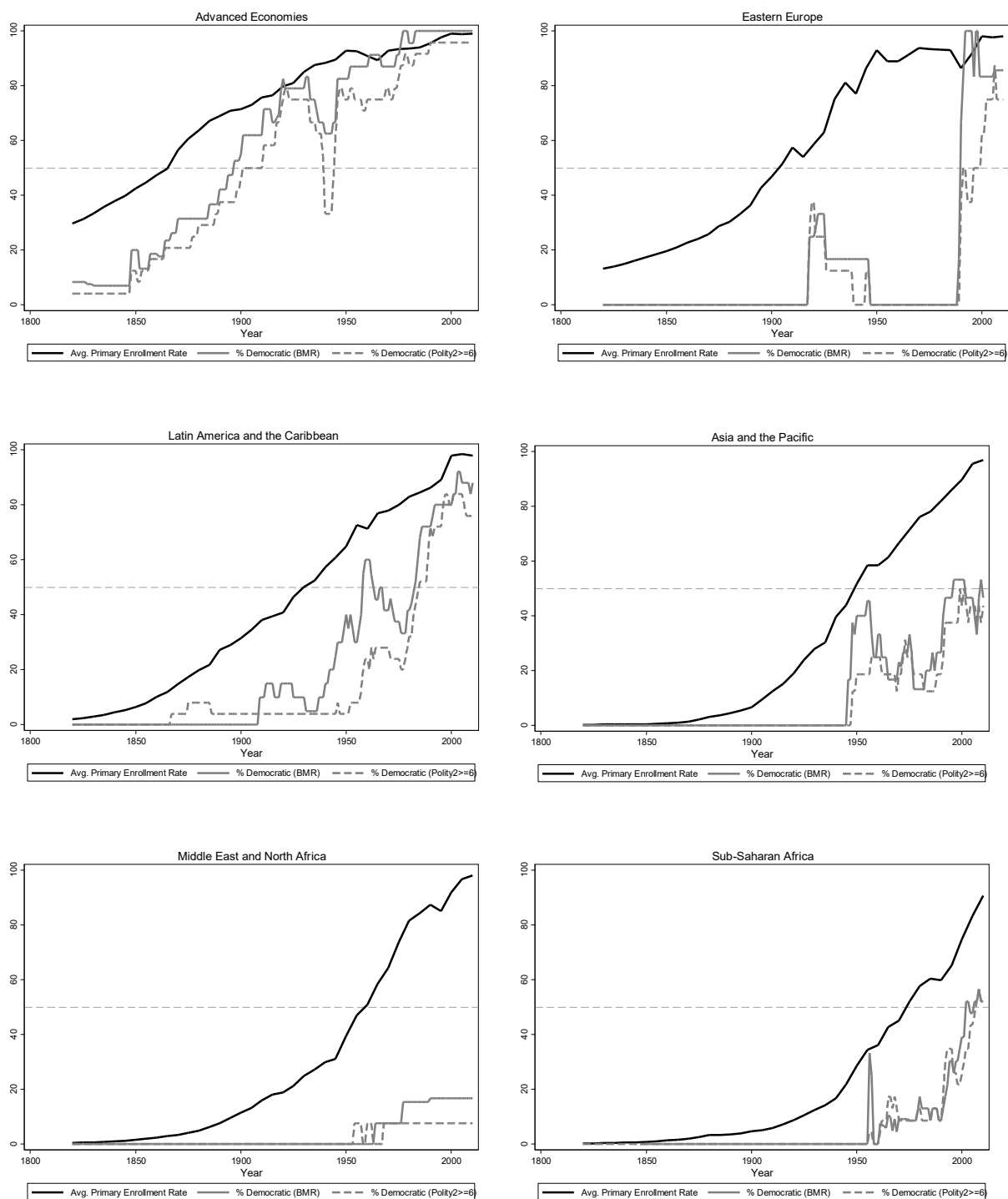


Panel C: Independent variable is universal male suffrage as measured by PIPE



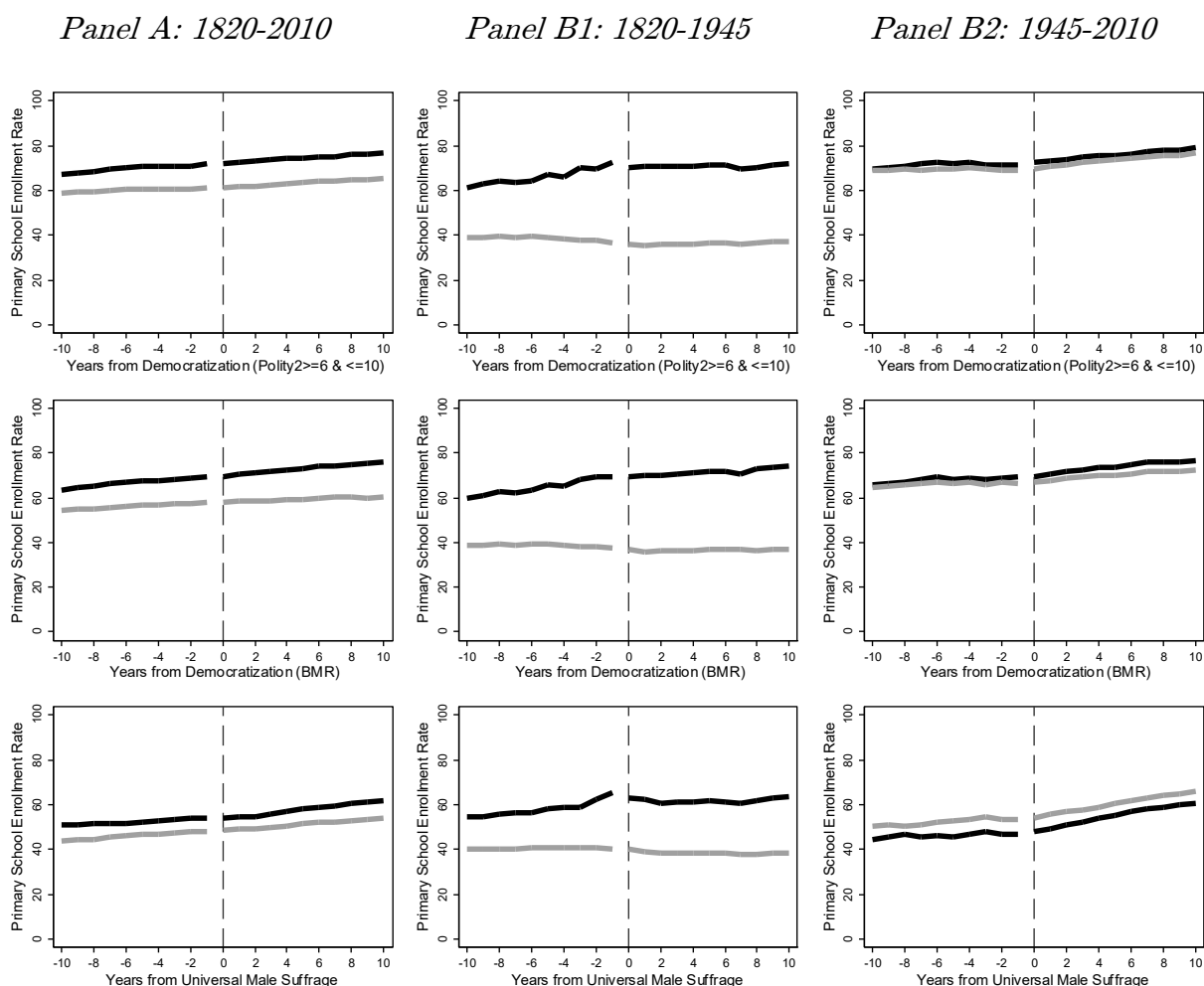
SOURCES: Lee and Lee (2016) for enrollment; Polity Project, BMR, and Przeworski et al. (2013) for timing of democratization.

Figure A6. Primary School Enrollment Rates and Percentage of Countries that Are Democratic, by Region, 1820-2010



SOURCES: Lee and Lee (2016) for enrollment; Polity Project and BMR for democracy.

Figure A7. Average Primary School Enrollment Rates Before and After Democratization, Treated and Comparison Groups, 1820-2010 and Subperiods

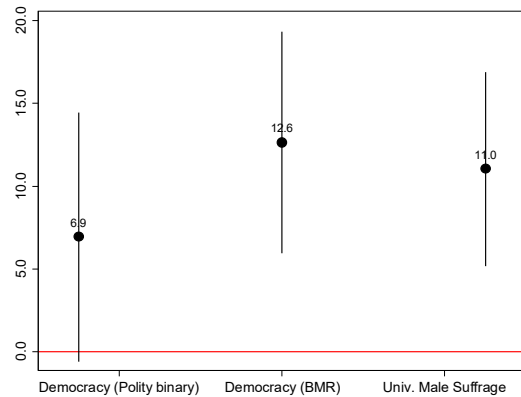


NOTE: Democratizing countries' trend in black; non-democracies' in grey. For visualization purposes, quinquennial enrollment rates at the country level were interpolated to obtain annual estimates. For each country that democratized in year $t=T$, I compute the average primary SER of a comparison group, which in any given year t is composed of countries that were non-democratic in that year. I then compute the average primary SER across all comparison groups, depicted by the grey line. Democratization as defined by Polity IV in row 1; BMR in row 2; and introduction of universal male suffrage in row 3.

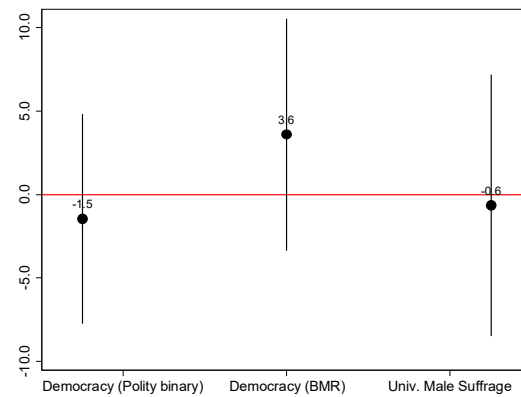
SOURCE: Author for primary school enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democratization as measured in rows 1, 2, and 3, respectively.

Figure A8. Estimated Effect of Democratization on Primary School Enrollment Rates, 1820-1945 – Using an original longitudinal dataset of primary school enrollment rates in Europe and Latin America

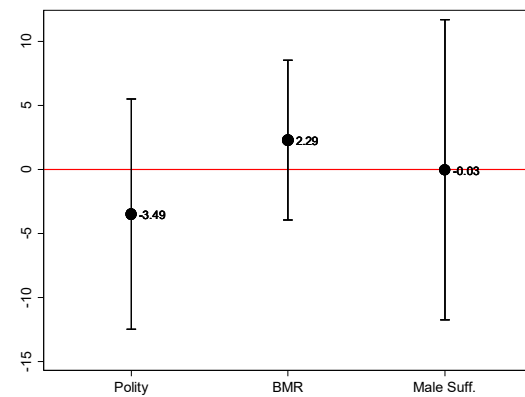
Country FE only



Country & Year FE

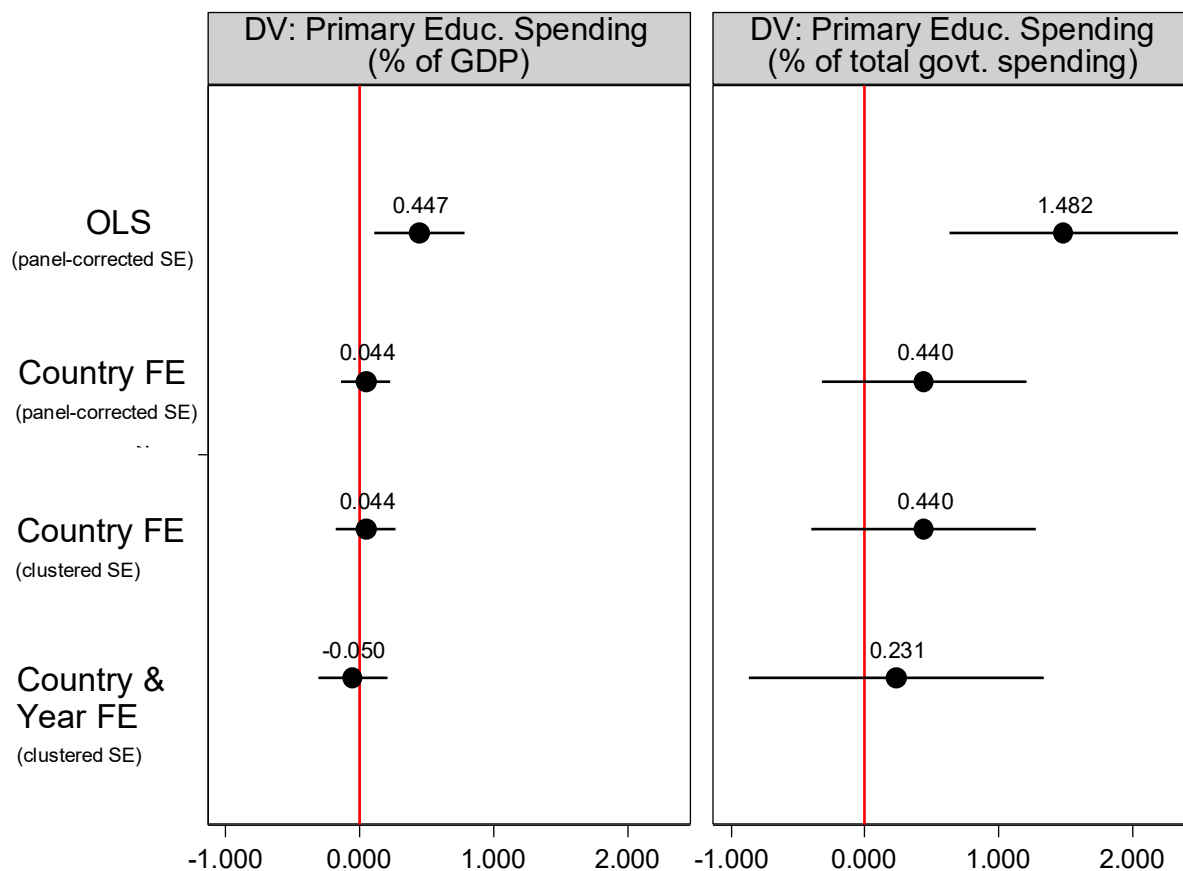


ITS estimates



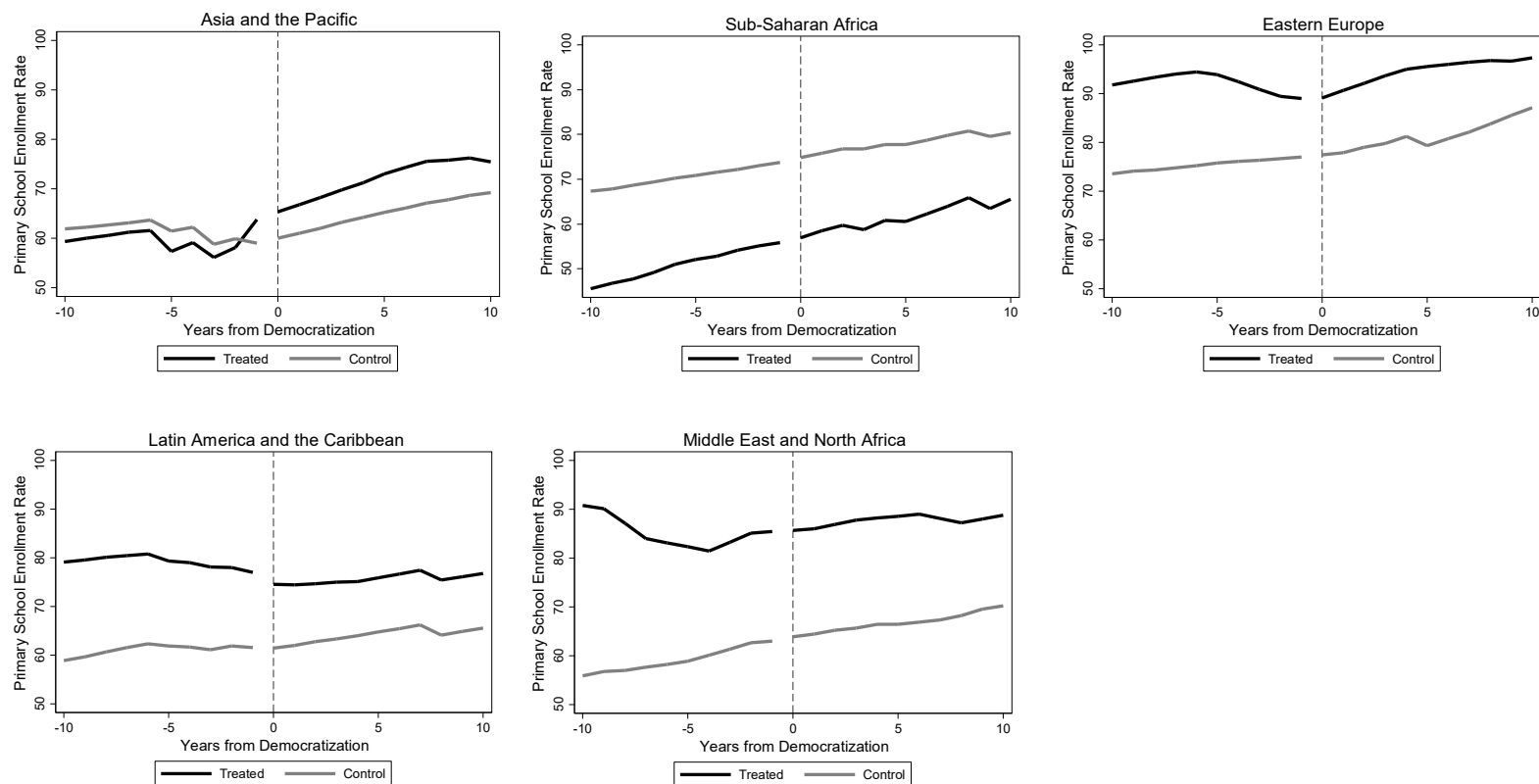
SOURCES: Paglayan (2017) for enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democratization.

Figure A9. Estimated Effect of Multiparty Elections on Public Spending on Primary Education in Africa, 1980-1996 – Using spending data from Stasavage (2005)



SOURCES: Author based on replication data from Stasavage (2005).

Figure A10. Average Primary School Enrollment Rates Before and After Democratization, Treated and Comparison Groups, by Region, 1945-2010– Visual evidence suggests democracy had a positive effect only in Asia. In all other regions, the rapid expansion of primary schooling in recent decades cannot be attributed to the move towards democracy—and for Latin America, visual evidence suggests that democracy had a negative impact on enrollment. See Tables A4.

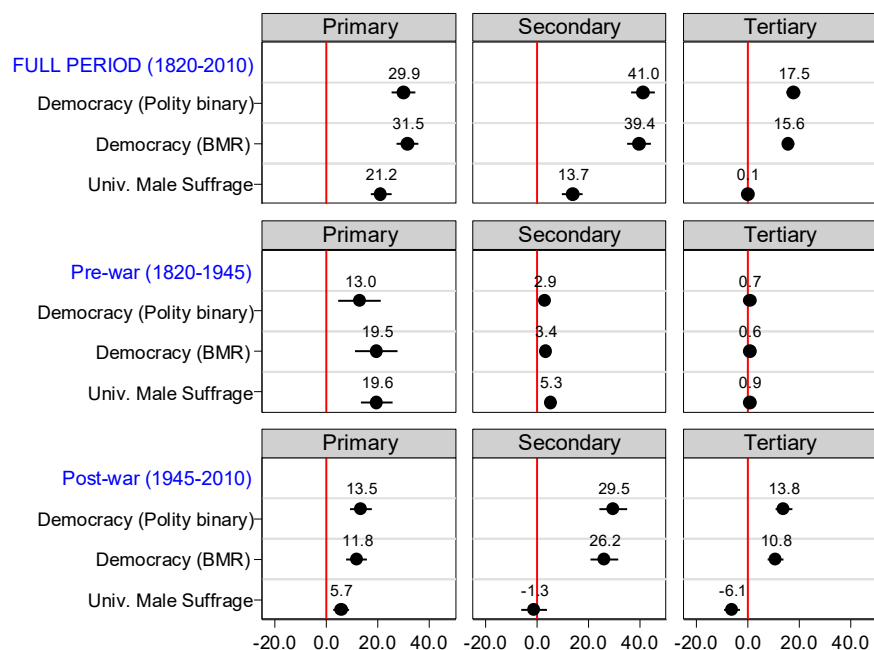


NOTE: Democratizing countries' trend in black; non-democracies' in grey. For visualization purposes, quinquennial enrollment rates at the country level were interpolated to obtain annual estimates. For each country that democratized in year $t=T$, I compute the average primary SER of a comparison group, which in any given year t is composed of all countries that were non-democratic in that year. I then compute the average primary SER across all comparison groups, depicted by the grey line.

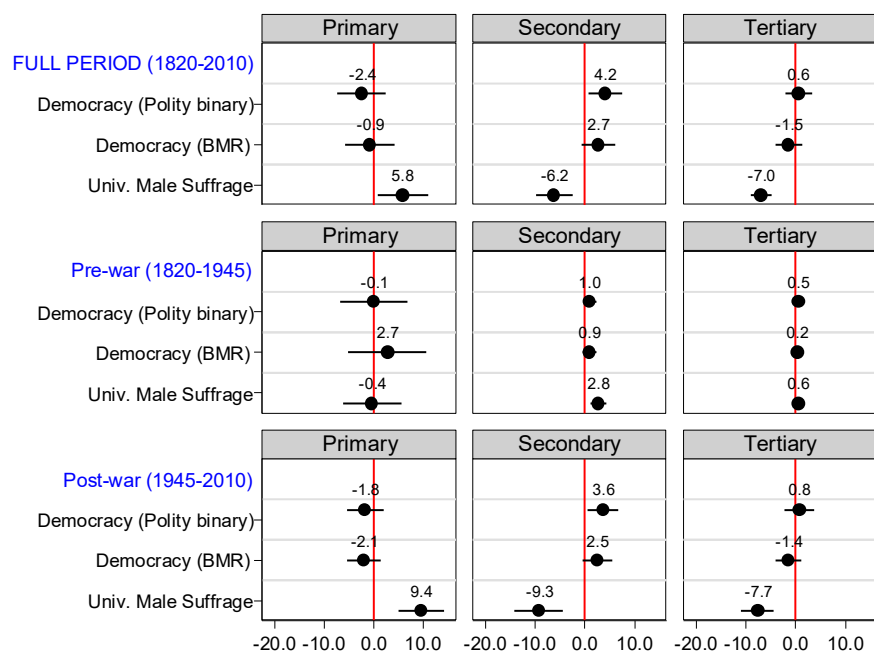
SOURCES: Lee and Lee (2016) for enrollment rates; BMR for timing of democratization.

Figure A11. Estimated Effect of Democratization on Primary, Secondary and Tertiary Education Enrollment Rates, 1820-2010 and Subperiods

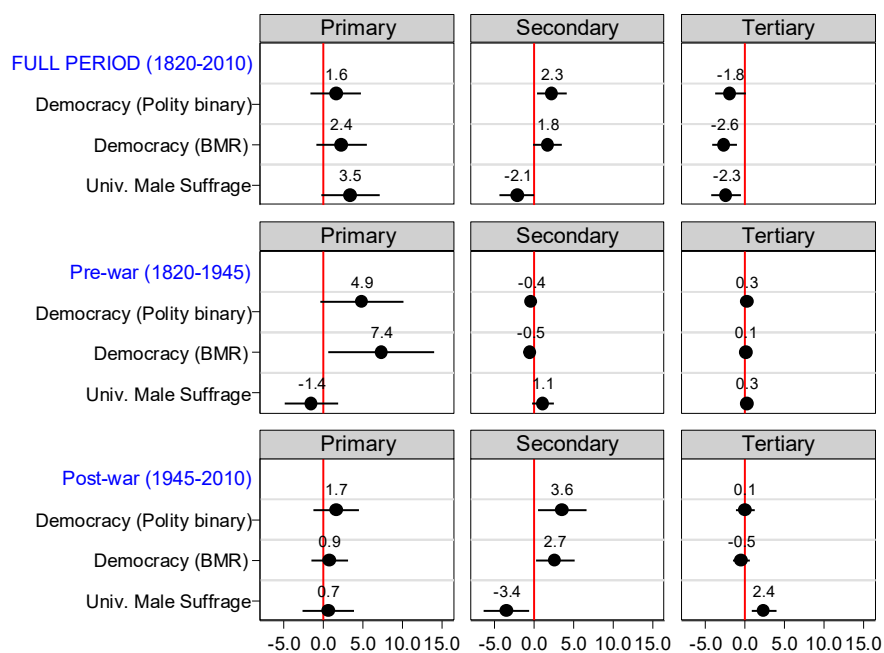
Panel A: Country fixed effects, no year fixed effects



Panel B: Country and year fixed effects



Panel C: Country and year fixed effects, and country-specific linear time trends

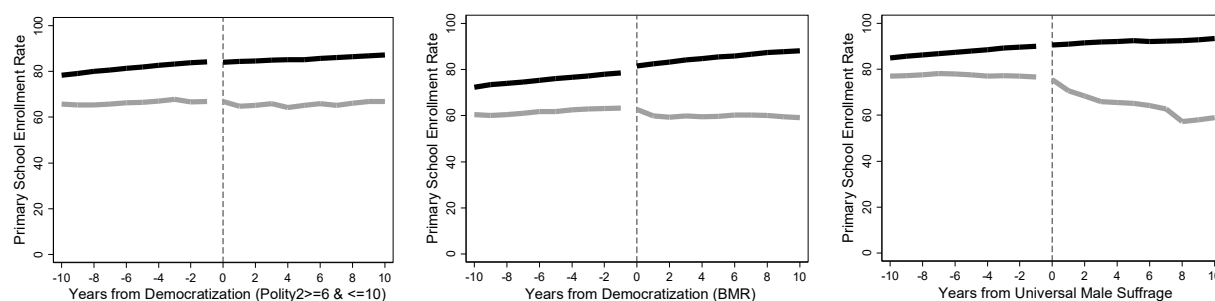


NOTE: Point estimates and 95% confidence intervals from standard errors clustered at the country level. 109 countries contribute data to estimate the equations that span the entire period (1820-2010) and the postwar period (1945-2010); 98 countries contribute data to estimate the equations that focus on the prewar period (1820-1944).

SOURCES: Lee and Lee (2016) for enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democratization.

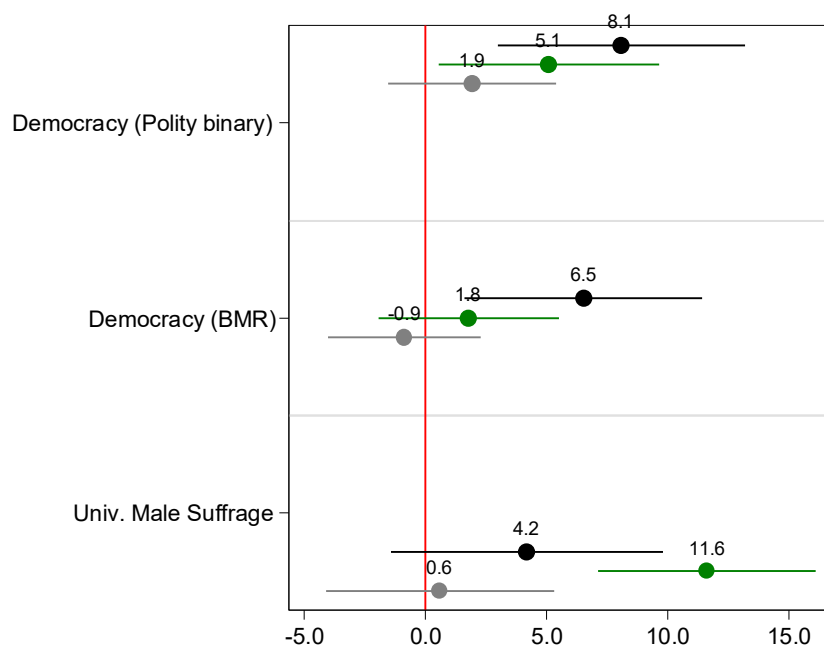
Figure A12. Exploration of Past Studies

Panel A: Lindert (2004): 21 countries, 1880-1930



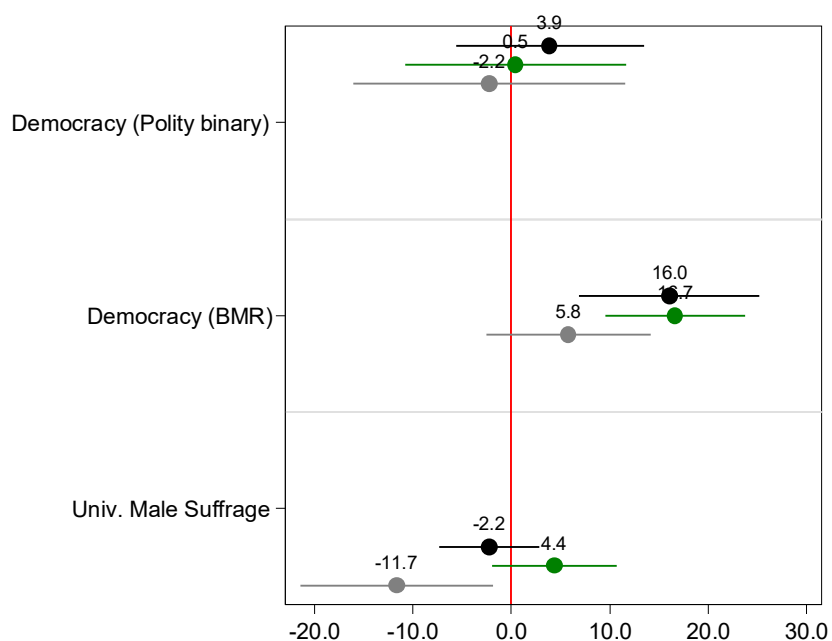
NOTE: Average primary SER in countries that democratized between 1880-1930, 10 years before and after transitioning to democracy (black line), compared to contemporaneously non-democratic countries (grey). For visualization purposes, quinquennial enrollment rates at the country level were interpolated to obtain annual estimates. For each country that democratized in year $t=T$, I compute the average primary SER of a comparison group, which in any given year t is composed of countries that were non-democratic in that year. I then compute the average primary SER across all comparison groups, depicted by the grey line. The sample of countries includes Argentina, Australia, Austria, Belgium, Brazil, Canada, Denmark, Finland, France, Greece, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, UK, and US.

Panel B: Brown (1999): Developing countries, 1960-1987



NOTE: Point estimates and 95% confidence intervals of a model with region fixed effects only, as in Brown 1999 (black); country fixed effects (green); and country and year fixed effects (grey).

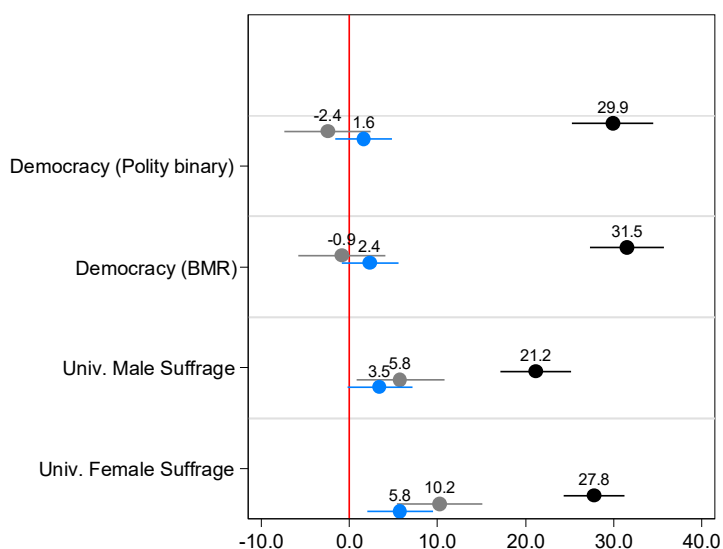
Panel C: Mariscal and Sokoloff (2000): 20 countries in the Americas, 1860-1945



NOTE: Point estimates and 95% confidence intervals of a model with year dummies for 1920 and 1945, as in Mariscal and Sokoloff 2000 (black); country fixed effects (green); and country and year fixed effects (grey).

SOURCES: Lee and Lee (2016) for enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democratization.

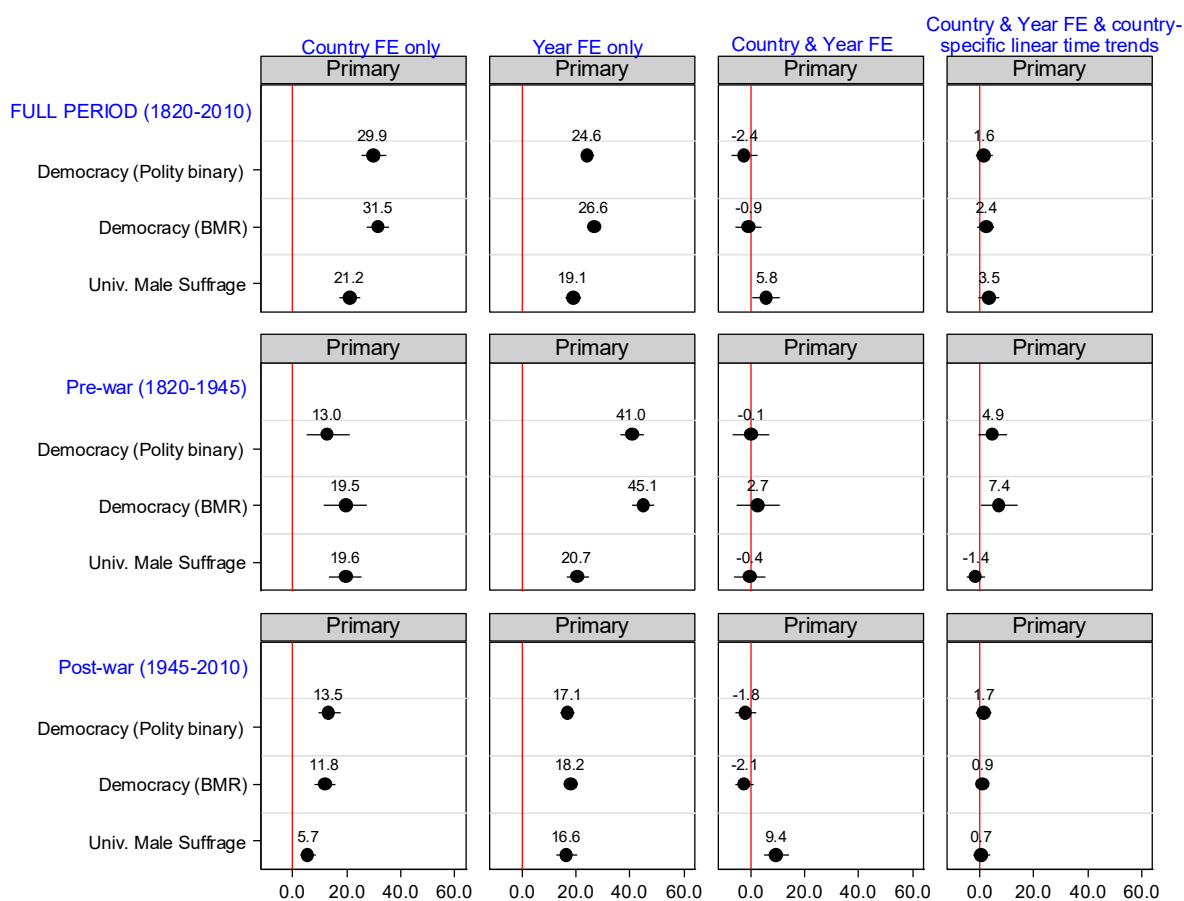
Figure A13. Estimated Effect of Universal Female Suffrage on Primary School Enrollment Rates, 1820-2010



NOTE: Point estimates and 95% confidence intervals based on standard errors clustered at the country level. Black represents the results from a model with country fixed effects but no year fixed effects; grey is for the results from a model with both country and year fixed effects; blue is for the results from a model with country and year fixed effects and country-specific linear time trends.

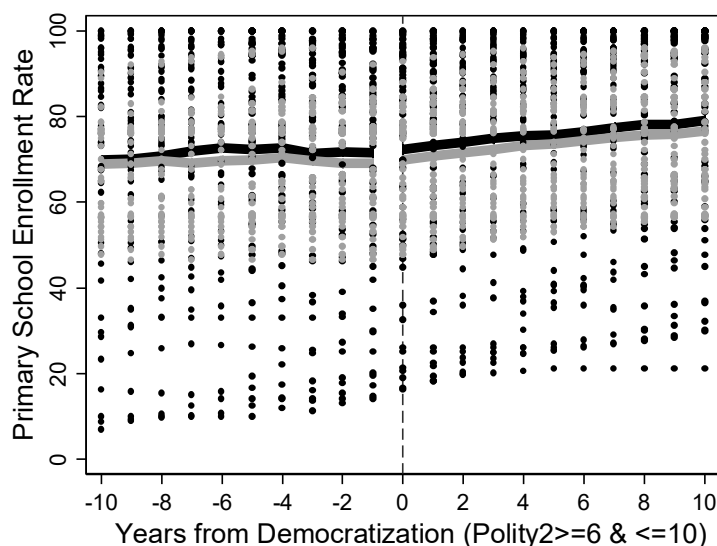
SOURCES: Lee and Lee (2016) for enrollment rates; Polity Project and BMR for timing of democratization; Przeworski et al. (2013) for timing of universal male and female suffrage.

Figure A14. Estimated Effect of Democratization on Primary School Enrollment Rates in Models with Year Fixed Effects but No Country Fixed Effects, 1820-2010 and Subperiods – Year fixed effects are not enough to explain the variation in enrollment; country fixed effects are also needed to account for selection into democracy. At any given point in time, democratic regimes have higher average enrollment rates than non-democracies.



SOURCES: Lee and Lee (2016) for enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democratization.

Figure A15. Primary School Enrollment Rates Before and After Democratization: Average Trends in Treated and Comparison Groups and Variation Across Countries, 1945-2010 – Treated countries are those that transitioned to democracy during the period 1945-2010



NOTE: Democratizing countries' trend in black; non-democracies' in grey. For visualization purposes, quinquennial enrollment rates at the country level were interpolated to obtain annual estimates. For each country that democratized in year $t=T$, I compute the average primary SER of a comparison group, which in any given year t is composed of countries that were non-democratic in that year. I then compute the average primary SER across all comparison groups, depicted by the grey line.

SOURCE: Lee and Lee (2016) for enrollment rates; Polity Project for timing of democratization.

Table A1. Methodological Characteristics of Peer-Reviewed Publications

Peer-reviewed publication *	Internal Validity		External Validity		DV & Sources	Argument/ Findings
	Country fixed effects?	Year fixed effects?	Global geographic coverage?	Pre-1960 data?		
Lindert (2004, Cambridge University Press)	Yes	Yes	No (21 countries in Europe, Latin America, the US, Canada, New Zealand, Australia, and Japan)	Yes (1880-1930)	Primary school enrollment (as a % of pop. 5-14 years) Sources: Flora et al. 1983; Mitchell 1998; Bloomfield 1984; Norway, <i>Statistisk Sentralbyran</i> 1978; Sweden, <i>Statistisk Tidskrift</i> 1873, 1913, 1932; Mitch n.d.; US Census Bureau, <i>Historical Statistics of the United States</i> 1975; Banks 1971	"The spread of democratic voting rights plays a leading role in explaining why some nations forged ahead in education and others fell behind. ... The rise of voting rights apparently accelerated the rise of primary schooling" (p. 105). "What fuller democracies delivered, relative to nondemocracies or elite democracies, was <i>primary</i> education, the kind of tax-based education that redistributed the most from rich to poor." (p. 107)
Lindert (2002, JEH)	No	No	No (24 countries: Argentina, Australia, Austria, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Greece, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Thailand, UK, US)	Yes (1880-1930)	Enrollment in public primary, public secondary, and total university (as a % of pop. 5-14 years) Sources: see Lindert 2004	"Fuller franchises delivered ... greater equality through primary schooling" (p. 345); "Political voice strongly influences schooling. Historical differences in the spread of suffrage go a long way toward explaining which countries' children were educated in the nineteenth and twentieth centuries. Suffrage also had a systematic effect on the tax effort put into education finance between the 1880s and the 1930s ... The willingness to spend tax money on primary education was significantly greater in full democracies ... The same was not true of public spending on university education ... What makes the link between broad suffrage and primary schooling so important is that the marginal growth effect of primary schooling is particularly high in less developed settings." (p. 324); "Elite rule damages growth by underinvesting in egalitarian human capital, especially primary schooling" (p. 315).
Mariscal & Sokoloff (2000, Hoover Institution Press)	No	Yes (year dummies for 1920 and 1945)	No (the Americas only: Argentina, Barbados, Bolivia, Brazil, Belize, Chile, Colombia, Costa Rica, Cuba, Guatemala, Honduras, Jamaica,	Yes (1860-1945)	Literacy rate; enrollment in primary and secondary schools combined (% of pop. 5-19 years) Sources:	"Inequality in political power, as reflected in the proportion of the population who voted, was significantly related to the fraction of the population provided with schooling ... The coefficients on the variables representing the proportion of the population voting are

Peer-reviewed publication *	Internal Validity		External Validity		DV & Sources	Argument/ Findings
	Country fixed effects?	Year fixed effects?	Global geographic coverage?	Pre-1960 data?		
			Mexico, Paraguay, Peru, Puerto Rico, Uruguay, Venezuela, Canada, US)		<i>Literacy</i> : Newland 1991, 1994; Helg 1987; Roberts 1957; Britton 1994; U.S. Bureau of the Census 1967; Egnal 1966; <i>Enrollment</i> : Mitchell 1993; Oficina Nacional de Estadística Costa Rica 1912	consistently positive and large ... even after controlling for time, region, and per capita income. The implication is that differences in schooling can be fully accounted for by differences in per capita income and our measure of inequality in political influence" (p. 210); "Not only were the United States and Canada well ahead of their neighbors in establishing institutions of primary education open to virtually all segments of society, but even among the other countries in the New World, those societies that had relatively more [political] equality ... organized public schools earlier... Particularly relevant for identifying a causal mechanism is the observation that in both the United States and Canada political decisions to expand public schools ... followed shortly after the extension of suffrage to broad segments of the population" (p. 212); "Our account focuses on the importance of the extent of inequality for how education institutions like universal primary education and literacy evolved in ... the Americas" (p. 212); "We regard the evidence as generally consistent with the hypothesis that the extent of inequality ... had a major impact on educational institutions in the New World and that the relative equality characteristic of the United States and Canada from the beginning was a major reason why these economies were committed early and strongly to the establishment of universal primary schooling." (p. 213)
Brown (1999, <i>PRQ</i>)	No	No	Yes (136 countries in the Middle East, South and East Asia, Sub-Saharan Africa, Central America, and South America)	No (1960-1987)	Primary school enrollment rate (% of school-age children) Source : World Bank	"Poor democracies enroll a larger percentage ... than do their authoritarian counterparts... The institutions associated with individual rights and electoral competition [measured through polity] have an important effect on primary school enrollment." (p. 681)
Brown & Hunter (1999, <i>APSR</i>)	Yes (fn. 24)	No	No (17 countries in Latin America)	No (1980-1992)	Social spending per capita (in 1987 dollars), which includes central government expenditures on	"Especially in poor countries during economic crisis, democracies increase the allocation of resources to social programs relative to authoritarian regimes. This suggests that the latter are more constrained by economic forces, whereas democracies are more constrained by

Peer-reviewed publication *	Internal Validity		External Validity		DV & Sources	Argument/ Findings
	Country fixed effects?	Year fixed effects?	Global geographic coverage?	Pre-1960 data?		
					education, health, sanitation, housing, and social security Source: CEPAL/ ECLAC 1996	popular demands. Hence, calls to abandon broad categorizations of regime type appear to be premature: Democracy can matter in systematic and substantial ways." (p. 779)
Brown & Hunter (2004, <i>CPS</i>)	Yes	No	No (17 countries in Latin America: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Venezuela, and Uruguay)	No (1980-1997)	Percentage of current education spending distributed to the preprimary and primary school levels; aggregate per capita central government spending on education Source: UNESCO	"The authors ... test whether democratic governments allocate a greater share of resources to primary education, the level that benefits the largest segment of the electorate and that is most critical for human capital formation in developing countries." (p. 842) "We found that democracy exerts a positive influence on the share of spending devoted to primary education" (p. 856) "and that [democracies] maintain higher absolute spending levels on education in the aggregate, thereby enhancing the prospects of human capital formation." (p. 842)
Stasavage (2005, <i>AJPS</i>)	Yes	No	No (44 countries in Africa)	No (1980-1996)	Spending on primary (university) education as % GDP; spending on primary (university) education as % of total education spending; Total spending on education as % GDP; Total spending on education as % of total govt spending Source: UNESCO data obtained from World Bank	"I develop an argument ... that the need to obtain an electoral majority may have prompted African governments to spend more on education and to prioritize primary schools over universities. ... I find clear evidence that democratically elected African governments have spent more on primary education, while spending on universities appears unaffected by democratization." (p. 343)
Kosack (2013, <i>BJPS</i>)	Yes (implicit)	No	No (Brazil, Ghana, and Taiwan)	Yes (1930-2000)	DV: type of education policy (bottom-up: focus on expanding access to and resources for primary schools, and also effort to make higher education accessible to the poor; or top-down: concentration of resources on higher education, with	Political entrepreneurship/ organization of the poor, not regime type, predicts the implementation of pro-poor ("bottom-up") education policies, whose "basic characteristic is increased access to quality primary education" (p. 424). "Ghana, Taiwan, and Brazil show these patterns clearly. Whenever the government was engaged in political entrepreneurship, it subsequently improved and expanded the lower levels of the education system. When this political entrepreneurship stopped, the

Peer-reviewed publication *	Internal Validity		External Validity		DV & Sources	Argument/ Findings
	Country fixed effects?	Year fixed effects?	Global geographic coverage?	Pre-1960 data?		
					remains inaccessible to the poor, and reduction in availability and/or funding for primary education)	government subsequently shifted resources from the lower to the upper levels and restricted access so that those levels were increasingly available only to elites." (p. 424) "Moreover, where democracy and pro-poor education coincided, pro-poor education preceded democracy, not the other way around: every period in which a country was both a democracy and produced pro-poor education followed a period in which the country was autocratic and yet produced pro-poor education" (p. 410).
Harding & Stasavage (2014, <i>JoP</i>)	Yes	No	No (29-38 countries in Africa – varies by dependent variable)	No (1990-2007)	Primary school attendance rate; primary school fee abolition; student-teacher ratio in primary schools Sources: <i>Attendance:</i> Demographic and Health Surveys (DHS); <i># of Teachers:</i> UNESCO	"The results suggest that democracies have higher attendance rates ... however, democracies do not tend to provide more teachers than nondemocracies" (p. 233). "If African democracies tend to have a higher percentage of children that attend primary school, this is due primarily to the fact that democratically elected governments are more likely to abolish primary school fees... this phenomenon appears to be electorally determined." (p. 244)
Lake & Baum (2001, <i>CPS</i>)	Yes	No	Yes (89 countries with primary school enrollment rate data; 80 with secondary school enrollment data)	No (1970-1992)	Illiteracy rates; primary school enrollment rate; persistence to 4 th grade; secondary school enrollment rate; primary school student-teacher ratio; secondary school student-teacher ratio; tertiary enrollment ratio Source: World Bank	"The statistical results strongly support their hypothesis" that democratic states will ... produce a higher level of services than autocracies" (p. 587). Results with cross-sectional data: Higher levels of democracy are associated with higher primary school enrollment rates (Table 1, p. 600). Results with time-series data: "Increases in democracy ... appear to produce greater rates of [secondary school] enrollment" (p. 613). (Time-series analysis for primary school enrollment not conducted due to limited data availability.)
Baum & Lake (2003, <i>AJPS</i>)	Yes	No	Yes (128 countries)	No (1967-1997)	Female secondary school enrollment rate Source: World Bank	"A maximum increase in democracy ... in nonpoor countries ... increased secondary enrollment by 0.26 percentage points. ... These are substantively important effects." (p. 333). "The coefficient on democracy for poor countries fails to achieve standard levels of statistical significance" (p. 343).

Peer-reviewed publication *	Internal Validity		External Validity		DV & Sources	Argument/ Findings
	Country fixed effects?	Year fixed effects?	Global geographic coverage?	Pre-1960 data?		
Ansell (2008, <i>IO</i>)	Yes	No	Yes (113 countries)	No (1960-2000)	DV: Public expenditure on education as a % of GDP; private education spending as a % of GDP; ratio of per student funding on tertiary versus primary education Sources: World Bank	"Because increased access to public education chiefly benefits the middle class and poor, democratization should lead to increased public education spending, reduced private education spending, and a focus on universal primary education rather than ... tertiary education" (p. 190). "Democracy ... appears to be a powerful predictor of the level and composition of education spending" (p. 315). "The strong redistributive impact of education spending explains why democracies, with poor median voters relative to autocracies, prefer to fund public education more heavily. Furthermore, democracies are also more likely to tilt spending toward universally provided primary education and away from elite-targeted tertiary education and private education." (p. 314)
Ansell (2010, Cambridge University Press)	Yes	No	Yes (115 countries)	No (1960-2008)	See Ansell 2008	See Ansell 2008. "I show that democracies ... tilt their education spending toward primary education rather than higher education." (p. 17)
Lott (1999, <i>JPE</i>)	Yes	Yes	Yes (99 countries)	No (1985-1992)	DV: Public primary and secondary school expenditures per capita Source: UNESCO	"Governments use public education and public ownership of the media to control the information that their citizens receive. More totalitarian governments make greater investments in publicly controlled information. ... My results reject the standard public-good view linking education and democracy." (p. S127) "A higher totalitarianism rating ... should increase educational expenditures. ... All coefficients have the expected sign and are significant" (p. S135, S137).
Aghion, Jaravel, Persson & Rouzet (2019, <i>JEEA</i>)	Yes	Yes	No for period before postwar (countries in Europe); Yes for postwar period	Yes for European countries; No for other countries	DV: Primary enrollment per 10,000 inhabitants and primary education reforms Source: CNTS Data Archive for enrollment and and Flora (1983) for education reforms	"First, primary-education enrollments are positively and significantly associated with military rivalry or recent involvement in an external war. Second, the correlation between democracy ... and education investments in negative when we control for military rivalry. ... These results are no longer statistically significant when we cluster standard errors by country over the entire panel" (p. 378).

Peer-reviewed publication *	Internal Validity		External Validity		DV & Sources	Argument/ Findings
	Country fixed effects?	Year fixed effects?	Global geographic coverage?	Pre-1960 data?		
Avelino, Brown & Hunter (2004, <i>AJPS</i>)	Yes	Yes	No (19 countries in Latin America)	No (1980-1999)	DV: public education expenditures as a % of GDP Source: CEPAL/ECLAC	"We find that democracies do not increase spending on health or social security but do increase spending on education ... Democracies enhance the prospects for investing in human capital" (p. 634).
This article	Yes	Yes	Yes (109 countries in the OECD, Eastern Europe, Asia and the Pacific, Latin America, Sub-Saharan Africa, and Northern Africa and the Middle East)	Yes (1820-2010)	DV: primary school enrollment rates (% of school-age children) Source: Lee and Lee (2016)	"Transitions to democracy lead to a (modest) increase in primary school coverage only when a majority of the population lacked access to primary schooling under non-democracy. However, this condition rarely holds: In three-fourths of countries that experienced democratization, a majority of the population already had access to primary schooling before democratizing."
	Yes	Yes	No (38 countries in Europe and Latin America)	Yes (1828-1945)	DV: primary school enrollment rates (% of pop. 5-14 years) Source: Paglayan (2017)	

*Peer-reviewed publications that include school enrollment rates and/or education expenditures among the dependent variables. *AJPS*=*American Journal of Political Science*; *APSR*=*American Political Science Review*; *BJPS*=*British Journal of Political Science*; *CPS*=*Comparative Political Studies*; *IO*=*International Organization*; *JEH*=*Journal of Economic History*; *JoP*=*Journal of Politics*; *PRQ*=*Political Research Quarterly*; *JEEA*=*Journal of the European Economic Association*; *JPE*=*Journal of Political Economy*

Table A2. Difference-in-Differences Estimate of the Effect of Democratization on Primary School Enrollment Rates Using Tobit to Account for the Presence of a Censored Dependent Variable, 1820-2010 and Subperiods

	Full period (1820-2010)	Postwar (1945-2010)
Democracy (Polity2 between 6 and 10)	2.55 (1.8071)	1.97 (1.4911)
Democracy (BMR)	3.02 (1.8019)	0.84 (1.2554)
Universal male suffrage	4.96 * (1.9761)	0.70 (1.7029)

NOTE: Tobit estimates for a model with country and year fixed effects and country-specific linear time trends. Dependent variable is primary school enrollment rates. Standard errors clustered at country level in parenthesis. Stars denote statistical significance at *0.05 and **0.01 level.

SOURCES: Lee and Lee (2016) for enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democratization.

Table A3. Effect of Changes in Regime Type Using a Continuous Measure of Democracy, 1820-2010 and Subperiods

With country fixed effects only <i>polity2</i>	DV: Primary School Enrollment Rate										
	1820-2010				1820-1945		1945-2010		1970-2010		
	Lee & Lee enrollment data		Lee & Lee enrollment data		Original enrollment data		Lee & Lee enrollment data		Lee & Lee enrollment data		
	1.61	**		0.79	*	0.18		1.03	**	1.01	**
	(0.2004)			(0.3019)		(0.1902)		(0.1898)		(0.1759)	
With country and year fixed effects <i>polity2</i>											
	0.00			0.12		-0.26		0.06		0.21	
	(0.1754)			(0.2650)		(0.1642)		(0.1614)		(0.1689)	

NOTE & SOURCES: Estimated effect of democracy as measured by *polity2* scores, which range from -10 to 10. *Polity2* scores are from the Polity Project. Scores between 6 and 10 denote that a country is democratic; between -10 and -6, autocratic, and between -5 and 5, a hybrid or anocracy. Stars denote statistical significance at *0.05 and **0.01 level.

Table A4. Estimated Effect of Democratization on Primary School Enrollment Rates, by Region, 1945-2010 – A linear difference-in-differences model that allows for heterogeneous treatment effects of democracy by region suggests that the difference between Asia and other regions is not statistically significant (Panel B). See also Figure A10.

	<i>Panel A</i>	<i>Panel B</i>
<i>Democracy</i>	4.06 (2.7918)	2.94 (3.0569)
<i>Democracy x Asia</i>		6.16 (7.6855)
Constant	72.17 ** (2.6993)	73.38 ** (2.9169)
No. of clusters	109	109
Country fixed effects	Yes	Yes
Year fixed effects	Yes	Yes

NOTES: Panel A shows results of a linear difference-in-differences model with country and year fixed effects: $Y_{i,t} = \gamma_i + \phi_t + \beta_1 Democracy_{i,t} + \epsilon_{i,t}$. $Democracy_{i,t}$ takes a value of 1 for treated countries in the post-treatment period; and a value of 0 otherwise. Panel B shows results of a linear difference-in-differences model that allows for heterogeneous treatment effects of democracy for Asian and non-Asian countries: $Y_{i,t} = \gamma_i + \phi_t + \beta_1 Democracy_{i,t} + \beta_2 Democracy_{i,t} x Asia_i + \epsilon_{i,t}$. $Asia_i$ takes a value of 1 if country i is in Asia, and a value of 0 otherwise. Standards errors clustered at the country level in parenthesis. Enrollment rates are the number of students enrolled in primary education as a percentage of the school-age population. Stars denote statistical significance at the *0.05 and **0.001 level.

SOURCE: Lee and Lee (2016) for enrollment rates; BMR for timing of democratization.

Table A5. Estimated Effect of Democratization on Primary, Secondary, and Tertiary Enrollment Rates, 1820-2010 – By Whether or Not Democratization Was Preceded by a Revolution – A linear difference-in-differences model that allows for heterogeneous treatment effects of democracy depending on whether or not democratization was immediately preceded by a revolution does not provide support for the claim that there is a difference in the effect of democratization on primary SERs depending on whether or not elites can anticipate, and therefore capture, a transition to democracy.

	Panel A: OLS			Panel B: Tobit		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
	school enrollment rate			school enrollment rate		
Independent variable:						
Polity2 between 6 and 10						
democracy	0.4	6.3	1.7	1.3	6.3 *	1.7
	(3.6652)	(3.2179)	(2.8681)	(3.6671)	(3.1656)	(2.8215)
democracy x revolution	-9.1	0.0	2.5	-9.2	0.0	2.5
	(5.3752)	(4.0757)	(3.6015)	(5.4184)	(4.0095)	(3.5429)
Democracy (BMR)						
democracy	-1.1	-0.2	-4.6	-1.3	-0.3	-4.6
	(3.1932)	(2.6267)	(2.4013)	(3.0838)	(2.6032)	(2.3650)
democracy x revolution	-2.0	3.7	7.4 *	-1.0	3.8	7.4 *
	(4.2969)	(3.5521)	(2.9539)	(4.1556)	(3.5282)	(2.9093)
Universal male suffrage (PIPE)						
democracy	2.9	1.4	-2.1	4.9	1.4	-2.1
	(5.1144)	(4.2339)	(1.9353)	(5.3491)	(4.1243)	(1.8825)
democracy x revolution	9.9	-10.8	-3.3	7.9	-10.8	-3.3
	(6.6764)	(5.9578)	(2.6984)	(7.2203)	(5.7898)	(2.6248)

NOTE: Results based on a linear DD model with country and year fixed effects similar to the one given by Equation 1 but allowing for heterogeneous treatment effects depending on whether or not a country that transitioned to democracy experienced a revolution in the same year or the year before transitioning to democracy: $Y_{i,t} = \gamma_i + \phi_t + \beta_1 Democracy_{i,t} + \beta_2 Democracy_{i,t} x Revolution_i + \epsilon_{i,t}$. $Revolution_i$ takes a value of 1 if country i had a revolution at $t=0$ and/or at $t=-1$, and 0 otherwise. OLS estimates (Panel A) and Tobit estimates (Panel B). Standard errors clustered at the country level in parenthesis. Stars denote statistical significance at the *0.05 and **0.01 level. The number of countries contributing data is 49, 52, or 28 depending on whether democracy is measured by *polity2*, BMR, or universal male suffrage, respectively.

SOURCES: Lee and Lee (2016) for enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democratization; Banks and Wilson's (2017) Cross-National Time-Series Data Archive (CNTS) for timing of revolutions.

Table A6. Estimated Effect of Democratization on Primary, Secondary, and Tertiary Enrollment Rates, 1870-2010 – By Ideology of the Head of Government – A linear difference-in-differences model that allows for heterogeneous treatment effects of democracy depending on whether or not the head of government has a left-wing ideology does not provide consistent evidence for the claim that there is a difference in the effect of democratization on primary SERs depending on whether or not the new democratic government is left-wing. There is some evidence that democratization leads to a reduction in secondary SERs when the new democratic government is left-wing, but not otherwise.

	<i>Panel A: OLS</i>			<i>Panel B: Tobit</i>		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
	school enrollment rate			school enrollment rate		
Independent variable:						
Polity2 between 6 and 10						
<i>democracy</i>	-0.6 (4.4017)	4.0 (2.5996)	-2.7 (1.6167)	1.4 (4.7074)	3.5 (2.5922)	-2.7 (1.5788)
<i>democracy x left-wing</i>	8.3 (9.3844)	-5.2 (5.9389)	0.1 (2.4966)	7.3 (9.9738)	-5.3 (5.8158)	0.1 (2.4381)
Democracy (BMR)						
<i>democracy</i>	1.7 (3.9878)	3.1 (2.8404)	-2.1 (1.6367)	3.9 (3.9437)	2.6 (2.8121)	-2.1 (1.6024)
<i>democracy x left-wing</i>	10.1 (7.5711)	-8.7 (5.2658)	-1.1 (2.6438)	8.2 (7.4646)	-8.9 (5.1713)	-1.1 (2.5884)
Universal male suffrage (PIPE)						
<i>democracy</i>	5.7 (3.8318)	3.2 (2.4251)	-4.2 * (1.5065)	7.9 * (4.0006)	2.8 (2.4155)	-4.2 ** (1.4672)
<i>democracy x left-wing</i>	21.3 ** (6.0293)	-26.6 ** (4.4683)	-3.7 (2.7581)	20.6 ** (6.3720)	-26.3 ** (4.3832)	-3.7 (2.6862)

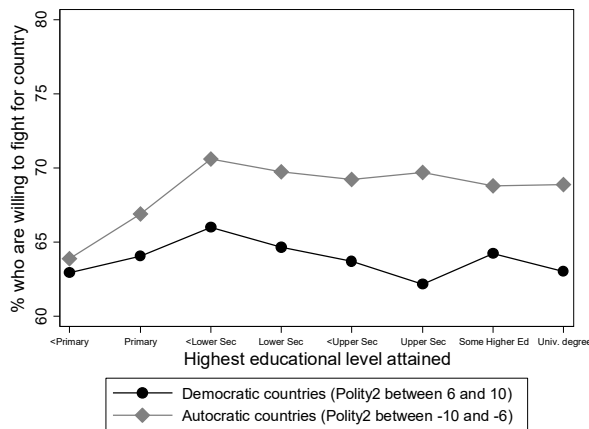
NOTE: Results based on a linear DD model with country and year fixed effects similar to the one given by Equation 1 but allowing for heterogeneous treatment effects depending on whether or not the new democratic government was left-wing or not: $Y_{i,t} = \gamma_i + \phi_t + \beta_1 Democracy_{i,t} + \beta_2 Democracy_{i,t} \times Leftwing_i + \epsilon_{i,t}$. *Leftwing_i* takes a value of 1 if the new democratic government of country *i* (at $t=0$) was left-wing, and 0 otherwise, with ideology of the government based on the variable *hogideo* available in “The Ideology of Heads of Government, 1870-2012” (Brambor, Lindvall, and Stjernquist 2017). OLS estimates (Panel A) and Tobit estimates (Panel B). Standard errors clustered at the country level in parenthesis. Stars denote statistical significance at the *0.05 and **0.01 level. The number of countries contributing data is 24, 27, or 21 depending on whether democracy is measured by *polity2*, BMR, or universal male suffrage, respectively.

SOURCES: Lee and Lee (2016) for enrollment rates; Polity Project, BMR, and Przeworski et al. (2013) for timing of democratization; Brambor, Lindvall, and Stjernquist (2017) for whether the new democratic government was left-wing or not.

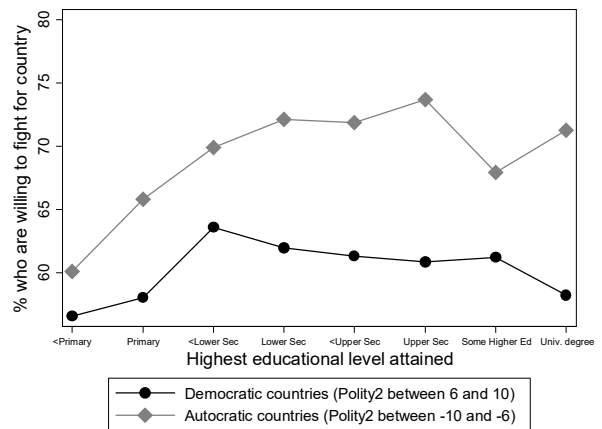
Online Appendix B: Primary School Systems Under Non-Democracies

Figure B1. Educational Attainment and Willingness to Fight for One's Country, in Democracies vs. Non-Democracies, 1981-2014 – Individual willingness to fight for one's country increases with years of schooling in autocracies (grey line) but not in democracies (black line).

Panel A:
Data from all waves (1981-2014)



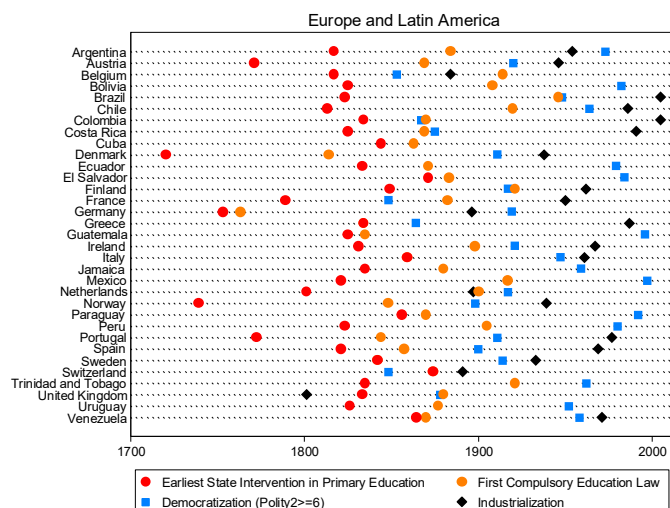
Panel B:
Data from most recent wave (2010-2014)



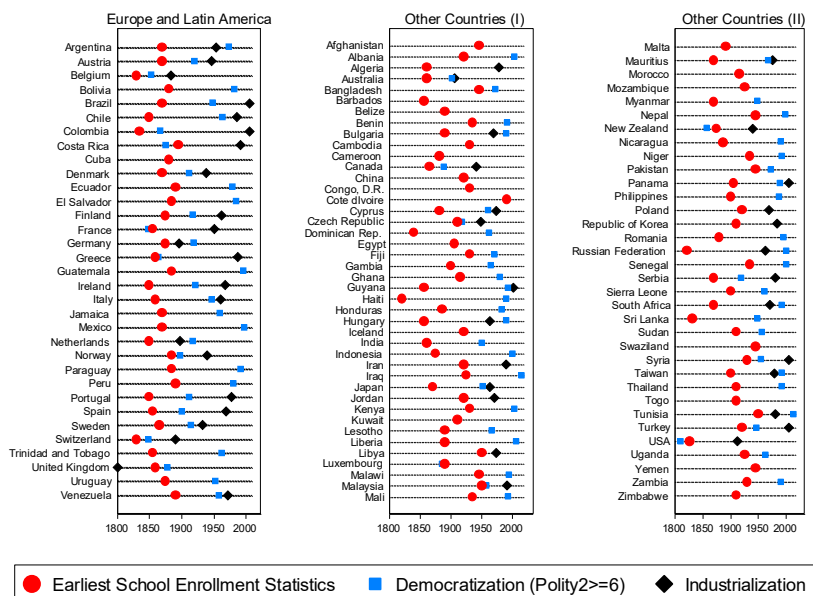
SOURCES: World Values Survey (multiple waves: 1981-1984, 1989-1993, 1994-1998, 1999-2004, 2005-2009, 2010-2014) for highest level of education attained and individual willingness to fight for one's country based on; Polity Project for regime type.

Figure B2. Timing of Industrialization and of State Intervention in Primary Education, by Country – On average, the timing of central government intervention in primary schooling (red dots) preceded the timing of industrialization (black diamonds) by over 100 years.

Panel A: Europe and Latin America



Panel B: All Regions

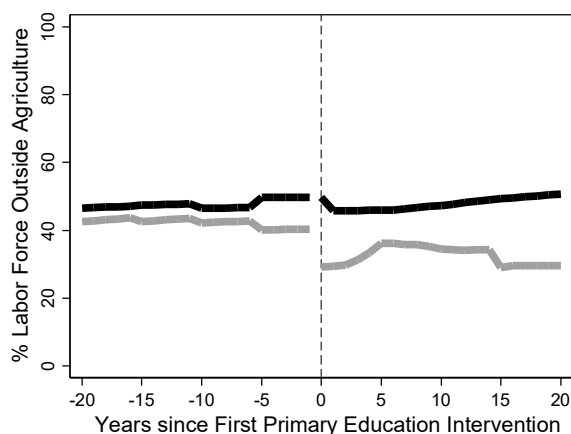


NOTE: The timing of industrialization is defined as the first year in which employment in industry exceeded that in agriculture.

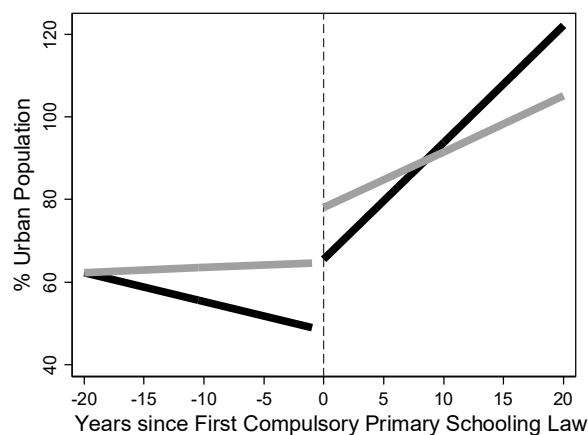
SOURCES: Author for timing of first central government intervention in primary education (see Online Appendix C); Lee and Lee (2016) for first primary school enrollment statistics; Polity Project for timing of democracy; Bentzen, Kaarsen and Wingender (2013) for timing of industrialization.

Figure B3. Industrialization Before and After State Intervention in Primary Education, Treated and Comparison Groups – Among countries with data, state intervention in primary schooling is followed by a divergence in industrialization and urbanization rates (black line) vis-a-vis countries without state intervention (grey line).

Panel A: Percent of the Labor Force Outside Agriculture



Panel B: Urbanization Rate

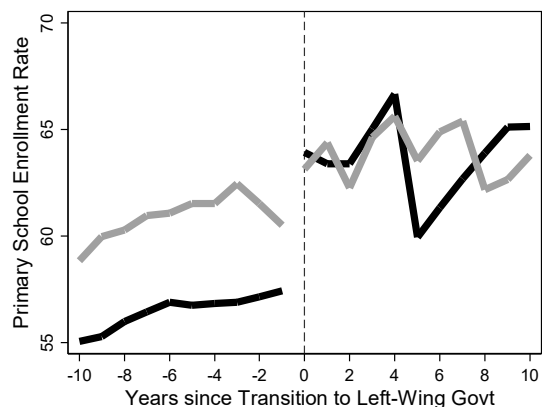


NOTE: Only 8 countries have labor force composition data before and after the central government's first intervention in primary education, and only 20 countries have urbanization data before and after the first intervention. The black lines are the average percentage of the labor force employed outside agriculture (Panel A) and the average urbanization rate (Panel B) twenty years before and after the first central government intervention in primary schooling; the grey lines are the average trends among control countries (those where the central government had not yet intervened in primary education).

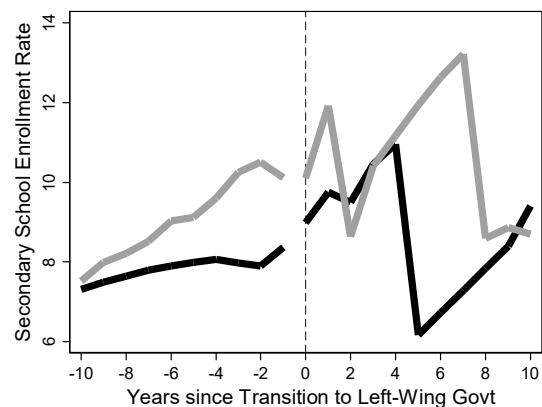
SOURCES: Author for timing of first central government intervention in primary education (see Online Appendix C); Banks and Wilson's (2017) Cross-National Time-Series Data Archive (CNTS) for labor force composition and urbanization rate.

Figure B4. Average School Enrollment Rates Before and After Transitioning from a Non-Left- to a Left-Wing Non-Democracy, in Treated and Comparison Groups, 1820-2010 – Transitions from a non-left- (i.e., center- or right-) to a left-wing non-democracy (black line) are, on average, followed by an increase in primary school enrollment rates above and beyond the increase observed in non-democracies that remain non-left-wing (grey line).

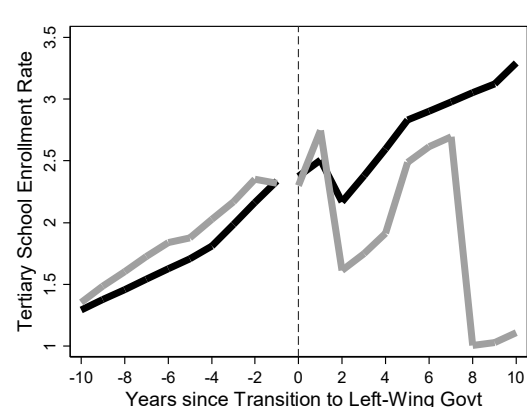
Panel A: Primary Education



Panel B: Secondary Education



Panel C: Tertiary Education

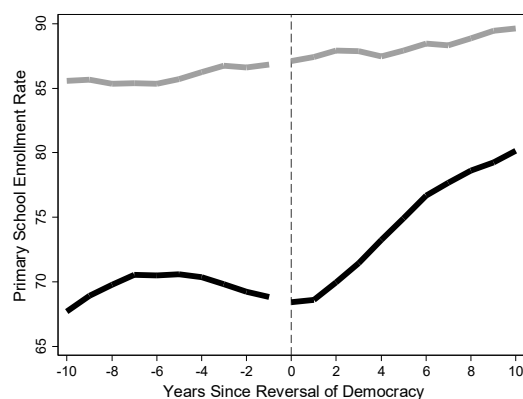


NOTE: The black line is average enrollment rate in primary, secondary and tertiary education among countries that transitioned from non-left- to left-wing non-democracy; the grey line is average enrollment rate among non-democracies that remain non-left-wing. A country is coded as non-democratic if *polity2* is below 6. Ideology of the government (right, center, left) is based on the variable *hogideo* available in “The Ideology of Heads of Government, 1870-2012” (Brambor, Lindvall, and Stjernquist 2017).

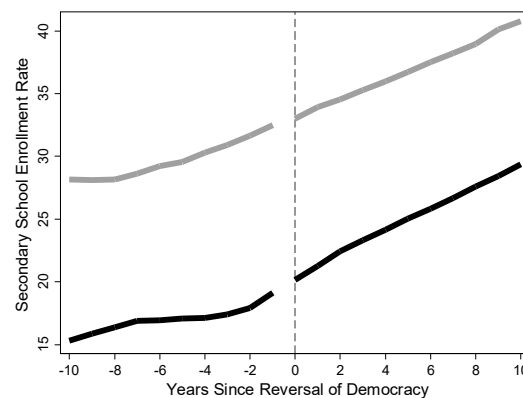
SOURCES: Lee and Lee (2016) for enrollment rates; Polity Project for regime type; Brambor, Lindvall, and Stjernquist (2017) for the ideology of the government.

Figure B5. Average School Enrollment Rates Before and After Democratic Backsliding, in Treated and Comparison Groups, 1820-2010 – Reversals from democracy to non-democracy are, on average, followed by an acceleration of primary school enrollment rates (black line) that is not observed in countries that remain democratic (grey line).

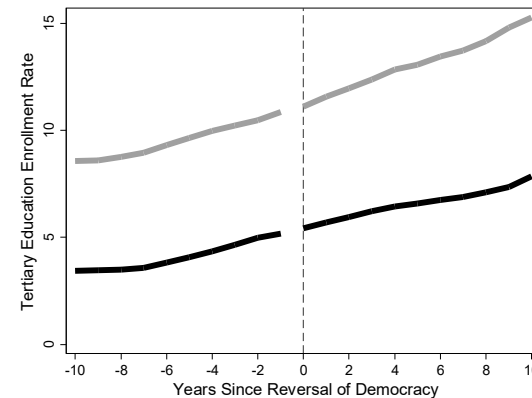
Panel A: Primary Education



Panel B: Secondary Education



Panel C: Tertiary Education



NOTE: The black line is average enrollment rate in primary (Left), secondary (Center) and tertiary (Right) education among countries that were democratic for at least ten years and reversed to non-democracy; the grey line is average enrollment rate among stable democracies (i.e., democracies that did not experience reversal to non-democracy). A country is coded as democratic if its *polity2* is between 6 and 10. If a country experiences more than one reversal from democracy to non-democracy, only the earliest reversal is considered. Democratic reversals (for countries containing pre- and post-reversal enrollment rate data) include: Austria in 1933; Colombia in 1886; Czech Republic in 1939; Fiji in 1987; Finland in 1931; France in 1958; Gambia in 1994; Greece in 1915; Myanmar in 1962; Pakistan in 1999; Peru in 1992; Portugal in 1926; Spain in 1923; Uruguay in 1971.

SOURCES: Lee and Lee (2016) for enrollment rates; Polity Project for regime type.

Online Appendix C: Timing of Initial Central Government Intervention in Primary Education, and Sources Used, by Country

Table B.1. Timing of Initial Central Government Intervention in Primary Education and Sources Used, by Country

Country	State begins to fund primary schools	State begins to establish/ administer primary schools	State requires "universal" provision of schooling, or requires that every community provide schooling	State establishes compulsory primary education	State establishes that public primary education must be free at least for the poor	State begins to regulate requirements to become a teacher	State begins to provide teacher training for prospective teachers	State begins to regulate the curriculum
<i>Europe</i>								
Austria	1774 (Flora 1983: 555; Van Horn Melton 1988: 210-213)	1774 (Van Horn Melton 1988: 210-213)	1774 (Van Horn Melton 1988: 210-213)	1869 (Ramirez and Boli 1987: 5)	1869 (Garrouste 2010: 118)	1774 (Van Horn Melton 1988: 210-213)	1771 (Van Horn Melton 1988: 203)	1774 (Van Horn Melton 1988: 210-213)
Belgium	1831 (Michote 1932)	1831 (Michote 1932)	1842 (Flora 1983: 561; U.S. Bureau of Education 1895: 162-165; Garrouste 2010: 137)	1914 (Garrouste 2010: 137)	1842 (Flora 1983: 561; U.S. Bureau of Education 1895: 162-165; Garrouste 2010: 137)	1822 (Mallinson 1963: 237)	1817 (Mallinson 1963: 237)	1842 (Flora 1983: 561; U.S. Bureau of Education 1895: 162-165; Garrouste 2010: 137)
Denmark	1720 (Christian Larsen, Aarhus University, via email)	1720 (Christian Larsen, Aarhus University, via email)	1814 (Christian Larsen, Aarhus University, via email; Flora 1983: 567)	1814 (Christian Larsen, Aarhus University, via email; Flora 1983: 567)	1814 (Christian Larsen, Aarhus University, via email; U.S. Bureau of Education 1898: 74; Garrouste 2010: 181)	1818 (Christian Larsen, Aarhus University, via email)	1790 (Christian Larsen, Aarhus University, via email)	1739 Tveit 1991: 244
England	1833	1870 (Green 2013: 16)	1870 (Green 2013: 16)	1880 (Green 2013: 16)	1891 (Green 2013: 16)	1846 (Keating 2010)	1890 (Keating 2010)	1870 (Green 2013)
Finland	1849 (Jari Salminen, University of Helsinki, via email)	1866 (Garrouste 2010: 190; Jari Salminen, University of Helsinki, via email)	1898 (Flora 1983: 572; Finnish National Board) of Education website)	1921 (Flora 1983: 572; Finnish National Board of Education; Jari Salminen, University of Helsinki, via email)	1919 (Flora 1983: 572; Finnish National Board of Education)	1866 (Garrouste 2010: 190; Jari Salminen, University of Helsinki, via email)	1863 (Kansanen 2003: 86; Iisalo 1979: 53)	1866 (Garrouste 2010: 190; Jari Salminen, University of Helsinki, via email)

Country	State begins to fund primary schools	State begins to establish/ administer primary schools	State requires "universal" provision of schooling, or requires that every community provide schooling	State establishes compulsory primary education	State establishes that public primary education must be free at least for the poor	State begins to regulate requirements to become a teacher	State begins to provide teacher training for prospective teachers	State begins to regulate the curriculum
France		1789 (Barry Bergen, Gallaudet University, via email).	1833 (Flora 1983: 577)	1882 (Flora 1983: 577; Garrouste 2010: 201)	1881 (Flora 1983: 577; Garrouste 2010: 201)	1833 (Green 2013: 14, 30; Flora 1983: 577)	1833 (Flora 1983: 577)	1793 (Dwyer and McPhee 2002: 88-89; Barry Bergen, Gallaudet University, via email)
Greece	1885 (Ifanti 1995: 272-3)	1885 (Ifanti 1995: 272-3)	1895 (Watson 1921: 744-5)	1834 (U.S. Bureau of Education 1884: CCXXIX)	1885 (Ifanti 1995: 272-3)	1834 (Kazamias 2009: 245)	1834 (http://education.sta-teuniversity.com/pages/543/Greece-EDUCATIONAL-SYSTEM-OVERVIEW.html accessed 12/05/2017)	1834 (U.S. Bureau of Education 1884: CCXXIX)
Ireland	1831 (Coolahan 1981: 4; Thomas Walsh, Maynooth University, via email)	1831 (Coolahan 1981: 4; Thomas Walsh, Maynooth University, via email)	1892 (Thomas Walsh, Maynooth University, via email)	1898 (Flora 1983: 593)	1831 (Thomas Walsh, Maynooth University, via email)	1834 (Walsh 2012: 24)	1834 (Walsh 2012: 24)	1831 (Coolahan 1981: 13-14; Thomas Walsh, Maynooth University, via email)
Italy		1859 (Stefano Chianese, University of Rome, via email)	1859 (Stefano Chianese, University of Rome, via email)	1859 (Stefano Chianese, University of Rome, via email)	1859 (Stefano Chianese, University of Rome, via email)	1859 (Stefano Chianese, University of Rome, via email)	1859 (Stefano Chianese, University of Rome, via email)	1860 (Stefano Chianese, University of Rome, via email)
Netherlands	1801 (U.K. Board of Education 1902: 307)	1806 (U.K. Board of Education 1902: 310)	1889 (U.K. Board of Education 1902: 331, 352)	1900 (Garrouste 2010: 286)	1889 (U.K. Board of Education 1902: 331)	1806 (U.K. Board of Education 1902: 310)	1816 (U.K. Board of Education 1902: 308)	1806 (U.K. Board of Education 1902: 310)
Norway	1739 (Rust 1989: 13-14)	1739 (Rust 1989: 13-14)	1848 (Rust 1989: 39-40, 71)	1848 (Rust 1989: 39-40, 71)	1739 (Rust 1989: 13-14)	1860 (Rust 1989: 86-90)	1826 (Rust 1989: 39-40)	1848 (Rust 1989: 39-40, 71)
Portugal	1854 (Da Costa 1871: 261)	1772 (U.K. Board of Education 1902: 445)	1834 (Da Costa 1871: 269)	1844 (Da Costa 1871: 169)	1822 (http://education.sta-teuniversity.com/pages/1220/Portugal-HISTORY-	1869 (Da Costa 1871: 225, 274-75)	1862 (Mogarro 2006: 321)	1844 (Mogarro 2006: 321)

Country	State begins to fund primary schools	State begins to establish/ administer primary schools	State requires "universal" provision of schooling, or requires that every community provide schooling	State establishes compulsory primary education	State establishes that public primary education must be free at least for the poor	State begins to regulate requirements to become a teacher	State begins to provide teacher training for prospective teachers	State begins to regulate the curriculum
					BACKGROUND.html, accessed 12/5/2017)			
Prussia		1763 (Cubberley 1920: 558)	1826 (Green 2013: 13-14)	1763 (Cubberley 1920: 558)	1868 (Green 2013: 13-14)	1753 (Kandel 1910: 8; Van Horn Melton 1988: 172)	1753 (Kandel 1910: 8; Van Horn Melton 1988: 172)	1763 (Cubberley 1920: 558)
Spain		1857 (Boyd 1997: 4-5)	1857 (Boyd 1997: 4-5)	1857 (Boyd 1997: 4-5)	1857 (Boyd 1997: 4-5)	1825 (Clara Núñez, UNED, Begoña Moreno, UNED, and Gloria Quiroga Valle, Universidad Complutense de Madrid, via email)	1839 (Escolano Benito 1982: 59-60)	1821 (Clara Núñez, UNED, Begoña Moreno, UNED, and Gloria Quiroga Valle, Universidad Complutense de Madrid, via email)
Sweden	1842 (Larsson & Stanfors)	1842 (Larsson & Stanfors)	1842 (Larsson & Stanfors)	1842 (Larsson & Stanfors)		1853 (Larsson & Stanfors)	1860 (U.S. Bureau of Education 1884: CCXLIV)	1878 (Larsson & Stanfors)
Switzerland	1902 (U.S. Bureau of Education 1912: 1367)		1874 (Jenzer n.d.: 1)	1874 (Jenzer n.d.: 1)	1874 (Jenzer n.d.: 1)			1874 (Jenzer n.d.: 1)
Latin America								
Argentina	1871 (Memoria del Ministro de Justicia, Culto e Instruccion Publica 1876: LI)	1817 (Solari 1972: 47-51)	1884 (Campobassi 1942)	1884 (Campobassi 1942)	1884 (Campobassi 1942)	1884 (Jennifer Guevara, Universidad de San Andrés, via email)	1870 (Jennifer Guevara, Universidad de San Andrés, via email)	1884 (Mariano Narodowski, Universidad Torcuato Di Tella, via email)
Bolivia	1826	(Kent 1996: 4-19)	1825	1908 (Kent 1996: 4-19)	1851 (Daza 2012: 171)	1851 (Kent 1996: 4-19)	1909 (Kent 1996: 4-19)	1826 (Daza 2012: 179)
Brazil		1823 (Havighurst and Moreira 1965: 71)	1827 (Havighurst and Moreira 1965: 72)	1946 (Havighurst and Moreira 1965)	1823 (Havighurst and Moreira 1965: 72)	1879 (Musacchio et al. 2012: 6)	1879 (Musacchio et al. 2012: 6)	1879 (Musacchio et al. 2012: 6)
Chile	1860 (Camila Pérez Navarro,	1860 (Camila Pérez Navarro,	1860 (Camila Pérez Navarro,	1920 http://www.memoriaachilena.cl/602/w3-	1860 (Camila Pérez Navarro,	1813 (Camila Pérez Navarro,	1842 (Camila Pérez Navarro,	1860 (Camila Pérez Navarro,

Country	State begins to fund primary schools	State begins to establish/ administer primary schools	State requires "universal" provision of schooling, or requires that every community provide schooling	State establishes compulsory primary education	State establishes that public primary education must be free at least for the poor	State begins to regulate requirements to become a teacher	State begins to provide teacher training for prospective teachers	State begins to regulate the curriculum
	Universidad de Chile, via email; http://www.memoriachilena.cl/602/w3-article-3565.html#cronologia accessed 8/2/2016)	Universidad de Chile, via email; http://www.memoriachilena.cl/602/w3-article-3565.html#cronologia accessed 8/2/2016)	Universidad de Chile, via email; http://www.memoriachilena.cl/602/w3-article-3565.html#cronologia accessed 8/2/2016)	article-3565.html#cronologia accessed 8/2/2016	Universidad de Chile, via email; http://www.memoriachilena.cl/602/w3-article-3565.html#cronologia accessed 8/2/2016)	Universidad de Chile, via email; http://www.memoriachilena.cl/602/w3-article-3565.html#cronologia accessed 8/2/2016)	Universidad de Chile, via email; http://www.memoriachilena.cl/602/w3-article-3565.html#cronologia accessed 8/2/2016)	Universidad de Chile, via email; http://www.memoriachilena.cl/602/w3-article-3565.html#cronologia accessed 8/2/2016)
Colombia	1834 (Ramírez and Salazar 2007: 30-31)		1860 (Alarcón Meneses 2011: 359)	1870 (Ramírez and Salazar 2007: 17)	1860 (Alarcón Meneses 2011: 359)	1870 (Ramírez and Salazar 2007: 17)	1872 (Alarcón Meneses 2011: 296)	1865 (Alarcón Meneses 2011: 357)
Costa Rica	1825 (González Flores 1978: 285-288)	1825 (González Flores 1978: 285-288)	1847 (González Flores 1978: 229)	1869 (González Flores 1978: 230)	1869 (González Flores 1978: 230)	1849 (González Flores 1978: 201)	1849 (González Flores 1978: 201)	1849 (González Flores 1978: 232)
Cuba	1844 (Cruz 1952: 278)	1844 (Cruz 1952: 278)	1880 (Cruz 1952: 278)	1863 (OEI n.d.: 2-3)		1863 (OEI n.d.: 2-3)	1863 (OEI n.d.: 2-3)	1880 (OEI n.d.: 2-3)
Ecuador		1833 (Freile, n.d.: 1-3; Ministerio de Educacion (Ecuador), n.d.: 1)	1871 (Ministerio de Educacion (Ecuador), n.d.: 1)	1871 (Freile, n.d.: 1-3; Henderson 2008: 165)	1871 (Freile, n.d.: 1-3; Henderson 2008: 165)	1873 (Vargas 1965: 375)	1873 (Henderson 2008: 165)	1871 (Henderson 2008: 154-155)
El Salvador	1871 (Olga Vásquez Monzón, Universidad Centroamericana "José Simeón Canas," via email)	1871 (Olga Vásquez Monzón, Universidad Centroamericana "José Simeón Canas," via email)		1883 (Vásquez Monzón 2012: 164, 230)	1871 (Vásquez Monzón 2012: 98)		1874 (Vásquez Monzón 2012: 114)	1873 (Vásquez Monzón 2012: 163)
Guatemala		1835 (Gonzalez Orellana 2007: 160)	1825 (Gonzalez Orellana 2007: 182)	1835 (Gonzalez Orellana 2007: 160)	1831 (Gonzalez Orellana 2007: 188)	1831 (Gonzalez Orellana 2007: 188; Centro de Informacion y Documentacion Educativa de Guatemala 2006: 11 & 15)	1835 (Gonzalez Orellana 2007: 160; Centro de Informacion y Documentacion Educativa de Guatemala 2006: 11 & 15)	1825 (Gonzalez Orellana 2007: 182)

Country	State begins to fund primary schools	State begins to establish/ administer primary schools	State requires "universal" provision of schooling, or requires that every community provide schooling	State establishes compulsory primary education	State establishes that public primary education must be free at least for the poor	State begins to regulate requirements to become a teacher	State begins to provide teacher training for prospective teachers	State begins to regulate the curriculum
Jamaica	1835 (Foner 1973: 38)	1885 (Foner 1973: 39)	1892 (Goulbourne 1988: 5, 42)	1880 (Carley 1942: 2)	1892 (Foner 1973: 39; Goulbourne 1988: 5, 42)	1863 (Carley 1942: 4)	1885 (Jamaica Ministry of Education 1922: 2; http://stcoll.edu.jm/about/history/)	
Mexico	1842 (Anne Folger Staples Dean, Colegio de Mexico, via email)	1842 (Anne Folger Staples Dean, Colegio de Mexico, via email)	1821 (Escalante Gonzalbo et al. 2010: 1818)	1917 (Escalante Gonzalbo et al. 2010: 1917)	1917 (Escalante Gonzalbo et al. 2010: 1917)	1842 (Escalante Gonzalbo et al. 2010: 1819; Anne Folger Staples Dean, Colegio de Mexico, via email)	1833 (Escalante Gonzalbo et al. 2010: 1831)	1842 (Escalante Gonzalbo et al. 2010: 1819; Anne Folger Staples Dean, Colegio de Mexico, via email)
Paraguay	1870 (Pineda 2012)	1870 (Pineda 2012)	1870 (Pineda 2012)	1870 (Pineda 2012)	1940 (OEI)	1878 (Pineda 2012)	1856 (Zayas Rossi 2015)	1870 (Pineda 2012)
Peru	1862 (Espinoza 2013: 12)	1905 (Espinoza 2013: 12)	1823 (Constitution of 1823, art. 184)	1905 (OEI n.d.: 4)	1828 (OEI n.d.: 2)	1850 (OEI n.d.: 3)	1825 (http://www.archivodellibertador.gob.pe/escritos/buscardor/spip.php?article8907)	1823 (Constitution of 1823, art. 184)
Trinidad & Tobago	1835 (Trinidad and Robago Independence Celebration Committee 1962: 10)	1849 (Trinidad and Robago Independence Celebration Committee 1962: 13)	1849 (Trinidad and Robago Independence Celebration Committee 1962: 13-14)	1921 (Trinidad and Tobago Independence Celebration Committee 1962: 12)	1849 (Trinidad and Robago Independence Celebration Committee 1962: 13-14)	1851 (Trinidad and Tobago Independence Celebration Committee 1962: 9)	1852 (Trinidad and Robago Independence Celebration Committee 1962: 36)	1849 (Trinidad and Robago Independence Celebration Committee 1962: 13-14)
Uruguay	1826 (Uruguay, Ministerio de Educacion y Cultura 2014: 19)	1826 (Uruguay, Ministerio de Educacion y Cultura 2014: 19)	1827 (Uruguay, Ministerio de Educacion y Cultura 2014: 19)	1877 (Uruguay, Ministerio de Educacion y Cultura 2014: 32-33)	1827 (Uruguay, Ministerio de Educacion y Cultura 2014: 19)	1827 (Administracion Nacional de Educacion Publica 2007: 2)	1827 (Administracion Nacional de Educacion Publica 2007: 2)	1847 (U.S. Bureau of Education 1895: 337; Uruguay, Ministerio de Educacion y Cultura 2014: 27-28)

Country	State begins to fund primary schools	State begins to establish/ administer primary schools	State requires "universal" provision of schooling, or requires that every community provide schooling	State establishes compulsory primary education	State establishes that public primary education must be free at least for the poor	State begins to regulate requirements to become a teacher	State begins to provide teacher training for prospective teachers	State begins to regulate the curriculum
Venezuela	1870 (Rivero Hidalgo 2011: 52-58)	1870 (Rivero Hidalgo 2011: 52-58)	1870 (Rivero Hidalgo 2011: 56-58)	1870 (Rivero Hidalgo 2011: 56-58)	1864 (Rivero Hidalgo 2011: 56)	1897 (Pinto Iglesias & García García 2002: 48-49)	1876 (Pinto Iglesias & García García 2002: 42)	1870 (Rivero Hidalgo 2011: 56-58)

Europe

Austria. Prior to 1774, school was provided by the Church and people were charged a fee. Primary school is brought under state control through Maria Theresa's General School Ordinance of 1774 (Flora 1983: 555). The General School Ordinance established that every town and every rural parish would have at least one minor school (*Trivialschule*) which was to provide elementary instruction, and that in urban areas there also had to be a major school (*Hauptschule*) designed for middle-class pupils hoping to advance to the Gymnasium; (ii) standardized the curriculum for elementary schools, which differed for rural and urban areas; (iii) required that a normal school be established in every province; and (iv) required that schoolmasters and tutors be certified by a normal school (Van Horn Melton 1988: 210-213). The first normal school, the Vienna Normal School, had been created with Maria Theresa's approval, and with the monarchy's funding, in January of 1771 (Van Horn Melton 1988: 203). Between 1805 and 1867, an alliance between the Crown and the Church re-establishes ecclesiastical supervision of education (Flora 1983: 555). The definitive movement toward a state education system in Austria came in the late 1860s: the Constitution of 1867 put schools firmly under state control; in 1868, complete separation of schools from the Church was instituted; in 1869, the Imperial Act on Primary Education (*Reichsvolksschulgesetz*) was passed, establishing a system of compulsory primary schooling (Ramirez and Boli 1987: 5) and abolishing school fees (Garrouste 2010: 118).

Belgium. "When the Congress of Vienna, in 1815, united Belgium and the Netherlands into one, William I, King of the Netherlands, sought by progressive steps to institute in the new provinces state monopoly in education and to use the schools as an instrument for Protestant propaganda. He entrusted to the Government the general control of all elementary education, and placed the supervision and inspection of schools of every grade in the hands of officials and commissions depending on the central authority. To it was granted the exclusive right to establish or to authorize the establishment of schools under conditions in which private initiative was extraordinarily restricted." (Michote 1932). The first teacher training schools are established by William I in Lierre in 1817; and a regulation from 1822 established that all lay primary school teachers ought to be certified (Mallinson 1963: 237). The Belgium Constitution of 1831, passed right after Belgium separates from the Dutch, established "freedom of education," and "side by side with private education the Constitution provides for a system of public education organized by the State or its subdivisions—provinces and communes." (Michote 1932). The First School Law on Primary Education, from 1842, made provision for the elementary instruction of all children; establishes that each local authority must establish and support at least one primary school and that primary education must be free for the poor; specifies that the State must create and maintain at least 2 normal schools; specifies the branches of a mandatory curriculum; and emphasized the importance of teachers' training in normal schools (Flora 1983: 561; U.S. Bureau of Education 1895: 162-165; Garrouste 2010: 137). Subsequent legislation in 1879 again obliged the communes to maintain at least one public school; removed the Church from any school inspection activities; established new requirements to become a teacher (must be Belgian and have a teaching diploma); extended the mandatory curriculum and excluded religious instruction; and increased the number of State normal schools." (U.S. Bureau of Education 1895: 162-165). Compulsory

education at the primary level is introduced in 1914 for children 6-14 years (Garrouste 2010: 137).

Denmark. King Frederik IV in 1720 established 240 schools for children financed by the State. It was the first time the State paid for primary school education in Denmark (Christian Larsen, Aarhus University, via email received on 01/21/2016). In 1736, the State decided to make confirmation mandatory for all children in the country. The Royal Confirmation Ordinance of 1736 indirectly demanded compulsory schooling for all children, since in addition to making confirmation compulsory, it stated that "No children shall be admitted to confirmation, who have not earlier attended school". The Royal School Ordinance of 1739 ordered schooling for all children from the age of 6 or 7 until they "are at least able to read without hesitation from a Book and know their Catechism. (Tveit 1991: 244; Christian Larsen, Aarhus University, via email received on 01/21/2016). The 1739 School Ordinance established that primary schools must teach reading and religion (Tveit 1991: 244). However, because the State was poor, the expenses were left to landowners, who protested against this. In 1740 the King withdrew his order and made it voluntary for landowners to provide education in the countryside. In towns, the legislation was different. Universal, compulsory, free primary education for all children first became a reality with the Public Education Act of 1814. (Christian Larsen, Aarhus University, via email received on 01/21/2016). The law required public schools (*Folkeskole*) to be set up in all municipalities; established compulsory schooling for children ages 7-14 (Flora 1983: 567); and established that instruction be free for those who could not afford tuition (U.S. Bureau of Education 1898: 74; Garrouste 2010: 181). The 1814 Act also established a new mandatory curriculum, making Denmark the first Nordic country to require writing as a school subject (Tveit 1991: 244). The first State Seminarium (teacher training college), Blaagaard Seminarium, was founded in Copenhagen in 1790, and the first law establishing requirements to be a teacher was passed in 1818 (Christian Larsen, Aarhus University, via email received on 01/21/2016).

England. In 1846, the State begins to require individuals to go through the pupil-teacher system of training to become elementary school teachers; entry into the system required being 13 years or older, having completed primary school, and fulfilling certain scholastic, moral and physical conditions (Keating 2010). The Cross Commission on Elementary Education, publishing a report in 1888 recommending that day teacher training colleges be set up by universities and university colleges. The Government accepted this proposal and six were opened in 1890, and four more the following year. By 1900 there were 16 with 1,150 students. (Keating 2010). "A national public system of primary education in England and Wales was established by the 1870 Elementary Education Act. Compulsory attendance was not effected in most areas until the 1880s and elementary schools were not entirely free until 1891. (Green 2013: 16). The Elementary Education Act of 1870 created local education boards which were responsible for ensuring access to elementary education for all, and established standards of what children ought to learn in school. Elementary schooling became compulsory with the Elementary Education Act of 1880; and became free of charge in both board (public) and voluntary (church) schools in 1891. (Wikipedia, "Elementary Education Act 1870", accessed 11/11/2015: https://en.wikipedia.org/wiki/Elementary_Education_Act_1870).

Finland. The State began funding existing private schools in 1849 (Jari Salminen, University of Helsinki, via email on 11/17/2015). The first teacher-training college for primary school teachers was founded in Jyväskylä in 1863 (Kansanen 2003: 86; Iisalo 1979: 53). The Primary School Act of 1866 establishes the Finnish Folk School System with six years of primary schooling (Garrouste 2010: 190), and transfers responsibility for organizing primary schools from the Church to the communes (Flora 1983: 572). It also set some guidelines for teacher qualifications and the primary school curriculum (Jari Salminen, University of Helsinki, via email on 11/17/2015). The Compulsory School Founding Act of 1898 mandated every local authority to provide all school-aged children with an opportunity for schooling (Flora 1983: 572; Finnish National Board of Education website accessed 11/12/2015). Finland gains independence in 1917; the Constitution of 1919 sets an obligation to provide "free instruction for all in primary schools"; and in 1921 an Act is introduced that established six years of compulsory schooling in folk schools (Flora 1983: 572; Finnish National Board of Education website accessed 11/12/2015).

France. A system of public schools under civil control was established in 1780. During the Reign of Terror in 1793-1794, the revolutionary government introduced education policy through the Bouquier Law of December 1793, which envisaged a system of free, compulsory education for children of 6-13 years with a curriculum emphasizing patriotism and republican virtues, physical activity, field study and observation, and a role for schools in civic festivals. This would replace the primary education provided previously by priests. The punitive provisions of the law highlighted the Jacobins' insistence on education as a duty, not just a right. The Jacobins had neither the time nor the funds to implement such a program, and the reforms were left largely unimplemented (Dwyer and McPhee 2002: 88-89; Barry Bergen via email). Elementary education was returned to the control of the Church in 1802. Between 1815-1830, the Jesuits and Catholic Church maintain influence over education, and their emphasis shifts toward primary schools. The Guizot Law of 1833 represents the first legislation to organize a national primary school system. It mandates the establishment of a primary school in each commune, a higher elementary school in each town, and a primary teachers' school in each department (Flora 1983: 577); and extends the State's control over the licensing of teachers and inspection of schools (Green 2013: 14). New recruits, although not required to undergo specific training, had to show evidence of intellectual ability and receive a certificate of fitness from local councilors (Green 2013: 30), and teachers at Catholic schools had to take a state examination (Flora 1983: 577). The Falloux Law of 1850 re-establishes the influence of the clergy on educational matters. School fees are abolished for public primary schools in 1881; and 7 years of compulsory schooling are introduced by the Jules Ferry Laws of 1882 (Flora 1983: 577; Garrouste 2010: 201).

Greece. Since independence in 1828, the Greek education system became increasingly centralized. A Decree from April 3rd, 1833, gave the Secretary of Religious Affairs and Public Education the responsibility to: establish, control and supervise schools all over the country, and train primary and secondary school teachers. In practice, however, the organization of schools and the appointment of teachers remained under the control of the local government, as it used to be during the Turkish occupation (Ifanti 1995: 272-273). A law of 1834 established compulsory primary education for children between 5 and

12 years of age and a mandatory curriculum for common schools including: “the catechism, elementary Greek, writing, arithmetic, weights and measures, linear drawing, singing, and, “when convenient,” the elements of geography, history of the country, and the elementary training most needed in natural sciences” (U.S. Bureau of Education 1884: CCXXIX). The same law of 1834 specified the qualifications, the classification, and the salaries of teachers (Kazamias 2009: 245). A teacher training institution was established in 1834 in Nauplion, the provisional capital of Greece (<http://education.stateuniversity.com/pages/543/Greece-EDUCATIONAL-SYSTEM-OVERVIEW.html> accessed 12/05/2017). In 1885, fees for primary school were abolished. The move was linked to the enforcement of compulsory education at this level of schooling, and resulted in the transfer of the financial responsibility for primary teachers and schools from local to central government. In addition, the Decree issued on March 12th, 1894, determined a new curriculum and the weekly timetable of primary schools.” (Ifanti 1995: 272-3). A law from 1895 established that the whole expense for primary education ought to be borne by the State. The same law required teachers to have undergone a three years’ preparatory course in some training school; and extended primary education to the remotest part of the country.” (Watson 1921: 744-5).

Ireland. “Ireland ... got a state-supported primary school system under control of a state board of commissioners in 1831.” (Coolahan 1981: 4). In 1831, the Stanley Letter creates a system of national elementary education and defines the statutory rules for National (i.e. primary) Schools. Under the 1831 law, primary schooling was always free to pupils; no fees could be charged in schools operating under the national system (Thomas Walsh, Maynooth University, via email received on 11/10/2015); the Commissioners of National Education held the power of distributing funds and approving schemes, of setting out rules and regulations, of controlling the curriculum, of publishing and sanctioning textbooks, of suspending teachers and removing managers. The Inspectors acted as agents of the Commissioners to ensure that regulations were carried out.” (Coolahan 1981: 13-14). For teachers’ salaries to be funded by the national government, they had to meet certain criteria (Thomas Walsh, Maynooth University, via email received on 11/10/2015). The Stanley Letter also contained a provision for the establishment of a central teacher training college in Marlborough Street, which operated between 1834 and 1922. Teacher training remained a contentious issue throughout most of the nineteenth century. There were numerous attempts to ensure they teachers properly trained but both the church and the state feared the political affiliation of teachers (Walsh 2012: 24). Compulsory primary schooling in towns was introduced in 1892, and extended to rural areas in 1898 (Flora 1983: 593).

Italy. The first general law of primary education in Italy was the “Legge Casati,” introduced in the State of Sardinia in 1859 and extended to the rest of the provinces after the unification of Italy. The law instituted free and compulsory primary schooling; called for the creation of “Scuole Normali” (Normal Schools) to train primary school teachers; and required teachers to hold a license, obtained through an examination and a “certificate of morality” issued by the Mayor of the city in which they worked. The Casati Law structured primary education in two levels, each one lasting two years. The curriculum

was regulated by the Royal Decree of September, 15th, 1860, and included, for lower primary schools: religion, reading, writing, arithmetic, Italian language, and basics of the metric system; and for upper primer schools: rules of composition, calligraphy, book-keeping, elementary beography, national history, and the knowledge of basic physics and natural sciences. The main goals of the school curricula were to reduce illiteracy and to contribute to cultural and linguistic unification. Great emphasis was given to the teaching of Italian language, to civil rules, religious precepts and basic math. (Stefano Chianese, University of Rome, via email received 10/8/2015). "It should be noted that under the 1859 law the communes were to bear the expense of establishing new primary schools." (U.S. Bureau of Education 1884: CCXXXI).

Netherlands. In 1801, the Elementary Education Act establishes, for the first time, a direct connection between the State and national education. The law stipulates that there should be an adequate number of schools in every district. The schools were to be administered by the communes, but the central government was responsible for school inspection and provided financial assistance to support teachers' salaries (U.K. Board of Education 1902: 307). "The law of 1806 ... formally ordained the exclusive right of the State to erect schools and permitted the communes to erect them only under the direction, and subject to the control, of the Government. ... The legislation did not establish Normal Schools, but did require of everyone intending to enter the teaching profession a 'certificate for general admission' which was obtained through examination... The law established that education ought to be religious but non-denominational, or "neutral" (i.e., schools taught the general principles of Christianity, but the goal being a social, civil one, not one of religious conversion or anything alike; each religious institution taught the specifics of its doctrine during religious service, not during school time" (U.K. Board of Education 1902: 310). The first Normal Schools, in Haarlem and Lierre, are established in 1816 (U.K. Board of Education 1902: 308). "A law of 1889 made education free for the poor" (U.K. Board of Education 1902: 331) and established "that all children who wish to access a public school should be able to do so, and that, to that end, every commune must have a sufficient number of schools that are open to all children" (U.K. Board of Education 1902: 352). Both the constitutions of 1815 and 1848 provided for state control of education (Cubberley 1920: 712-3). Finally, the first legislation making education compulsory was passed in 1900. It prescribed 6 years of compulsory education (between the ages of 6 and 12) (Garrouste 2010: 286).

Norway. The Royal Confirmation Ordinance of 1736 made confirmation mandatory, and stated that "No children shall be admitted to confirmation, who have not earlier attended school;" and the Royal School Ordinance of 1739, replicating the one passed in Denmark earlier that year, "required all young people in the countryside, regardless of social station or position, to attend school for the purpose of gaining a foundation of Christian faith and turning toward salvation. All children in the countryside would be expected to attend school from the age of seven years and remain at least until they were ten to twelve years old, or until they could read and undergo confirmation in Christianity, at about the age of fourteen." The purpose of lower schooling was to teach children religion and reading; they rarely taught children how to write. The decree dictated that permanent schools be

established wherever possible, but “it was simply not possible to establish permanent schools in a country where over 90% of the population lived in isolated farming households.” Moreover, although the schools were to be administered centrally by the official class, the local districts were required to raise most of the funds to pay for the schools, which encountered great resistance, so in 1741 adjustments were made allowing each local parish to decide what type of common schools to set up (Rust 1989: 13-14). The first teacher training seminar supported by the state was opened in 1826 (Rust 1989: 39-40). In 1827, a School Law applying to the countryside established that one teacher training seminar should be set up in each bishopric. Each parish was directed to establish (with its own funds) at least one permanent school if there were thirty or more youth who were of compulsory attendance age, and attendance was made compulsory beginning at age 7 and until the young person had completed confirmation. The content of instruction was set to include reading with comprehension, Christian studies with Bible history; singing in the hymnal; writing and calculating (Rust 1989: 39-40). In 1848, the Folk School Law applying only to the towns, mandated that at least one permanent folk school exist in a town; that teachers be teacher seminar qualified; that they instruct no more than 60 pupils in a single day, and that children attend from the age of seven years until confirmation. ... The law also mandated that each town have a school commission consisting of the priest, the residing curate, a representative of the magistrate, and other representatives determined by the town council. ... The course of study, which had focused mainly on reading and religion in the past, was also expanded to include other basic subjects ... as singing, writing and calculating were to be taught in all schools.” (Rust 1989: 71). The 1848 law extended to the towns what the School Law of 1827 had stipulated for schools in the countryside with respect to universal provision of schooling and compulsory attendance. Finally, the 1860 Folk School Law, applying “both in the city and the countryside, ... included provisions for teacher qualifications and salary, school days per year, curriculum, etc.” and stipulated “a separate school budget at the county level to finance folk schooling. ... Teachers would be required to meet certain qualifications. The conventional route would be through a county teacher seminar, but some could qualify by going to a so-called lower seminar that consisted of a higher common school experience, by apprenticing as a teacher, or by taking an examination approved by the king. ... The required subjects in the law were reading, Christian studies, nature studies, history, singing, writing, calculating, and some optional subjects such as gymnastics and military services.” (Rust 1989: 86-90).

Portugal. The Marquis of Pombal, Prime Minister of King Joseph I, through an education reform introduced in 1772 (U.K. Board of Education 1902: 445), set about to replace Jesuit education with state-controlled primary schools to train government clerks and instill respect for the new order of “enlightened despotism” (Birmingham 2003: 85), but these schools were mostly for the upper classes, not the poor. In 1834, there was a short-lived attempt to reform primary education under liberal principles, decentralizing the provision of primary education and requiring the communes to provide it (Da Costa 1871: 269). In 1844, the Royal Decree of September 20th established compulsory primary schooling, and penalties for parents whose children did not attend school; required the establishment of Normal Schools to train primary school teachers (Da Costa 1871: 169), but the first Normal School was founded in Lisbon in 1862 (Mogarro 2006: 321); and

established a curriculum (Lalor 1886: 302). Until 1854, despite the presence of legislation promoting primary schools, there was no central government funding for it. In 1854, the central government committed a fixed annual amount to promote primary schools (Da Costa 1871: 261). The creation of a National Ministry of Education in 1870 was followed by a new reform of primary education which stipulated the primary schooling ought to be provided not only for boys but also for girls on an equal basis; decentralized the administration of schools; created incentives for teachers and required they be trained in Normal Schools; and established a curriculum which included physical education, moral education, and practical (agricultural) education (Da Costa 1871: 225, 274-75). In 1869, the central government established new procedures and requirements for accessing teaching jobs (Da Costa 1871: 262). Free primary schooling was guaranteed by the Constitutions of 1822 and 1926.²³

Prussia. In 1753, the King gave the Normal School of Berlin, which had been established by Hecker as a private institution in 1748, an annual grant, and extended for the whole state the order that all vacancies should be filled with teachers from the Berlin Normal School (Kandel 1910: 8; Van Horn Melton 1988: 172). The School Code of 1763 ordered compulsory education for all children ages 5-13/14; the fees of the children of the poor were ordered paid; fines on parents not sending their children to school were defined; the requirements for a teacher, his habits, his qualifications and examination, the license to teach, and the extent to which he might ply his trade or business, were all laid down in some detail; and the organization, instruction, textbooks, order of exercises, and discipline for all schools were prescribed at some length (Cubberley 1920: 558). Frederick II's compulsory attendance laws in 1763 marked the first important move in the direction of national education. "Further regulations in 1826 made schooling compulsory between the ages of 7 and 14, gave each parish an elementary school, and prescribed training for all teachers. Free elementary tuition was not made law until 1868. (Green 2013: 13-14).

Spain. Until the end of the 18th century, teacher training was undertaken by the Church and by teachers' associations. The *Plan Provisional de Instruccion Primaria* of 1838 stipulated the creation of Normal Schools in the provinces and in Madrid, and the first Normal School, the *Seminario Central de Maestros del Reino*, opened in 1839." (Escolano Benito 1982: 59-60)."It was not until 1857 that a durable law of national education (subsequently known as the Ley Moyano for its author, the moderate liberal Claudio Moyano) was approved by the Spanish Cortes. Like its French counterpart, the *Loi Falloux* of 1850, the *Ley Moyano* was a pragmatic compromise between the competing claims of church and state. ... It assigned responsibility for public instruction to the minister of development (*fomento*), who was given authority to regulate personnel, curricular, textbooks, examinations, and degrees at all levels in the educational pyramid. ... The financial resources of the state being limited, responsibility for school finance was distributed among municipal, provincial, and state authorities. All towns of more than five hundred inhabitants were required to provide obligatory and--in the case of the poor-

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<http://education.stateuniversity.com/pages/1220/Portugal-HISTORY->

BACKGROUND.html, accessed 12/5/2017

-free primary instruction for all children between the ages of six and nine. In provincial capitals and large cities, the law also mandated a public upper primary school (*escuela primaria superior*) for boys and girls ages ten to thirteen.” (Boyd 1997: 4-5). “Ley Moyano stipulated ministerial regulation of textbooks and course content.” (Boyd 1997: 6).

Sweden. As per the Elementary School Act of 1842 (Flora 1983: 613), every parish and municipality must provide at least one school providing basic education for the general public. Every parish and municipality should also provide at least one trained teacher. A parish that is unable to pay a teacher the statutory compensation can apply for a state subsidy. This implied that all school-aged girls and boys should have access to basic education, but there was no measure of compulsion stated in this code. Neither was there any curriculum applying to all schools; this was first introduced in 1878 (by the *Normalplan för undervisningen i folkskolor och småskolor*). With the introduction of the curriculum, basic education was formally set to six years. The code of 1842 stated that local schools should to be set up within five years so that distances were not prohibitive for any child to go to school. It proved difficult to enact the ordinance within the given time frame. The act SFS 1853:65 stated more firmly that teachers must have specific training and also set standards for teachers’ salaries (in cash as well as in kind). Exceptions were made regarding schools in remote areas (typically in the north). In these areas the parish priest was free to recruit teachers irrespective of their training. SFS 1858:31 introduced a specific legal framework relating to the first years of elementary school (i.e. *småskolan*), which implied that smaller schools only for beginners could be established without the same demands relating to teachers’ training. This statute is considered to be underlying the enactment of compulsory schooling in Sweden, although it was not formally the case. (Larsson & Stanfors, <http://www.perfar.eu/policies/hms-statute-184219-regarding-education-among-general-population-also-known-1842-primary>). “The first Normal Schools for female teachers of primary schools were opened in 1860, and the normal school for female teachers of secondary schools was opened in Stockholm in 1861” (U.S. Bureau of Education 1884: CCXLIV).

Switzerland. “In 1848, the 25 confederate cantons formed a federal state. The new federal constitution guaranteed the continued existence of the Swiss cantons as partially sovereign states. From this point onward ... the federal government’s powers were very limited and the majority of administrative tasks, including the responsibility for the education system, remained with the cantons. Hence, in the 19th century, the school systems developed at the cantonal level. The cantonal education systems were and still are generally perceived to be very diverse – ... the mandatory school age, the teaching materials, and styles of lettering, all of which differed from canton to canton. Over time, the strong emphasis on the differences between the cantonal school systems led to the familiar reference to Switzerland’s “26 school systems”” (Hofmann 2014: 225). “The first mention of public school (*Volksschule*) appears in the Constitution of 1874 (still in effect), and that mention was only minimal. Article 27 of the Constitution merely states that the cantons must provide “adequate elementary instruction subject to government control which must be compulsory, non-denominational and free at the public schools” (Jenzer n.d.: 1). “Each Canton is autonomous in the conduct of its school system within the limits determined

by the constitution and general laws. The constitution (adopted May 29, 1874) provides for the organization of schools, and by popular vote of November 23, 1902, there was added an article which established the obligation of the Federation to subsidize primary schools" (U.S. Bureau of Education 1912: 1367).

Latin America

Argentina. Following independence from Spain in 1816, the post-independence Cabildo begins to establish new elementary public schools in Buenos Aires in 1812 (Solari 1972: 47) and begins to regulate the curriculum of Buenos Aires schools as early as 1811 (Solari 1972: 50). In 1816, Buenos Aires (City and Province) adopted a regulation ("reglamento") that established the principle of compulsory education; required mayors and priests to ensure its enforcement; determined the methods and content of teaching; and established the mechanisms by which schools ought to be funded and governed. (Solari 1972: 50). The central government established seven schools in Buenos Aires between 1810 and 1817 (Solari 1972: 51). In the rest of the provinces, ... education continued to be provided by religious and private entities (Solari 1972). In 1872, Congress approves a law that commits the central government to provide funding to support primary schooling in the provinces (Memoria del Ministro de Justicia, Culto e Instruccion Publica 1876: LI). The Normal School of Parana, the first Normal School founded by the government, opens in 1870. In 1884, Congress passes the *Ley de Educacion Comun*, or Law 1420, which stipulates that primary education is universal, compulsory, free and secular; sets the minimum required qualifications for those who want to become primary school teachers; and establishes a mandatory curriculum for all primary schools in the territory (Campobassi 1942).

Bolivia. Through a Decree of December 11th, 1825, Simon Bolivar [first president of the Republic] and Simon Rodriguez [Director General de Enseñanza Publica], created the first schooling legislation. It establishes that education is the number one duty of the Government; that education must be general and uniform; that schools must comply with the state's education laws and that the health of the Republic depend of the morality that its citizens acquire through schools during childhood. The Decree also stipulates that a primary school should be established in the capital city of each department, in order to educate all children (boys and girls). The Decree also establishes mechanisms for funding schools. (Kent 1996: 4). A Decree of December 11th, 1826, ordered the rents of the Church to be devoted to education, instruction, and public welfare. (Kent 1996: 18). On December 31st, 1826, Congress approved the Plan de Ensenianza, which establishes primary schools, secondary schools, and arts and sciences schools; stipulates how schools should be organized, what subjects should be taught, and how education should be government. Primary schools were required to teach students to read and write, as well as provide them with religious, moral, and agricultural education ... The Constitution of 1851 introduced the notion of education as an inalienable individual right, accepted the "right to teach" under the inspection of the state, and established that teachers must demonstrate their morality and qualifications to be able to teach. It also established that primary schooling ought to be free. (Kent 1996: 19). In December of 1908, a new national law, the *Estatuto General de Educacion*, established that primary education was compulsory; required the creation of Normal Schools to train teachers; and required that

individuals have a teaching degree (Daza 2012: 171). The first Normal School was founded in 1909 via National Decree dated June 5th, 1909. Its goal was to train primary and secondary school teachers for public schools (Daza 2012: 179).

Brazil. “After independence was proclaimed on September 7, 1822, both the Imperial government of Pedro I, as well as the Regency and the government of Pedro II sought to organize a free popular system of education that was capable of stimulating the cultural development of the nation. The effort was not altogether successful. The good intentions of all the governments were defeated by the relative impoverishment of the country, the shortage of qualified teaching personnel, the lack of means for training teachers on the one hand, and the lack of interest in the professions on the part of potential students. The causes were aggravated by the public’s lack of enthusiasm for public education.” (Havighurst and Moreira 1965: 71). “Clause No. 23 of Article 179 of the Constitution promulgated by the Emperor on December 11, 1823, guaranteed free primary school education for all citizens.” (Havighurst and Moreira 1965: 72). “The law of 1827 provided for the establishment of primary schools in all cities, towns, and villages, as well as schools for girls in the cities and more populous towns; it did not, however, provide the technical facilities and necessary funds” (Havighurst and Moreira 1965: 72; Mendes de Faria Filho 2000: 137). “Clause No. 2 of Article 10 of the amendment to the Constitution, promulgated in 1834, decentralized the organization and administration of elementary and secondary education, turning it over to the competence of the provinces (later to become states).” (Havighurst and Moreira 1965: 72-73) “In 1879, Leôncio de Carvalho, Minister for Internal Affairs, sent a bill to reform the education system of the country to Congress that introduced secular education and mandated the creation of schools of education to train teachers.” (Musacchio et al. 2012: 6) “The Constitution, which was established in 1946, contains the following articles concerning education: Article 166: All persons shall be entitled to education...; Article 168: Statutes relating to education shall be based on the following principles: (1) Primary education shall be compulsory and shall be given only in the national language; (2) Official (public) primary education shall be given free of charge to all” (Havighurst and Moreira 1965).

Chile. In 1813, the *Reglamento para los maestros de primeras letras* established that all communities with fifty or more inhabitants had to fund and create a primary school; and established also that in order to work as a teacher anywhere in the national territory an individual had to have their knowledge of Cristian doctrine examined and approved by the local priest, and had to present three witnesses who could attest to the individual’s patriotism, life and customs (Camila Perez Navarro, Universidad de Chile, via email). The 1833 Constitution creates the Superintendency of Public Education, and assigns the municipalities the responsibility to fund primary schools (<http://www.memoriachilena.cl/602/w3-article-3565.html#cronologia> accessed 8/2/2016; Inzunza Higuera 2009: 23). The national Ministry of Justice, Worship and Public Instruction is created in 1837, adding to the already existing Ministries of Interior, Finance, and War. The responsibilities of the new ministry included to direct the education of the entire national territory (Inzunza Higuera 2009: 24). In 1842, the State creates the first *Escuela Normal de Preceptores* for training male teachers in Santiago. In

1860, Congress passes the *Ley General de Instruccion Primaria*, which establishes that the central State must guarantee free access to primary education for everyone, and specifies what is to be taught at primary schools. The central government implements an unprecedented program of expansion of schooling entailing the construction of new schools and the training of a large corps of primary school teachers. Primary education is not made compulsory until the passage in 1920 of the *Ley de Instruccion Primaria Obligatoria* (Memoria Chilena, “Origen y consolidacion del Estado docente. Inicios de la Instruccion primaria en Chile (1840-1920)”, accessed 8/2/2016: <http://www.memoriachilena.cl/602/w3-article-3565.html#cronologia>).

Colombia. Beginning in 1834, the central government spends some money on education, though it's only a tiny fraction of public spending (about 1%) compared to, for instance, “war and navy” expenses (50%) (Ramirez and Salazar 2007: 30-31). The 1860 Constitution established that the State guarantees to all its members free primary instruction (Alarcon Meneses 2011: 359). The Law of August 6th, 1865, gave the central government the power to design a public instruction plan and to set the curriculum requirements for primary schools (Alarcon Meneses 2011: 357). In 1870, during General Eustorgio Salgar's administration, the *Decreto Organico de Instruccion Publica* is passed, which established that primary education must be free, mandatory for children ages 6-14, secular, centralized, and under the inspection of the national government through the *Direccion General de Instruccion Publica*. The reform also covered issues related to how teachers had to be trained, and stipulated the creation of normal schools throughout the country (Ramirez and Salazar 2007: 17). The 1870 Law also establishes a firmer commitment from the federal government to devote some funding to primary schools, which now represents about 3-5% of of public spending, but the law also requires the districts and states to fund it (Alarcon Meneses 2011: 370). The establishment of schools was left to the local authorities (distritos). With respect to teacher training, Law 16 of 1822 ordered the creation of normal schools in Bogotá, Caracas and Quito. Later, in 1842, Pedro Alcantara's administration ordered the creation of normal schools in all provinces. However, in none of these cases did the government award any funds to these efforts. In 1870, the *Decreto Organico de Instruccion Publica* ordered the creation of normal schools for men and women in the capital city of all states (Ramirez and Salazar 2007: 22). The implementation of this order became effective in 1872, when several Normal Schools were opened in the states of Santander, Boyacá and Magdalena (Alarcon Meneses 2011: 296).

Costa Rica. Costa Rica becomes independent in 1821, and between 1824 and 1838, it forms part of the *Republica Federal de Centroamerica*, which also includes Guatemala, El Salvador, Honduras, and Nicaragua. The Federal Constitution gives each of the five states the responsibility to legislate and oversee matters related to public education. The first Chief of State, Juan Mora Fernández, a school teacher, assumes power in September of 1824. The *Carta Fundamental* of 1825 gives the Executive Power the duty to establish public schools in all towns (“pueblos”) of the State of Costa Rica (González Flores 1978: 1945-5; 285-8). In 1832, he passes a Law that established mandatory schooling for boys, but not for girls (Gonzalez Flores, op.cit, p. 194-5). The 1847 Constitution establishes that it is a sacred duty of the government to build schools and take all necessary measures to educate the people (Article 168); stipulates that “instruction is a right of all Costa

Ricans and the State must guarantee it ... by building normal schools, primary schools, and Sunday schools," (Article 169); and establishes that "the instruction of girls and boys must be uniform throughout the territory" and regulated and overseen by the *Director General de Instruccion Publica* (González Flores 1978: 229). In 1847, newly-elected President Jose Maria Castro founds a Normal School that trains girls to become primary school teachers. The school operated between 1849 and 1853 (González Flores 1978: 201). On October 4th, 1849, the first Reglamento Organico de Instruccion Publica is established, and along with it, the *Consejo de Instruccion Publica* is created to organize primary schooling. This Consejo establishes that aspiring teachers must pass exams on Christian doctrine, reading, writing, arithmetic, morality, virtues, urban issues, and the Constitution. The Consejo also sets the curriculum for primary schools (González Flores 1978: 232). The Constitution of April 15th, 1869, establishes that "primary education of both boys and girls is compulsory, free, and funded by the Nation" (Article VI) (Gonzalez Flores 1978: 230). The *Reglamento de Instruccion Primaria* of 1869 establishes that aspiring teachers must have a teaching degree; and also sets the curriculum and admission requirements of Normal Schools (Gonzalez Flores 1978: 240).

Cuba. The first *Ley de Instruccion Publica* for Cuba (while it was a Spanish colony) was passed as a Royal Order in 1844. It marks the beginning of an organized public education system in Cuba (Cruz 1952: 278). A new education law was introduced in 1863. It established compulsory schooling for children ages 6-9, stipulated the creation of two normal schools, one for men and one for women, and organized the inspection of schools (OEI n.d.: 2-3). New regulation was introduced in 1880: it established a new curriculum for popular education (OEI n.d.: 2-3) and stipulated the creation of a primary school for boys and girls in every community of at least 500 inhabitants (Cruz 1952: 278).

El Salvador. The process of organizing and funding a system of public schools began in 1871 with the government of Mariscal Santiago Gonzalez, which also promoted secular education. The Salvadorean Constitution of October 16th, 1871, established that primary education ought to be uniform, free, and compulsory (Vasquez Monzon 2012: 98). Subsequently, the *Reglamento de Instruccion Publica* of 1873 established the curriculum for primary schools (Vasquez Monzon 2012: 163) and further dictated that primary education was compulsory for boys and girls ages 7-15 (Vasquez Monzon 2012: 162). However, in the case of girls, parents were not obliged to send them to school, but they were obliged to provide them with "adequate education" (Vasquez Monzon 2012: 162). Compulsory *schooling* was established by the Constitution of 1883, and further ratified by law in 1886 (Vasquez Monzon 2012: 164, 230). The first teacher training institute for women was created in 1874 (Vasquez Monzon 2012: 114).

Ecuador. Primary school provision began soon after 1830. In 1836, President Vicente Rocafuerte (1835-1839) creates by decree the *Direccion General de Intruccion e Inspeccion de Estudios* in each province, and establishes the *Decreto Reglamentario de Instruccion Publica*. By that time, there were already 290 primary schools in Ecuador (Ministerio de Educacion (Ecuador), n.d.: 1). Indeed, during the progressive period (1833-1895), primary schooling expanded so rapidly in terms of both the number of schools and the number of students, that Ecuador became the country with the greatest number of schools per capita

(Freile, n.d.: 1-3). In 1871, under the presidency of Gabriel Garcia Moreno (1861-1865; 1869-1875) a new law regulating public education abolished provincial education councils, prohibited municipalities from intervening in education issues, and transferred all the authority for education matters to the Executive (Ministerio de Educacion (Ecuador), n.d.: 1). The 1871 law established the right to access education in every community that had 500 children or more (Ministerio de Educacion (Ecuador), n.d.: 1); and, by the same law, primary schooling became compulsory and free (Henderson 2008: 154; Freile n.d.: 1-3), and a compulsory curriculum for primary schools was established (Henderson 2008: 154-155). The 1871 also stipulated the creation of normal schools (Freile, n.d.: 1-3); and in 1873 a special Indian normal school in Quito was opened (Henderson 2008: 165). Also in that year, teachers who did not meet certain competency criteria were removed from the classroom, and the salary of the “efficient” teachers left was increased (Vargas 1965: 374).

Guatemala. The Constitution of 1825 establishes that in every community (“en todos los pueblos”) there shall be a primary school, funded by the community, that will teach reading, writing, counting, morality, and the principles of the Constitutions (Gonzalez Orellana 2007: 182). The Constitution leaves the inspection of the entire education system to the central government (Gonzalez Orellana 2007: 182). In 1831, at the beginning Mariano Galvez’s administration (1831-1838) as *Jefe del Estado de Guatemala*, Galvez establishes by Decree the *Bases del Arreglo General de la Instruccion Publica* (Gonzalez Orellana 2007: 188; Centro de Informacion y Documentacion Educativa de Guatemala 2006: 11, 15), which establishes the structure of the first school system in Guatemalan history (Gonzalez Orellana 2007: 187), establishes the “freedom to teach” principle but also establishes that schools that are funded by the State will be uniform and free, and that private schools will be subject to the State’s inspection (Gonzalez Orellana 2007: 188). It also establishes criteria for selecting teachers (Gonzalez Orellana 2007: 188; Centro de Informacion y Documentacion Educativa de Guatemala 2006: 11, 15). The reform also entailed the creation of many primary schools. In 1835, a new statute, the first one specifically focused on primary schooling, stipulates the organization of public and private schools; establishes for the first time in Guatemalan history that primary education is compulsory as well as free, and establishes that the curriculum will be “secular” in the sense that moral education will include some religion, but the main domain of religious education will fall under parents and priests outside of school time (Gonzalez Orellana 2007: 160; 189). The first Normal School was established by decree in 1835 (Gonzalez Orellana 2007: 160). The liberal revolution (1867-1871) led to the prohibition of any type of clerical influence on education (Gonzalez Orellana 2007: 216). The *Ley Organica de Instruccion Primaria* of 1875, and the Constitution of 1879, recognized the freedom to learn and teach principle, but publically-funded schools and private schools who wanted to award legally valid degrees had to follow the State-mandated curriculum (Gonzalez Orellana 2007: 216).

Jamaica. Following the abolition of slavery in all British Caribbean territories, between 1835 and 1845 the British government provided an annual subsidy to build schoolhouses called the Negro Education Grant, and Jamaica got part of this money. The funds went to primary schools operated by the denominations; that is, the schools were founded by

the parishes (Foner 1973: 38). The government made no attempt to establish its own educational system until the establishment of the Crown Colony Government in 1865: the year after, denominational schools were placed under the supervision of an official inspectorate (Foner 1973: 39). Under the Crown Government, education policies were determined by a central board of education—the local authorities (parish councils) had no role whatsoever in determining policy, but were in charge of implementation and the day-to-day administration of schools (Goulbourne 1988: 3). An examination for schoolmasters was instituted in 1863, followed by the beginning of pupil teachers' examinations and registration of teachers in 1880 (Carley 1942: 4). A Compulsory Attendance Law was passed in 1880 (Carley 1942: 2). In 1885, the government began to build its own primary schools (Foner 1973: 39). In 1892, school fees were abolished and elementary education was made open to all as part of the Elementary and Secondary Education Laws (Foner 1973: 39; Goulbourne 1988: 5, 42). As of 1920, there were two teacher training colleges in Jamaica: Mico Training College, founded in 1835 by a Protestant education trust, and Shortwood Teachers' College, which was fully funded by the government and was founded in 1885 as part of a package of reforms spearheaded by Sir John Peter Grant, who was appointed Governor of Jamaica in 1866 (Jamaica Ministry of Education 1922: 2; Shortwood Teachers' College website, <http://stcoll.edu.jm/about/history/>, accessed 12/12/2017).

Mexico. A regulation of 1821 ordered the opening of a school in every town that had at least 100 inhabitants (Escalante Gonzalbo et al. 2010: 1818). The education reform of 1833 established the *Direccion General de Instruccion Publica* for the D.F. and the national territories; and stipulated the creation of a normal school for boys and a separate normal school for girls (Escalante Gonzalbo et al. 2010: 1831). The year 1842 marked the beginning of a deep centralization of primary schooling under the *Direccion General de Instruccion Primaria*. The central government began to fund and administer primary schools (Anne Folgers Staples Dean, Colegio de Mexico, via email 12/20/2017); a uniform textbook was created for all teachers to follow, and the qualifications to become a teacher were unified (Escalante Gonzalbo et al. 2010: 1819). The Constitution of 1917 established that public primary schooling ought to be secular and free (article 3) as well as compulsory (article 31) (Escalante Gonzalbo et al. 2010: 1917).

Paraguay. A Normal School is established in 1856, during the administration of Carlos A. Lopez (1844-1862) (Zayas Rossi 2015). In 1870, in the middle of a civil war that ends up overthrowing Lopez from power, a provisional government orders the establishment of primary schools in the main town of each department, and establishes that attendance for children is compulsory. Schools are established in public buildings—and about 98% of the territory is owned by the central government—but, because the central government is financially ruined, the day-to-day administration of schools becomes reliant on the municipalities. A new Constitution is approved in November of 1870, which established that primary education will be compulsory, preferably provided by the government, and that the oversight for such a system will fall under a new *Ministerio de Justicia, Culto e Instruccion Publica*. The Constitution establishes that this Ministry will be in charge of all primary schools, and that its function includes promoting by all necessary means the provision of primary and higher education. In 1871, the *Inspeccion General de Escuelas* is

established; and in 1872, the *Primer Consejo de Instruccion Publica*. From 1873 on, the national budget allocates money to hire primary school teachers in the interior of the country. Primary schools follow a common curriculum established by the central government. In 1878, a new teacher training institution opens, and new regulation establishes requirements to become a teacher, including certificates of competency (Pineda 2012). Primary education becomes free under the Constitution of 1940 (OEI n.d.).

Peru. The Constitution of 1823, in its article 184, establishes that there must be a primary school even in the smallest communities, where the Catholic catechism should be taught along with moral and civic obligations (Constitution of 1823, art. 184). In 1825, Simon Bolivar orders the establishment of a normal school in the capital city of every department (<http://www.archivodellibertador.gob.ve/escritos/buscador/spip.php?article8907>). The Constitutions of 1828 gives the state the responsibility to guarantee free access to primary schooling for all citizens (OEI n.d.: 2). In 1850, under the presidency of Ramon Castilla (1845-1851; 1854-1862), he issues the first national education code, the *Reglamento de Instruccion Publica para las Escuelas y Colegios de la Republica*. Articles 48-53 of that law refer to teachers, and establish that aspiring teachers must pass special examinations for entry into the profession (OEI n.d.: 3). Under Castilla, in the early 1860s, the national treasury begins to subsidize municipal schools (Espinoza 2013: 12). The second period of strengthened state hegemony in Lima came after President Jose Pardo (1904-1908), leading *Second Civilismo*, issued Law 162 in 1905. This law fully centralized the administration, funding, and supervision of public primary education.” (Espinoza 2013: 12). This law also makes primary schooling compulsory (OEI n.d.: 4).

Trinidad & Tobago. Following the abolition of slavery in all British Caribbean territories, between 1835 and 1845 the British government provided an annual subsidy to build schoolhouses and pay teachers’ salaries called the Negro Education Grant, and Trinidad got part of this money (Trinidad and Tobago Independence Celebration Committee 1962: 10). The main providers of elementary education at that time were the Church of England, the Catholic Church, and the Mico Charity, a Protestant educational trust that provided non-denominational schooling (Trinidad and Tobago Independence Celebration Committee 1962: 11). In 1849, Governor Lord Harris established a system of secular government schools called ward schools, paid for out of local (ward) rates. The government now had its own schools, which brought of various cultural backgrounds together and taught them the English language and English values, and no longer gave financial assistance to denominational schools (Trinidad and Tobago Independence Celebration Committee 1962: 13). The Harris scheme stipulated that a Committee or Board of Education be formed for the first time; that an Inspector of Schools be appointed with a salary; that a normal school be established; that the wardens of the several wards be called upon to establish schools at once, “which shall be under the direction of the Board”; that all children be received at schools free of expense; that no books be used in schools without the sanction of the Board; that instruction be secular (Trinidad and Tobago Independence Celebration Committee 1962: 13-14). The first teacher training school, Woodbrook, came into existence in 1852 (Trinidad and Tobago Independence Celebration Committee 1962: 36). Beginning in 1851, in order to be employed in public schools, teachers had to be certified by the Board of Education as competent in the 3 R’s and possessing the qualities of a good teacher (Trinidad and Tobago Independence Celebration Committee 1962: 9).

Compulsory education was first established in 1921 (Trinidad and Tobago Independence Celebration Committee 1962: 12).

Uruguay. A law of February 9, 1826, orders the creation of primary schools in all the towns of Uruguay under the direction of the central government (Uruguay, Ministerio de Educacion y Cultura 2014: 19). In 1827, a decree established that primary schooling must be free (Uruguay, Ministerio de Educacion y Cultura 2014: 19). In addition, the first Normal School was created in 1827, and beginning that year a degree was required to work as a teacher (Administracion Nacional de Educacion Publica 2007: 2). In 1847, the *Instituto de Instruccion Publica* was created, which established provisional regulations for the government schools, formulated methods of appointing teachers, and selected classical textbooks (U.S. Bureau of Education 1895, vol.1: 337). Beginning in 1847, a uniform curriculum is established for all primary schools in the country (Uruguay, Ministerio de Educacion y Cultura 2014: 27-28). The 1877 *Ley de Educacion Comun* reinforced the principle of free primary schooling, stipulated that only teachers with a teaching degree awarded by a public training institution could exercise the profession, established a new common curriculum, and introduced for the first time the principle that attendance was compulsory, stipulating penalties for parents whose children did not attend school (Uruguay, Ministerio de Educacion y Cultura 2014: 32-33).

Venezuela. Prior to 1843, primary education was left to the provinces and there was a general understanding that the Constitution did not allow the central government to intervene in this area. In 1843, the *Codigo de Instruccion Publica* reinforces this; it gives the responsibility over primary schools to the provinces, and leaves the central government in charge of secondary and university education (Rivero Hidalgo 2011: 52-56). This changes in 1870, when a centralized primary school system begins to emerge. President Guzman Blanco, through a decree signed on June 27, 1870, dictated the establishment of a national Ministry of Education and the provision of compulsory primary schooling. The decree also ordered that primary schools teach arithmetic, the metric system, Spanish reading and writing, moral education, and the foundations of the Constitution (Rivero Hidalgo 2011: 56-58). Further, the 1870 decree operationalizes a provision made under the 1964 Constitution, that primary education ought to be free (Rivero Hidalgo 2011: 56). The decree, however, made no mention about the creation of Normal Schools. The first Normal Schools were opened in 1876 (Pinto Iglesias & Garcia Garcia 2002: 42). Prior to that, no specific training could be required of teacher (Pinto Iglesias & Garcia Garcia 2002: 42). In 1897, Joaquin Crespo promulgates the *Codigo de Instruccion Publica*, which devotes an entire chapter to the qualifications of teachers (Pinto Iglesias & Garcia Garcia 2002: 48-49).

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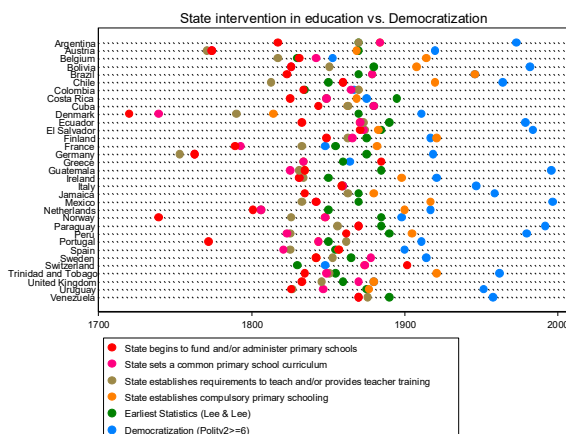
Online Appendix D: Timing of Education Statistics

In this section I describe the results of two different exercises that assess the appropriateness of using Lee and Lee's data to make inferences about the timing of state intervention in primary education vis-à-vis the timing of democratization.

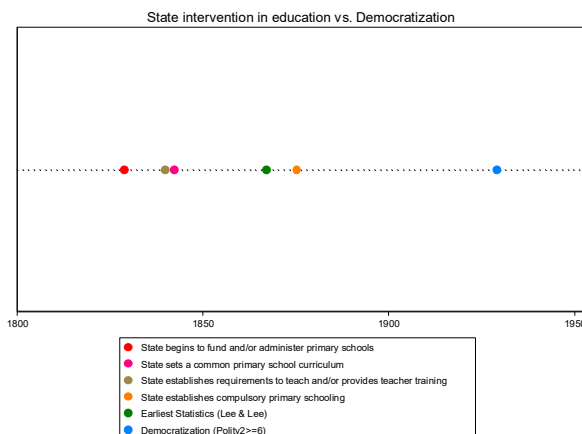
First, in Figure D1, I compare the initial timing of various forms of state intervention in primary education according to my dataset (33 Latin American and European countries) with the timing of education statistics for those same countries according to Lee and Lee, and find that in 32 of the 33 countries the earliest form of state intervention in primary education *preceded* the collection of education statistics reported in Lee and Lee. This suggests that using Lee and Lee's data on the timing of education statistics provides a *conservative estimate* of when states began to intervene in primary schooling—most likely, they began to intervene before that. This implies that using Lee and Lee's data on the collection of education statistics would bias the results *against* the hypothesis that states took an interest in primary schooling before democracy emerged. More specifically, as shown in Figure D1, across Europe and Latin America we see a general pattern whereby central governments begin to collect education statistics (green dots, based on Lee and Lee) *after* they had begun to fund and/ or administer primary schools (red), set a common primary school curriculum (pink), and regulate who can become a primary school teacher (brown), but before they established compulsory primary schooling (orange) and well before democratization took place (blue).

Figure D1. Initial Timing of State Intervention in Primary Education Based on My Dataset and Lee & Lee Vs. Timing of Democratization in Europe and Latin America

Panel A. Individual Countries



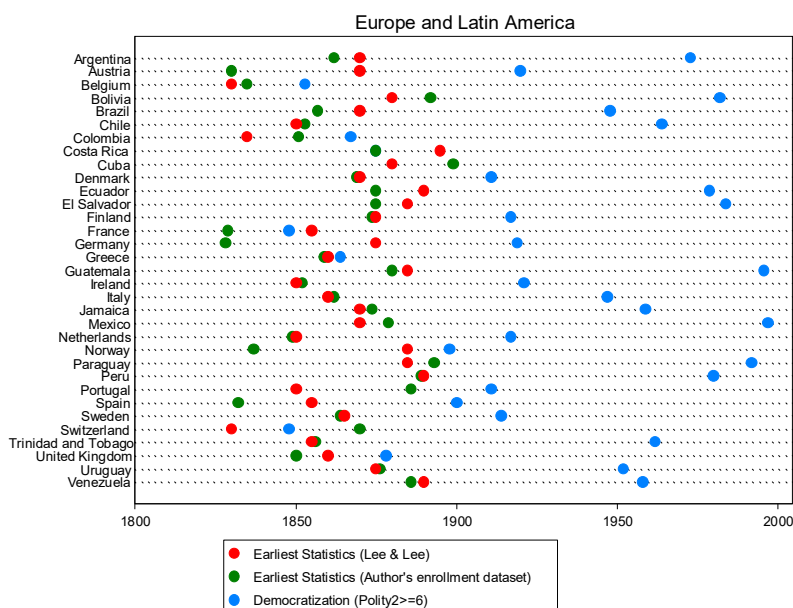
Panel B: Average Across All Countries



Second, in Figure D2, I compare Lee and Lee's data on the timing of education statistics with the first year of non-missing primary school enrollment rate information in my dataset for European and Latin American countries (Paglayan 2017), and find that, although there are discrepancies in most cases, in 31 of the 33 countries the discrepancy between the timing of education statistics according to Lee and Lee (green dots in Figure D2) vs. my dataset on enrollment rates (red dots) is too small (11 years on average) to change the main finding that state intervention in primary education preceded democratization (blue dots).²⁴ Moreover, in most cases (two-thirds of countries), my enrollment dataset contains more historical information about enrollment than what Lee and Lee indicate, implying that Lee and Lee provide a *conservative estimate* of when states began to collect education statistics.

²⁴ The two exceptions are France and Switzerland. In France, Lee and Lee's dataset imply that the timing of initial state intervention occurred *after* democratization; based on my dataset, this is incorrect. In Switzerland, Lee and Lee's dataset imply that the timing of initial state intervention preceded democratization; based on my dataset, this is also incorrect.

Figure D2. Initial Timing of Primary Education Statistics Based on My Dataset and Lee & Lee Vs. Timing of Democratization in Europe and Latin America



In sum, Figures D1 and D2 suggest that Lee and Lee’s data on the timing of education statistics provides a *conservative estimate* of when states began to regulate and monitor primary schooling. Most likely, they began to do so before the year suggested by Lee and Lee—both because we see that states generally began to fund and establish schools and regulate the curriculum and teaching profession before they began to collect statistics (Figure D1), and because in most European and Latin American countries, states began collecting education statistics before the year identified by Lee and Lee (Figure D2). These analyses imply that Lee and Lee’s dataset is good enough to get a sense of whether states took an interest in primary schooling before or after democratization (this study’s goal), though they would not be a good choice for a different paper that was interested in identifying when exactly states began to collect education statistics. For the purposes of this study, the comparisons discussed above suggest that, if anything, using Lee and Lee’s data will bias the results *against* the hypothesis that states took an interest in primary schooling before democracy emerged.