

# CIVIL CONFLICT, STATE CONSOLIDATION, AND THE SPREAD OF MASS EDUCATION

Agustina S. Paglayan\*

This version: September 1, 2020

First version: August 18, 2016

In many Western societies, mass education often expanded before democratization. Why did non-democracies expand mass schooling? This article develops a theory of education provision driven by civil conflict. Drawing on the history of Prussia, France, and Argentina, it argues that civil conflicts that made elites fearful of losing power helped crystallize elite support for mass education to promote social order through indoctrination. Consistent with this argument, difference-in-differences estimates document a previously undetected pattern of primary education expansion following civil wars in Europe and Latin America. To better identify and explain the impact of civil conflict, the article exploits subnational variation in the exposure to the 1859 Chilean civil war. The analysis shows that following the war the central government expanded primary schooling in rebel provinces not as a concession but to teach obedience and respect for authority. The argument has implications for theories of education provision, state-building, and autocratic politics.

\* Assistant Professor, Department of Political Science and School of Global Policy and Strategy, University of California, San Diego, [apaglayan@ucsd.edu](mailto:apaglayan@ucsd.edu).

A previous version of this article received the APSA 2018 Fiona McGillivray Award for Best Political Economy Paper. I am grateful to Ken Scheve, James Fearon, David Laitin, and Jeremy Weinstein for feedback on multiple drafts. I also thank Ran Abramitzky, Claire Adida, Ben Ansell, Pablo Beramendi, Manuel Cabal, Ali Cirone, Alberto Diaz Cayeros, Vicky Fouka, Guy Grossman, Anna Grzymala-Busse, Florian Hollenbach, Sean Ingham, David Lopez, Isabela Mares, John Meyer, Gareth Nellis, Macarena Ponce de Leon, Lant Pritchett, Hillel Soifer, and conference and seminar participants at APSA, the HPE Workshop 2017, CIES 2018, RISE 2018, the Stanford-Berkeley Political Economy Workshop, Johns Hopkins (SAIS), M.I.T., Oxford University, Universidad Catolica de Chile, Universidad de San Andres, Universidad de los Andes, the Center for Global Development, Brookings Institution, the Inter-American Development Bank, and the World Bank for helpful comments.

One of the most striking facts about mass education systems is that they often emerged and expanded in the absence of democracy. Led by absolutist Prussia, most European states had assumed control of primary schooling by the early nineteenth century before democratizing (Ramirez and Boli 1987; Ansell and Lindvall 2013; Aghion et al. 2019). Within Latin America, Argentina, Chile, and Uruguay led the expansion of mass education under tight oligarchic regimes (Newland 1994). In both regions, 70 percent of school-age children were already enrolled in primary school before democracy emerged (Paglayan 2020). The common view that democratization leads to the expansion of primary education (Lindert 2004; Brown and Hunter 2004; Stasavage 2005; Ansell 2010; Gift and Wibbels 2014) does not explain why, even without electoral incentives to cater to the poor, states expanded primary education for the masses. What drove the expansion of mass schooling before the spread of democracy?

This article develops a theory of mass schooling expansions driven by civil conflict, and provides evidence for this theory from the early stages of state-controlled primary schooling in Europe and Latin America. I argue that, influenced by the experience of peasant revolts, civil war, social revolution, and other forms of civil conflict, non-democratic elites often turned to education in post-conflict settings to indoctrinate the masses to be content with the status quo in an effort to promote long-term social order and political stability. The state-building argument I advance has two parts. First, political elites often believed that primary schooling could be used to instill beliefs and behaviors of discipline, obedience, and respect for authority that would reduce the future probability of mass rebellion against the established order. Second, this idea gained political traction in the wake of acute civil conflict, when the fear of a redistribution of power from elites to the masses helped forge a consensus among elites around proposals for mass education.

The argument I advance builds on a growing literature that emphasizes the nation- and state-building goals of mass schooling (Weber 1976; Gellner 1983; Ramirez and Boli 1987; Scott 1998; Darden and Grzymala-Busse 2006; Ansell and Lindvall 2013; Bandiera et.al. 2019; Zhang and Lee 2020). However, I depart from existing theories in the explanation for what prompted political elites to pursue these goals. Past studies argue that elites' interest in teaching a set of common values, behaviors, and language to the masses was prompted by the needs of an industrial economy and urban society (Weber 1976; Bowles and Gintis 1976; Gellner 1983; Bourguignon and Verdier 2000; Galor, Moav and Vollrath 2009) or the need to fight inter-state wars (Darden and Mylonas 2015; Aghion et.al. 2019). I argue that civil conflict was an important and underappreciated factor that often drove the expansion of primary schooling. In the aftermath of civil conflict, elites in non-democratic regimes often turned to schooling to create docile future citizens respectful of elites' authority and the rule of law.

I develop and test this argument using both qualitative and quantitative evidence. First, because several pieces of the argument may seem initially counterintuitive, I provide qualitative evidence of the rationales espoused by political elites to educate the masses in three influential historical cases that informed my theory: absolutist Prussia, monarchic France, and oligarchic Argentina. Second, to test the theory, I focus on assessing the impact of a specific type of civil conflict that, according to the theory, should incentivize the expansion of primary schooling: civil wars between a state and a group within its borders.

Using an original panel dataset spanning 40 European and Latin American countries from 1830-1950, I document a pattern of acceleration in primary school coverage following civil wars that so far has been overlooked in the social science

literature and that is consistent with the theory proposed here. Semi-parametric difference-in-differences estimates of the impact of civil war on primary school enrollment rates suggest that, on average, experiencing a civil war increased primary school enrollment rates during the post-civil war period by 10.7 percentage points (p.p.) above and beyond what we would have seen had the civil war not occurred. This is a large increase relative to the pre-war enrollment rate of 20% and it is not driven by civil wars bringing liberals to power.

To improve the internal validity of the analysis and examine which of several plausible theories best explains the expansion of primary schooling after a civil war, I turn to the 1859 civil war in Chile. Exploiting within-country geographic variation in civil war exposure, I find that following the war the central government made an unprecedented effort to construct primary schools, and that the effort was concentrated in those provinces that had rebelled against it. I then examine the reasons behind this expansion. While civil conflict can sometimes lead to educational expansion to appease rebels through policy concessions and redistribution, I show that that this was not the logic of educational expansion in Chile. I also show that the expansion is unlikely to be explained by local state capacity, industrialization, interstate wars, or increases in fiscal capacity induced by the civil war. Instead, like in Prussia, France, and Argentina, I provide evidence that Chilean political elites advocating for the expansion of primary schooling in the aftermath of the 1859 civil war argued that primary schools were necessary to shape the moral character and behavior of the masses to prevent another civil war.

In addition to contributing to a sizable literature on the political economy of education, this study contributes to existing debates about how war shapes incentives to invest in state capacity, what strategies autocrats deploy to survive

threats from below, what drives the provision of public goods, and why increased access to schooling has often failed to promote skills or economic development.

The literatures on the political economy of development and comparative politics of education provision often assume that education systems raise the human capital of the poor (e.g., Lindert 2004; Ansell 2010). Without denying that sometimes they do, this study shows that primary education systems targeting the lower classes often emerged not to teach skills to improve the job prospects and earnings of the poor, but to convince underprivileged children to accept their lot in society. This finding suggests that one reason why education systems often fail to reduce poverty and inequality (World Bank 2018) is because that is not what they were primarily designed to do.

The findings also have implications for theories of state capacity. Throughout history, interstate wars have been an important driver of investments in fiscal institutions to support standing armies (Tilly 1990; Dincecco, Federico and Vindigni 2011) and education institutions to train soldiers and inoculate citizens against foreign appeals (Ramirez and Boli 1987; Aghion et.al. 2019; Darden and Mylonas 2015). By contrast, past studies argue that civil wars reduce the incentive to invest in fiscal capacity (Collier et.al. 2003; Besley and Persson 2008, 2010; North, Wallis and Weingast 2009; Cardenas 2010; Blattman and Miguel 2010) and education (Swee 2009; Shemyakina 2011; Chamarbagwala and Moran 2011; UNESCO 2011; Leon 2012). While past studies focus on the effect of ongoing or recurring civil wars (Garfias 2018), this study examines the long-term effects of civil wars that come to an end. The findings suggest that civil war was a powerful historical driver of primary schooling for the lower classes. If interstate wars incentivized the state to finance a standing army of soldiers for protection from

external threats, civil wars incentivized the state to finance an army of teachers for protection from internal threats.

The theory and evidence presented also refine our understanding of the strategies that autocrats can use to survive mass contestation of elite power. Acemoglu and Robinson (2006) argue that autocrats facing social revolution have two options before they democratize: they can use physical repression to deter further rebellion against the status quo and/or they can appease the masses through redistribution via the provision of public services such as education. I show that autocratic elites have also turned to a third strategy: they have provided primary education in an attempt to teach the masses from an early age to feel content with their place in society, proud to be a rule-abiding citizen, and scared of the consequences of disrespecting existing authority. The theory I propose provides an underappreciated explanation for the puzzling fact that, historically, autocratic regimes have made significant efforts to school the masses.

## **EXISTING THEORIES OF WHY NON-DEMOCRATIC REGIMES PROVIDE PRIMARY EDUCATION**

Setting up state-controlled mass education systems was a costly endeavor that required constructing schools, training teachers, distributing authorized textbooks, and deploying school inspectors to enforce education regulations. What prompted non-democratic regimes to incur these costs in the absence of electoral incentives to redistribute toward the poor?

One possibility is that non-democratic regimes expanded primary education to the masses as a pro-poor redistributive policy when the poor belonged to the regime's coalition of support. This argument finds empirical support in the twentieth century. Manzano's (2017) cross-national study from 1960-2000 finds

that autocrats who championed a left-wing ideology favoring the interests of the poor were likely to expand access to schooling. Kosack's (2013) study of 1950s Ghana and Taiwan and 1930s Brazil similarly finds that non-democratic regimes that relied on the mobilization of the poor to assume and retain power made deliberate efforts to expand primary education. However, left-wing non-democratic regimes were uncommon in nineteenth-century Latin America; there, it was often conservative oligarchies that expanded primary education for the masses (Newland 1994). In Europe, too, some of the earliest efforts to expand mass education occurred during the eighteenth century under absolutist regimes (Melton 2002).

A common explanation for the rise of state-controlled primary education systems in the nineteenth century is that, during that century, a model for successful nation-state building emerged in Europe and became popular worldwide, and that model included a primary education system controlled by the state to promote a common language and national identity (Boli, Ramirez and Meyer 1985; Ramirez and Boli 1987). This is the diffusion theory. It highlights that the global spread of ideas about the nation- and state-building role of primary education during the nineteenth century, rather than domestic factors, drove the global expansion of primary schooling (Meyer et.al. 1997). Diffusion theorists are correct to note that Europe and especially Prussia became a model of state-controlled primary education for elites worldwide during a crucial period of nation-state consolidation. However, beyond pointing to the nineteenth century as the relevant period in which ideas about the political role of mass education became popular, diffusion theory cannot explain why countries exposed to the same ideas differed considerably in the timing of their efforts to expand education.

Acknowledging that the circulation of ideas about the nation- and state-building role of mass education was a necessary but not sufficient precondition, two main theories look at other forces to explain the timing of mass education expansions. The industrialization theory holds that what prompted the expansion was the rise of a powerful class of industrialists who demanded a skilled and docile workforce that could communicate in a common language, read manuals, and follow instructions (Weber 1976; Bowles and Gintis 1976; Gellner 1983; Bourguignon and Verdier 2000; Galor, Moav and Vollrath 2009; Wegenast 2010). The military rivalry theory holds that states expanded primary education in response to the need to fight wars with neighboring states, hoping that schools would prepare skilled soldiers (Aghion et.al. 2019) and teach patriotic values against neighboring countries (Darden and Mylonas 2015; Aghion et.al. 2019).

While the industrialization and military rivalry theories find support in empirical analyses, they leave important gaps to be explained. Similar to the redistributive argument, the industrialization theory finds some support in the twentieth century<sup>1</sup> but has lost weight as an explanation for the expansion of state-controlled primary education in eighteenth- and nineteenth-century Europe (Green 1990). There, central governments in Prussia, Austria, and many other countries began to take control of primary education under preindustrial societies (Brockliss and Sheldon 2012; Ramirez and Boli 1987; Green 1990; Paglayan 2020) whereas

---

<sup>1</sup> E.g., the Soviet Union in the 1930s and many East Asian countries in the 1950s expanded primary education to support state-led industrialization (Grant 1964, 22; U.S. Department of Health, Education, and Welfare 1959; Elliott 1982).

England, which led the Industrial Revolution, lagged behind the rest of Europe in primary education provision (Green 1990; Mokyr 1990; Mitch 1999).<sup>2</sup>

The fact that in both Europe and Latin America public education systems and centralized bureaucracies emerged at the same time (Brockliss and Sheldon 2012) suggests that the two phenomena were driven by a common cause. At least for Europe, interstate wars are a clear candidate cause (Tilly 1990; Besley and Persson 2011). Indeed, Aghion et.al. (2019) find evidence that interstate wars predict increases in primary school enrollment rates and mass education reforms in Europe. Nonetheless, some of the first national education laws in Europe, such as France's influential Guizot Law of 1833, were introduced during periods of relative interstate peace. Moreover, interstate wars are unlikely to explain the rise of mass education systems in nineteenth-century Latin America, because most of the wars in that period were civil wars, with interstate wars accounting for only one-fourth of the fighting in 1810-1900 (Centeno 1997).

Without denying that states often expanded primary education in response to the demands from industrialization or interstate wars, but recognizing also that these factors cannot explain important aspects of the timing of educational expansion in Europe and Latin America, I argue that episodes of domestic conflict pitting the masses against elites played an important and underappreciated role in driving the expansion of primary schooling. In places where ideas about the political

---

<sup>2</sup> The established view among economic historians is that in Europe industrialization required not mass education but a few knowledge elites with advanced scientific and technical skills (Mokyr 1990; Mitch 1999; Squicciarni and Voigtlaender 2015).

role of education were already circulating, domestic conflict helped forge consensus among elites to expand public primary education as a means to shape the beliefs and behaviors of the masses and, with that, prevent future rebellions against elites' authority.

This argument contrasts sharply with existing theories of how domestic conflict affects state capacity. Boli, Ramirez and Meyer (1985, 154-5) argue that elites "facing problems of disorder ... relied on straightforward repression ... Expanding the educational opportunities of the disorderly or potentially disorderly classes was unthinkable ... when maintaining order was seen as most problematic." Other studies argue that civil wars *reduce* educational access and the incentive to invest in state capacity (Collier et.al. 2003; Besley and Persson 2008, 2010; Cardenas 2010; Shemyakina 2011; Chamarbagwala and Moran 2011; Swee 2009; Leon 2012; Blattman and Miguel 2010; UNESCO 2011). This second set of studies tends to focus on short-term effects or on ongoing or recurring civil wars. While I agree that it is unlikely that states will prioritize educational expansion *during* a civil war, I argue that after the war ends, elites are likely to expand mass schooling above and beyond the level we would have seen had the war not occurred.

## **A THEORY OF CIVIL CONFLICT AND PRIMARY EDUCATION**

The article's main argument can be summarized as follows. During the foundational stages of state-controlled primary education in eighteenth- and nineteenth-century Europe and Latin America, elites who supported a system of state-controlled primary schools argued that these schools would help promote future political stability by molding the moral character, beliefs, and behaviors of the masses. Elites often argued that targeting children was a worthwhile investment in long-term political stability because children were a *tabula rasa*, more susceptible to

external influence than adults. While some elites believed that moral education should remain the domain of individual families and the Church, this argument lost supporters in the wake of episodes of domestic conflict pitting the masses against the state. When acute enough to threaten elites' hold on power, these episodes strengthened the belief that new policies were necessary to prevent mass rebellion against the state's authority, and helped forge a broader coalition of elite support for state-controlled primary education.

This section develops this argument and illustrates it with qualitative evidence from three cases that informed it: Prussia, France, and Argentina. In all three, state-controlled primary education took off under the auspices of a non-democratic regime that passed comprehensive education legislation. Prussia adopted comprehensive primary school regulations first in 1754 and then in 1763 under the absolutist regime of Frederick II. France passed its first Law of Primary Instruction in 1833 under the July Monarchy, which led to the fastest expansion of primary schooling in French history (Diebolt et.al. 2005; Squicciarini and Voigtlander 2016). Argentina passed the foundational Law of Common Education in 1884 under an oligarchic regime, quickly becoming a leader in the public provision of primary education within Latin America.

Understanding what drove elites in absolutist Prussia, monarchic France, and oligarchic Argentina to expand access to primary education helps us understand the origins of primary education systems worldwide. The reason is that all three became models of primary education provision. Even democratic countries like the United States admired these systems and sent officials to learn about them (Cousin 1833; Mann 1844; Sarmiento 1849; Nunez 1883; Fishburn 1979). As a result, the ideas that elites in Prussia, France, and Argentina articulated about primary

education traveled far and shaped the design of long-lasting education institutions in Europe, Latin America, and the rest of the world.

### **Mass primary schooling as a state-building tool: The role of ideas**

Elites who advocated for state-controlled primary education in Prussia, France, and Argentina argued that the state had a stake in how children were raised, what values and manners they learned, and what habits they acquired, because all this influenced the state's ability to maintain social order. "Moralizing" the masses from an early age, they argued, would go a long way toward promoting political stability and preventing violence, crime, and dissident behavior, and was therefore an indispensable component of successful state-building. Elites proposed that primary schools could bring about long-term order through three main mechanisms. First, schools could convince people early on to be happy with what they had. Second, schools could instill fear of retaliation by teaching children that, while good behavior would be rewarded, bad behavior would be punished by their teacher and, later, by the state and sometimes also by God. Third, schools could instill unconscious habits of compliance and respect for authority simply through repetition.

Prussia is the most well-studied case where historians agree that compulsory primary schooling was conceived by autocratic elites "as a mechanism of social control to indoctrinate children in political submissiveness"<sup>3</sup> (Barkin 1983, 32). Johann Felbiger, who advised Frederick II on education matters, stressed that primary schools must inculcate "loyalty, obedience and devotion to the king" and

---

<sup>3</sup> But there is some disagreement on whether schools succeeded in accomplishing this goal (Barkin 1983).

that students must memorize that “to resist authority is to rebel against divine order” and would be punished with “eternal damnation” (cited in Melton 2002, 186). The General Rural School Regulations of 1763 explicitly called for educating “the young for the fear of God” (p.1) and stipulated that “discipline must be done wisely so that ... [the child’s] stubbornness, or self-will, are broken ... and lying, cursing, disobedience, rage, quarreling, brawling, etc. are punished” (p. 22).

In France, the Minister of Public Instruction during the July Monarchy, Francois Guizot, who drafted the 1833 Law of Primary Instruction, argued that “the state must provide primary education to all families ... and in this he does more for the moral life of peoples than he can do for their material condition” (Guizot 1860, 63-64). Similarly, a report commissioned by the French Chamber of Deputies to inform the parliamentary debates of 1833 also argued that “moral education is precisely the goal of primary instruction” (Cousin 1833, 4).

In Argentina, during the debate of the 1884 Law of Common Education, congressmen agreed that the central goal of state-controlled primary education was to mold the moral character of future citizens<sup>4</sup> to support the peace-building goal of Roca’s presidency (Oszlak 2012, 152). One of the earliest proponents of a national primary education system, the “father” of Argentine public schooling (Pigna 2009, 265; Bravo 1993; Puiggros 1990), was the prominent politician Domingo F. Sarmiento, who argued that such a system should be “devoted to moral

---

<sup>4</sup> What they disagreed on was whether the moral education provided by schools should be Catholic or secular (*Diario de Sesiones* 1883; Oszlak 2012, 152).

development and to the maintenance of social order” (Sarmiento 1849, 104). Sarmiento believed the masses had a natural “instinct to destroy” lives and property (Sarmiento 1849, 55), but that primary schools, by exposing young children to a routine, rules, and the teacher’s supervision, would help “temper” that instinct, “soften the habits,” and engender “disgust toward violence and the shedding of blood” (Sarmiento 1849, 48, 55).

### **The catalyzing role of civil conflict**

Ideas about the role that primary education could play to mold the values and behavior of the masses are insufficient to explain central governments’ decision to invest in primary schooling. In Prussia, France, and Argentina, these ideas circulated among elites well before central governments took over and expanded primary education. In these three cases, the occurrence of civil conflicts that threatened the stability and power of the central government helped forge a coalition of elite support for mass education.

In Prussia, the introduction of the General Rural School Regulations in 1763, soon after the end of the Seven Years War, has sometimes been misinterpreted as evidence that what spurred Frederick II’s interest in mass schooling was foreign military rivalry (Ramirez and Boli 1987, 4-5). However, in a detailed study of the origins of primary schooling in Prussia, the historian James Melton notes that, already in 1754, Frederick II had approved similar education plans that could not be implemented because the war broke out. A key factor prompting Frederick II’s interest in compulsory schooling for rural areas as early as 1754 were the peasant rebellions of the 1740s and 1750s (Melton 1988; Schleunes 1989), when hungry peasants rose against landlords, exposing the erosion of seigniorial authority in the

countryside. During this “period of protracted social and political instability,” “thievery and banditry,” and “a propensity toward disobedience and disorder” (Schleunes 1989, 18), finding new ways to maintain order in rural areas became “an urgent political issue” (Melton 1988, 151). In this context, the idea of schooling peasants took hold among elites (Schleunes 1989, 18; Melton 1988, 145-168) including wealthy aristocrats like the governor of the shaken region of Bohemia, who wrote: “[if] the peasant’s moral character is not reformed, his indolence and resentment toward his lord will persist... But if one improves his character ..., this education will muffle his discontent” (Carl Egon von Furstenberg, in Melton 2002, 165).

Widespread peasant rebellions in 1830-32 also helped garner political support for France’s 1833 Law of Primary Instruction. A bad harvest and ensuing food shortage in 1830 had led the working class in Paris (who had supported the liberals’ rise to power that year), and especially, the peasants in the countryside, to riot against the new central government (Pilbeam 1989). Sustained rural violence lasted until 1832 (Tilly and Zambrano 1989), when food supplies became normalized (Pilbeam 1989). Several statistical reports commissioned by the central government blamed the poor moral character of the masses for the violence of those years (Guerry 1832, 1833). In this context, the Minister of Public Instruction Francois Guizot, a long-time advocate of mass schooling, saw a unique opportunity to garner parliamentary support for a national primary education law, arguing:

“It is above all after times of disorder and revolution that it is indispensable to ... spread doctrines ... to form a certain community of opinions and feelings which will become a powerful link ... between the government and the citizens, or between the various classes of society; a guarantee of rest and a principle of a more effective order than all legislative prohibitions.”

The importance of domestic conflict in fueling elites' interest in mass schooling is well-known among Argentine historians (Tedesco 1986). From independence in 1816 until 1880, warlords outside Buenos Aires had contested the authority of Buenos Aires in a wave of intermittent civil wars. According to Buenos Aires elites, the reason why these warlords could wage war was that the "undisciplined hordes," owing to their "ignorance," could be easily convinced to fight against Buenos Aires (Sarmiento 1845). When in 1880 President Roca initiated a period of profound state-building under the motto "peace and administration" (Oszlak 2012), arguments for a national primary education system were "first and foremost linked to the accomplishment of internal political stability. It was believed that education, to the degree that it massively diffused certain [moral] principles, would effectively contribute to the goal of eliminating pockets of resistance to the central government that remained especially in the interior of the country" (Tedesco 1986, 64). Many in the central government now joined Sarmiento in arguing that "an army of teachers" would "reduce barbarism," "prevent crime," and "consolidate domestic peace" (Torres 1882). The president of the National Council of Education argued that mass schooling was "simply a matter of national defense. It is necessary to extinguish ignorance, that well of disorder that threatens our future. If you do not want to compel all parents to educate their children, prepare yourselves to widen our jails" because a mass of uneducated "beings poses resistance to public laws" (Leguizamon 1882).

In the wake of civil conflict, political elites became increasingly convinced that primary education would help prevent future threats against the central government by teaching the masses how to think and how to behave.

## **Perceived risks of mass education**

Although some elites saw risks in educating the masses, the frightening experience of civil conflict increased the number of elites who saw even greater risks in *not* educating them. This assessment stemmed from elites' belief that they could control the effects of education by controlling its content and teachers. For instance, although Frederick II expressed concern that if rural schools taught "too much" they might encourage children to "rush off to the cities," for him the solution to this was to teach children "in such a way that they will not run away from the villages but remain there contentedly" (quoted in Alexander 1919, 18). To this end, entirely separate curriculums were established for rural and urban primary schools (Melton 2002). Elites in France and Argentina similarly argued they could minimize the risk that primary education would empower the masses by keeping tight control over the content of the curriculum and by recruiting loyal teachers through state-controlled teacher training institutions (Alliaud 2007).

Importantly, in these three cases, primary education was considered a terminal degree for the masses, not a stepping stone to further education (Pigna 2009, 286; Guizot 1816). During most of the history of public schooling, secondary and university education were reserved for the upper classes (Brockliss and Sheldon 2012, 91-92).

## **Why not just use physical repression?**

To understand why elites incurred the cost of building schools and training teachers instead of just using physical repression to deter and contain disorder, it is important to recall that mass primary education in Europe and Latin America emerged when central authorities were trying to consolidate their power over a

large territory (Green 1990; Brockliss and Sheldon 2012). During peacetime, central authorities did not see a reason to introduce mass education; repression seemed to suffice. But experiences of civil conflict that threatened the central government's authority made decisionmakers more doubtful of the effectiveness of repression alone to maintain order. In France, for example, the peasant rebellions of the early 1830s exposed the insufficiency of the state's physical repression apparatus when members of the National Guard who were also affected by the shortage of food joined the rebellions (Gonnet 1955; Pinkney 1961; Pilbeam 1991). Guizot suggested that educating children would help prevent civil unrest:

“When men have learned from childhood to understand the fundamental laws of the country and to respect its sovereign, the sovereign and the laws become a kind of property which is dear to them, and they do not refuse the obligations that it imposes upon them” (Guizot 1860, 86).

In Argentina, too, primary education was seen as an effective investment in future social order that could shape “the moral and civic preparation of the new generations” through an “unarmed army of teachers” (Leguizamon 1882).

The belief that educating children to respect authority was a better safeguard than physical repression is captured in Felbiger's words:

“Human beings are by nature moved by kindness and reason rather than force. Despotism will not induce pupils to obey. They must be convinced that it is useful and correct to follow the schoolmaster's wishes. Only then will they learn to obey even in situations where force is absent. In this way, the schoolmaster accomplishes his most important task: his pupils will observe their duties not only in school, but throughout their lives” (cited in Melton 2002, 187).

While repression was seen as a necessary instrument to end mass rebellions, primary education, elites argued, would promote long-term political stability by convincing people, at an age when they were most susceptible to external influence, that they had no reason to rebel in the first place.

### **Primary education as pro-poor redistribution?**

The cases of 1760s Prussia, 1830s France, and 1880s Argentina do not support the view that elites provided education as a policy concession to appease angry citizens. Elites believed that rural families were uninterested in sending their children to school and would resist schooling, among other reasons because they relied on their children for work (Melton 2002, 175-180, 195; Argentina 1883; Brockliss and Sheldon 2012). Primary education at the time was not conceptualized as a source of social mobility. Moreover, elites' primary education projects often explicitly argued that schools must prevent social mobility. For instance, Frederick II wrote: "We do not confer upon the individual or upon society any benefit when we educate him beyond the bound of his social class and vocation" (Melton 2002, 188). This is not to say that primary education did not have a redistributive impact but that, if it did, it was an unintended consequence of a system designed to teach children "that the secret to happiness was to be satisfied with one's lot" (Brockliss and Sheldon 2012, 122).

### **Primary education to promote industrialization?**

I have also found little evidence in these cases to support the view that the main goal of primary education was to teach people useful knowledge and skills to promote industrialization and urbanization (cf. Gellner 1983; Weber 1976). As we have seen, in 1760s Prussia, elites made deliberate policy choices to prevent the education of children in rural areas from being relevant in urban areas. In 1833 France, a group of large manufacturers wrote a letter to the government expressing concern about the proposal to expand primary education, which they believed would reduce the supply of labor and increase industrial wages (*Societe pour l'Instruction Elementaire* 1833, 150-151). In Argentina, the parliamentary debates

over the 1884 law hardly alluded to the role of primary education in promoting industrialization, a task that was left to secondary and university education. In the rare instances when elites discussed industrialization, they argued not that schools would teach productivity-enhancing skills, but that they would promote peace, a precondition to attract investments for industrial development (Wilde 1884, 173; Oszlak 2012).

### **Scope conditions**

It is worth spelling out the scope conditions of my argument that civil conflict is likely to prompt the expansion of mass education. The theory (1) applies to contexts where the conceptualization of education as indoctrination is common; (2) refers to civil conflicts that are perceived by elites as a threat to the state's authority; and (3) assumes a sufficiently long time horizon to reap the expected benefits of educating children. The last condition is more likely to be met in non-democracies and when there is a clear end to the civil conflict.

### **Motivations vs. Consequences**

It is important to stress that the article's argument concerns the motivations behind elite's support for primary education, not whether education accomplished elites' goals. It is entirely possible that, despite elites' intentions, primary schooling did contribute to urbanization in 1760s Prussia or social mobility in 1830s France. It is not uncommon for education policies to lead to outcomes that go against their intended goals (Fouka 2020). The consequences of primary education are an important but separate issue that I leave for future research.

While the qualitative evidence from Prussia, France, and Argentina provides support for the theory, a key question is whether these cases are anomalous or whether, in general, civil conflicts that were perceived as threatening to the power

of political elites spurred the expansion of mass schooling. I address this question in the next two sections.

### **CIVIL WAR AND PRIMARY EDUCATION: CROSS-COUNTRY EVIDENCE**

This section provides evidence of a systematic relationship between primary education provision and one type of civil conflict that, the theory would predict, would prompt elites to take an interest in mass education: civil wars between a state and a group within its borders. To study the relationship between civil wars and education provision, I use an original longitudinal dataset of primary school enrollment rates for 40 European and Latin American countries, and data on the timing of civil wars from the Correlates of War Project (CoW).

Although the theory I posit is not exclusively about civil wars, there are three main reasons for focusing the empirical analysis on this type of conflict. First, civil wars involving the state are likely to be perceived as threatening to the state's authority, a key scope condition of the theory. Second, as discussed earlier, past studies suggest civil wars should reduce or not affect, but not increase, education provision. Based on past studies, then, civil wars constitute a hard test for the theory. Third, the occurrence of civil wars, unlike other types of civil conflict that might also be perceived as threatening by elites, has been coded by others. Using available datasets ensures that I am not unconsciously coding conflict in a way that biases the findings in favor of my hypothesis.

#### **Historical Data**

##### ***Primary school enrollment rates (SERs) in Europe and Latin America, 1828-2015.***

I use an original country-level dataset containing annual primary SERs as a proportion of the population ages 5-14 for 40 countries in Europe and Latin America from 1828 to 2015, though the start date for each country depends on

when state-controlled primary education emerged and when states began collecting statistics about primary school enrollment. SERs are not a perfect measure of the supply of schooling, but they are nonetheless the most common measure of education provision in quantitative historical research because, unlike the number of schools or education expenditures, they are consistently available across a large number of countries since the nineteenth century.

Details of how the dataset was constructed are provided in Online Appendix B. The starting point was annual data on student enrollment from Mitchell (2003) updated by Palgrave Macmillan (2010). After determining the reliability of Mitchell's annual data by contrasting it with decennial data from Benavot and Riddle (1988) for 1870-1940, I extended the series several decades backwards using country-specific primary and secondary sources, multiple volumes from the U.S. Bureau of Education's annual *Reports of the Commissioner of Education* from 1872-1915, and Flora (1983). To the best of my knowledge, my dataset provides a longer coverage on primary SERs for Europe and Latin America than any other cross-national dataset. In particular, while for 18 countries the earliest data I found coincided with Mitchell, for 22 countries I extended the series backwards by on average 26 years.<sup>5</sup>

***Civil war.*** I use the CoW dataset to identify civil wars taking place from 1830-2015 that involved the state as one of the actors. Of the 40 countries with enrollment data, 23 experienced at least one civil war since 1830.<sup>6</sup> I focus on the earliest civil

---

<sup>5</sup> The average primary school enrollment rate for each region is depicted in Figure A1 of the Online Appendix.

<sup>6</sup> Table A1 provides details by country.

war within each country in this period, both because of the concern that subsequent wars might be endogenous to the provision of education triggered by previous wars, and because of the article's theoretical interest in the early stages of public education. Among the 23 civil wars identified, 15 wars begin and end within one year; 6 wars last three to six years, and 2 wars last more than six years. 12 wars occurred during non-democratic regimes, 5 under democracy, and 6 coincided with regime change.

### **Descriptive Patterns**

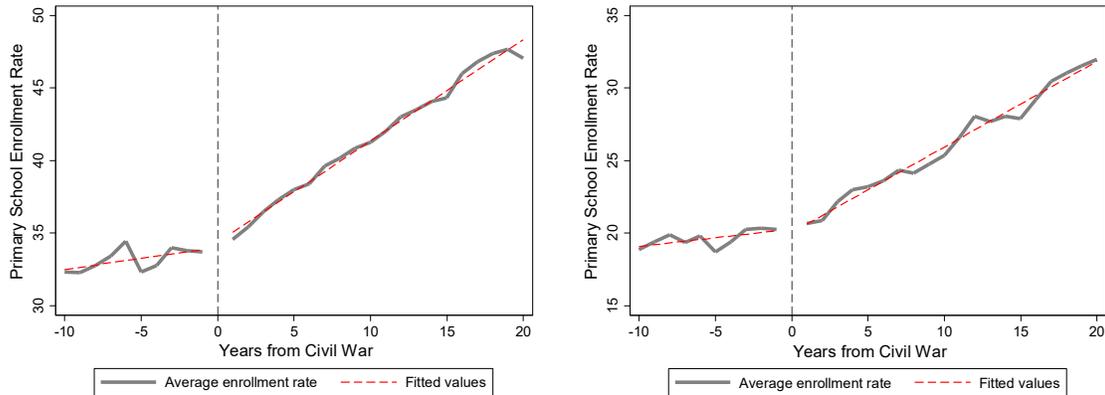
I begin by providing evidence of a previously undetected pattern of acceleration in primary school coverage after the end of a civil war that is at odds with the common view that civil war hampers the incentive to invest in state capacity. For the 23 countries that experienced at least one civil war from 1830-2015, Panel A of Figure 1 shows that the average primary SER in the 10 years before the outbreak of the war was relatively flat but increased markedly in the 20 years after the end of the war. Note that  $t = 0$  encompasses all the years over which the civil war extended.

Given the article's theoretical interest in the expansion of primary schooling under non-democratic regimes, Panel B focuses on the 12 countries where a civil war took place under non-democracy; that is, where non-democracy preceded and followed the civil war. The trends provide preliminary visual evidence consistent with the article's main argument: among non-democratic regimes that experienced a civil war, we see relatively flat trends in primary school coverage before the civil war, reaching an average SER of 20% before the war broke out, followed by an accelerated expansion in coverage after the end of the war, reaching 32% within 20 years of the war's end.

**Figure 1. Average Primary School Enrollment Rate 10 Years Before the Outbreak and 20 Years After the End of Civil War, Europe and Latin America 1828-2015**

Panel A: All countries that experienced civil war

Panel B: Countries that experienced civil war under non-democratic regimes



*Note:* 23 countries contribute data to Panel A and 15 to Panel B.

*Source:* Author for primary school enrollment rates as a percentage of the population 5-14 years; CoW for timing of civil wars.

### **Difference-in-Differences Estimate of the Impact of Civil War**

It is possible that the pattern of post-war acceleration in primary education shown in Figure 1 is driven not by the occurrence of a civil war but by other factors that coincided with the timing of civil wars and that affected all countries regardless of whether or not they had a civil war. Panel B of Figure 1 partially addresses this concern by excluding civil wars that ended in a transition to democracy. However, it is possible that civil wars coincided with other common shocks that influenced the expansion of schooling in all countries, regardless of whether they had experienced a civil war. To address this possibility, this section compares the level of post-war provision in countries that experienced a civil war with that of countries

that did not.<sup>7</sup> Specifically, I estimate the following semi-parametric difference-in-differences model:

$$(1) \quad Y_{i,t} = \gamma_i + \phi_t + \sum_{\substack{n=-10 \\ n \neq 0}}^{20} \beta_n I_{i,t}^n + \epsilon_{i,t}$$

In this model,  $\gamma_i$  accounts for permanent observable and unobservable country characteristics that influence the probability of civil war and the level of education provision;  $\phi_t$  accounts for any common time shocks that affect countries with and without civil war; and the dummies  $I_{i,t}^n$  indicate whether country  $i$  in year  $t$  is  $n$  years away from the beginning (for  $n < 0$ ) or the end ( $n > 0$ ) of a civil war. In the results below,  $n = 0$  represents the year when civil war begins; Figure A2 shows that the results are similar if we define the treatment as the year when civil war ends.

This model has two advantages over a linear difference-in-differences model: first, it estimates the impact of civil war at different points in time, and second, it allows us to examine the plausibility of the identifying parallel trends assumption. Under the identifying assumption that the post-war SER trend of countries that experienced a civil war would have been parallel to the trend of countries that did not experience civil war, the  $\beta_n$  parameters for  $n > 0$  can be interpreted as the impact of civil war  $n$  years after the civil war ended. For  $n < 0$ ,  $\beta_n = 0$  would indicate the presence of parallel pre-treatment trends between treated and control

---

<sup>7</sup> For treated country  $i$  in year  $t$ , the control group consists of all countries that had not yet had a civil war in year  $t$ ; this includes both countries that never experienced civil war and those that experienced civil war later on.

units, which would increase the plausibility of the identifying assumption for the post-treatment period.

The results, shown in Figure 2, are consistent with the main argument: in non-democratic Europe and Latin America, civil wars were followed by an expansion of primary SERs above and beyond the expansion observed in countries not afflicted by war. Panel A shows the average estimated impact of civil war for all 23 countries that experienced a civil war regardless of the type of political regime, and 95% confidence intervals based on standard errors clustered at the country level. Panel B shows the average estimated impact of civil war for the 12 countries whose civil war took place under a non-democratic regime. The y-axis scale for the graphs was chosen to facilitate comparison of the point estimates with the average primary SER reached right before the outbreak of the civil war: 34% for the wars in Panel A and 20% for those in Panel B.

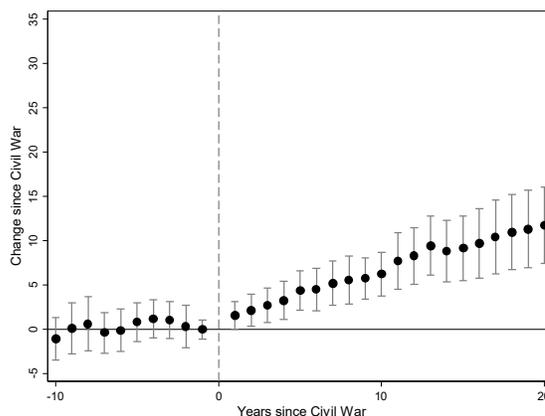
Three main findings stand out. First, the estimated values of  $\beta_n$  for  $n < 0$  are close to zero and are not statistically different from zero, lending credibility to the identifying assumption of parallel trends. Second, the estimated values of  $\beta_n$  for  $n > 0$  suggest that the post-war acceleration of primary SERs observed in Figure 1 is not just driven by secular forces affecting war-afflicted and non-war-afflicted countries alike. Instead, war-afflicted countries saw a gradual and sustained increase in primary SERs after the war that was greater than the contemporaneous increase in countries that did not experience civil war. Third, the estimated long-term impact of civil wars on primary SERs is large. The estimates imply that in non-democratic regimes (Panel B) the occurrence of civil war increased primary SERs by 10.7 p.p. within 20 years of the war's end, which represents a 54% increase from the pre-war average enrollment rate of 20%.

In separate difference-in-differences analyses reported in Table A2 I find that these results are not driven by civil wars that brought liberals to power; if anything, the results suggest that civil wars lost by liberals triggered greater increases in primary school enrollment rates than those won by liberals, but the difference is not statistically significant.

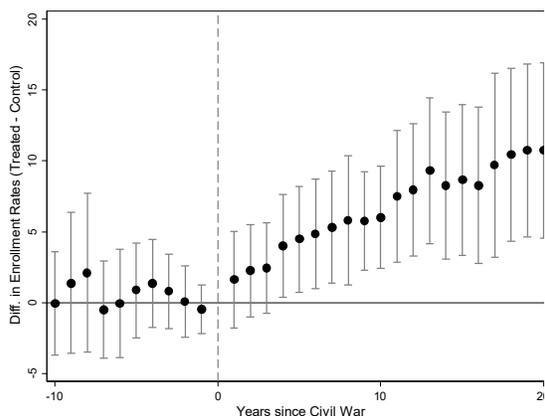
Together, these results provide support for the argument that, in non-democratic Europe and Latin America, civil wars promoted the expansion of primary education: primary SERs accelerated after non-democratic countries experienced a civil war (Figure 1), this post-war expansion was greater than the contemporaneous expansion in countries that did not experience a civil war (Figure 2), and it was not driven by liberals (Table A2).

**Figure 2. Semi-Parametric Difference-in-Differences Estimate of the Impact of Civil War on Primary School Enrollment Rates**

Panel A: All civil wars



Panel B: Civil wars that occurred under non-democratic regimes



*Note:* Point estimates and 95% confidence intervals for the effect of civil war on primary enrollment rates, based on a semi-parametric difference-in-differences model (Equation 1) estimated for the 10 years before the beginning and the 20 years after the end of a civil war. Standards errors clustered at the country level.

Panel A includes all civil wars. Panel B is restricted to civil wars that took place during non-democratic regimes.

*Source:* Author for primary school enrollment rates (as a percentage of the population ages 5-14); CoW for timing of civil war.

While consistent with the theory, these results have three main limitations. First, it is difficult to know if the difference-in-differences estimates reflect a causal impact of civil war. To make a causal claim, we would have to believe that there were no temporal shocks (besides civil war) that differentially affected treated and untreated countries in the post-treatment period. This is a strong assumption; in addition to experiencing civil wars at different times, countries often industrialized and fought interstate wars at different times. If we could control for these and other changes that are likely to have impacted education provision and whose timing differed across countries, this would not be a problem, but measuring these differences reliably is especially difficult in the context of a historical analysis. Second, while primary SERs are a common measure of education provision, enrollment rates reflect both supply- and demand-side decisions. Because the theory seeks to explain supply-side decisions, a more appropriate test of it would rely on the number of schools constructed. Unfortunately, this measure is not consistently available across countries. Third, and crucially, while these country-level results provide evidence of a general relationship between civil wars and primary school expansion, they do not say much about what explains that relationship.

The next section addresses all three limitations through a study of the 1859 civil war in Chile. I leverage within-country geographic variation in the exposure to civil war to identify the war's impact on the central government's decision to

construct schools. I then use qualitative historical evidence to test competing explanations for why the government constructed more schools in rebel provinces.

### **CIVIL WAR AND PRIMARY EDUCATION: EVIDENCE FROM CHILE**

The cases of Prussia, France and Argentina illustrate the argument that, following civil conflict, political elites turned to mass schooling to indoctrinate children and prevent future rebellions against authority. The cross-national analysis provides evidence of a general pattern of educational expansion following civil wars in Europe and Latin America. This section provides a more rigorous test of the theory. It exploits subnational variation in the exposure to civil war in nineteenth-century Chile and assesses competing plausible explanations of what drove the expansion of primary education after the war.

#### **Background**

Chile is known as an example of early and successful state-building in Latin America (Soifer 2015). The passage of the 1833 Constitution was followed twenty-five years of political stability under a conservative regime tied closely to the Catholic Church. In this context, the civil war of 1859 constituted “the most acute conflict that the ruling oligarchy faced since the consolidation of its political project in the 1830s” (Martinez and Apiolaza 2006: 13).

In January of 1859, a group of liberal leaders in Atacama, a mining province in the north, organized the local population in rebellion against the conservative central government in Santiago (Fernandez Abara 2016). They opposed the Church’s intromission in state matters and demanded a new Constitution that gave Atacama greater political autonomy and lower taxes on copper and silver exports. Initially, the rebels outnumbered the government’s army by four times, but the

government's effort to recruit soldiers and a tactical mistake by the rebels led to their defeat in May (Martinez and Apiolaza 2006).

Following the war, in 1860 Congress passed the *General Law of Primary Education*, the first national law regulating primary education in Chile. The law established the central government as the main provider, regulator, and supervisor of primary education.<sup>8</sup> Implementation of the law began after the passage of the 1863 *Reglamento General de Instruccion Primaria*, which gave way to a rapid expansion of primary schooling.

### **Assessing the impact of the 1859 civil war**

Although education bills had been debated by Congress since 1843, before 1859 there was insufficient political consensus to transfer responsibility for primary education from municipalities to the central government (Egaña Baraona 2000: 49-57). The timing of the 1860 law is suggestive that the 1859 civil war prompted congressmen to compromise their specific interests and collaborate to create a national education system to prevent future rebellions against the central government.

Rather than relying on a temporal coincidence, however, I examine whether the central government's educational efforts varied depending on a province's participation in the civil war. If my argument holds, we should observe greater effort to expand primary schooling in provinces where the central government had faced greater challenges from rebels. This is what we find.

---

<sup>8</sup> Archivo Nacional de Chile, accessed online 8/29/2016: <http://www.archivonacional.cl/616/w3-article-28319.html>

To examine the central government's effort to expand primary schooling, I use annual provincial-level data from multiple years of the *Anuario Estadístico de la República de Chile* for two measures of provision: number of primary schools established by the central government and number of students enrolled in public primary schools, both adjusted by total provincial population.

Figure 3 shows that while the number of primary schools and students increased rapidly in Chile after the passage of the 1863 *Reglamento* (Panel A), this aggregate expansion was driven by the central government's effort to expand education in Atacama (Panel B).

What would the expansion of primary schooling in Atacama have looked like after the passage of the 1863 *Reglamento* had that province not challenged the central government? To answer this, I estimate a synthetic control for Atacama using data from provinces that were not involved in the war. The results in Figure 4 suggest that fifteen years after the passage of the *Reglamento* 26% more schools were built in Atacama than would have occurred had Atacama not engaged in the civil war against the central government.

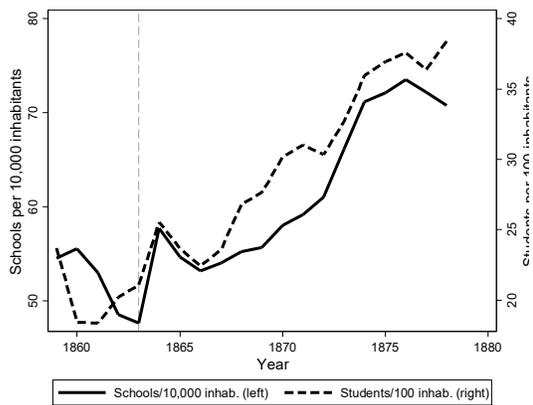
We can also exploit differences across provinces in the degree to which they posed a threat to the central government. According to the account of civil war battles provided in Martínez and Apiolaza (2006), the greatest challenge to the central government during the civil war came from Atacama, and to a lesser extent, Santiago and Valparaíso. In Aconcagua, Coquimbo, Colchagua, and Talca the government was able to quickly contain the rebels. In Chiloé, Llanquihue, Valdivia, Arauco, Concepción, Ñuble, and Maule there were no rebellions at all.

In line with the predictions of the theory, Figure 5 shows that the central government's efforts to expand schooling was greater in provinces where rebels had

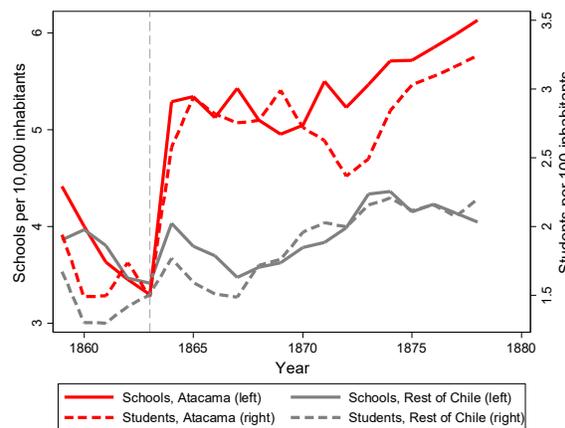
presented the greatest challenge and were most difficult to defeat (Atacama, in red; and Santiago and Valparaiso, in orange). By contrast, the central government barely expanded education in easily-defeated provinces (dark grey) and in those that did not rebel against it (light grey).

**Figure 3. Public Primary Schools and Enrollment in Chile, 1859-1878**

Panel A: All Provinces

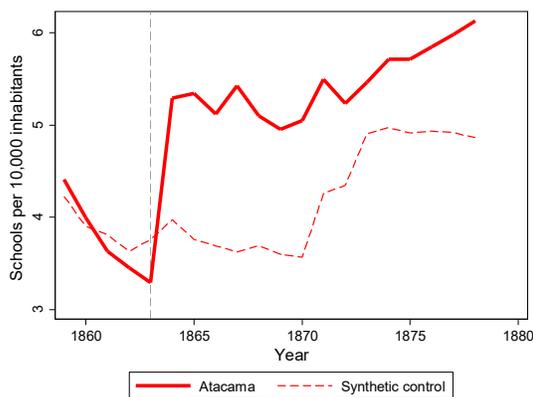


Panel B: Atacama vs. Rest of Chile



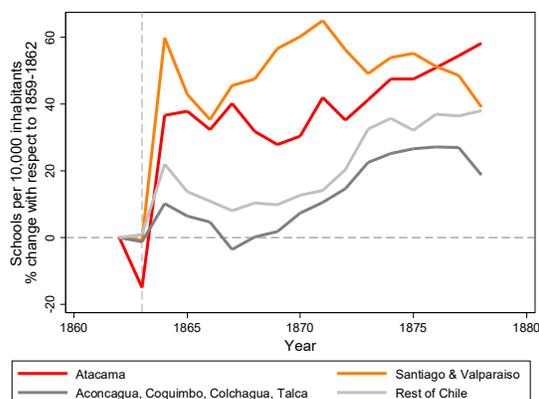
Source: Author based on *Anuario Estadístico de la República de Chile* (multiple years).

**Figure 4. Public Primary Schools in Atacama vs. a Synthetic Control, 1859-1878**



Source: Author based on *Anuario Estadístico de la República de Chile* (multiple years).

**Figure 5. Public Primary Schools in the Provinces, % Change By Participation in the 1859 Civil War**



*Note:* Percent change in the number of schools (adjusted by population) with respect to each group’s pre-*Reglamento* (1859-1862) average. The classification of provinces into groups depending on their participation in the civil war is based on the account of battles provided in Martinez and Apiolaza (2006). *Source:* Author based on *Anuario Estadístico de la República de Chile* (multiple years).

### **Explaining the impact: civil war as a catalyzer of mass indoctrination**

A wealth of qualitative evidence supports the view that the 1859 civil war catalyzed the central government’s interest in using primary education “to prevent future revolutions” (Amunategui brothers, cited in Sagredo & Gazmuri 2005) by teaching children “habits of order, of submission ... which later on they shall not forget” (Amunategui brothers, cited in Egaña Baraona 2000: 30). Moreover, while education bills discussed by Congress since 1843 had lacked sufficient support, the evidence suggests that the civil war helped crystallize support for a national primary education system, resulting in the 1860 law. This section discusses three specific pieces of historical evidence.

First, analysis of the President's speeches to Congress in 1857, 1858, and 1859 suggest the importance of the 1859 civil war in forging a coalition of support to expand primary education under central government control. Before the civil war, in 1857 and 1858, the conservative President Manuel Montt began his speech noting that the previous year had been a peaceful one. The 1857 speech's only mention about primary schooling was an expression of satisfaction with the rate of primary school expansion. The 1858 speech made no reference to primary education at all. By contrast, Montt's speech to Congress in 1859, delivered two months after the end of the civil war, began by noting that "The order of the Republic has just suffered a difficult test," in reference to the war. Montt linked the 1859 civil war to the poor moral values of the masses:

"The rebels... looked for support in the evil passions and ignorance of the masses... That way they were able to introduce anarchy... a state of disorder... The crisis... deteriorated the moral values of the masses and weakened their respect for authority... It is essential for the central government to make an extraordinary effort to ensure tranquility and domestic order."

Departing from previous years' speeches, in 1859 Montt argued that "Primary schooling... does not satisfy our needs" and urged congressmen to quickly pass a national law of primary education to address the moral roots of disorder, stating:

"A large part of the evils that affect the public order are rooted in ignorance. Extirpating it through a system of common schools that enlightens the masses by correcting their bad manners is the most urgent task you can devote yourselves to."

Second, official statistics on crime repeatedly mention the moralizing goal of primary education. Beginning in 1862, the Chilean government began to publish a compendium of statistics, the *Anuario Estadístico de la República de Chile*, which

included annual data on the number of individuals jailed in the previous year, disaggregated by whether the new prisoners had attended primary school. The official interpretation of these data reveals what the government believed were the goals of schooling. In years when a reduction was observed in the share of prisoners who had formal education, this was interpreted as “a good sign . . . because this reveals the good results that are produced by teaching morality to the masses” (Chile 1872: 120). When the proportion of new prisoners with formal education increased, officials lamented that public schools were not accomplishing their goal.

Third, the majority of textbooks approved for use in primary schools explicitly sought to shape the moral character of children. They emphasized “the strengthening of feelings of compassion, love, respect and obedience ... to God and the fatherland” and taught that “if you are a subject, you must obey and behave well” and “must not judge your superiors based on what you see; they have aims you may not understand” (Serrano, Ponce de Leon and Rengifo 2012, 310-312).

### **Alternative explanations**

In principle, the patterns shown in Panel B of Figure 3 and in Figures 4 and 5 could be driven by a different explanation than the one I propose. This section presents evidence that helps rule out the main competing explanations suggested by existing theories.

***Local capacity.*** The differential expansion of primary schooling in rebelling provinces cannot be explained by differences in population size because the number of schools and students are adjusted by the total provincial population, nor can they be driven by differences in local capacity to construct schools because the graphs above refer to schools built and controlled by the central government.

*Local demand for education.* The central government's effort to expand education in Atacama does not appear to have been driven by local demand for schools. First, the rebels in Atacama were liberal and fiercely opposed the Church's intromission in state matters (Martinez and Apiolaza 2006; Frias 1971: 326-7). Despite their demand for secular institutions, the 1860 General Law of Primary Education established a religious curriculum consisting of four subjects, one of which was "Christian doctrine and morality," and the primary schools established by the central government after the civil war were heavily Catholic. That is, not only was education not among the demands made by the rebels, but if it had been, the education they would have asked for would have looked very different from what they got.

Moreover, the perception of political elites in Santiago was that the masses were uninterested in education (Egaña Baraona 2000; Archivo Nacional de Chile). School inspectors repeatedly reported that "parents' general indifference toward their children's education continues to be the most powerful obstacle we face when it comes to disseminating primary instruction" (School Inspection Report, 1861). Elites' concern about parental indifferent toward education led to several proposals to encourage school attendance during the debate of the 1860 law, including monetary rewards for parents whose children excelled in school were proposed.

*Industrialization.* The expansion of primary education in Atacama is unlikely to be driven by the central government's interest in fostering Atacama's mining economy. To see why, we can compare Atacama and Coquimbo. Like Atacama, Coquimbo was a major exporter of metals, but unlike Atacama, where almost everyone in the population joined the rebellion, in Coquimbo only some sectors of society rebelled

and they were easily defeated (Martinez and Apiolaza 2006). If the central government had expanded education to foster the mining economy, we should see a similar expansion in the number of schools in both provinces. If, however, the logic of state intervention in education responded to the civil war, we should observe greater expansion of schooling in Atacama compared to Coquimbo. The latter is what we observe (Figure A3).

*Interstate war.* Chile fought wars against neighbor states in the 1830s and again in 1879-84. However, the passage of the 1860 law and the expansion of primary schooling in Atacama took place during a period of peace with neighbors.

*War-induced increases in fiscal capacity.* It is unlikely that the expansion of schooling after the war was driven by war-induced increases in the central government's capacity. First, fiscal revenues in 1863-64 were lower than in 1858 (Braun-Llona et.al. 1998). Second, the main investments in state capacity during the war involved recruiting soldiers and acquiring more gunpowder, none of which were very useful for providing education (Martinez and Apiolaza 2006). Third, war-induced increases in state capacity cannot explain why the government expanded schooling in Santiago and Valparaiso, two provinces where it already had easy access prior to the war.

## CONCLUSION

In many Western societies, mass education often expanded before democratization. Why did non-democracies set up and expand primary education systems for the masses? This article argues that civil conflict often played an important and underappreciated role in driving the expansion of mass schooling. Influenced by the frightening experience of civil conflict, elites often expanded mass schooling in post-conflict settings to indoctrinate the masses into accepting the status quo in an

effort to promote long-term social order and political stability. I illustrate this argument with qualitative historical evidence from the early stages of state-controlled primary education in Prussia, France, and Argentina. Consistent with the argument, I uncover a general pattern of primary school expansion in the aftermath of civil wars in Europe and Latin America that is not observed in countries that did not experience civil war and is not explained by civil wars bringing liberals to power. To better identify and explain the causal impact of civil conflict, I take advantage of subnational variation in the exposure to the 1859 civil war in Chile and show, first, that the war led the central government to construct primary schools in those provinces that had rebelled against it, and second, that the war helped crystalize political elites' support for mass schooling not as a concession to rebels but to teach future citizens to be obedient and respect authority.

In addition to contributing to a sizable literature on the political economy of education and to an important debate about how civil wars shape the incentive to invest in state capacity, the theory and evidence presented here refine our understanding of how autocrats respond to threats from below. In Acemoglu and Robinson's (2006) influential theory of democratization, autocratic rulers facing mass rebellion can deploy two strategies before they democratize: they can use repression to quash rebels, or they can appease the masses through redistribution via the provision of public services such as education. I argue and show that autocratic elites have also turned to a third strategy: they have provided primary education in an attempt to indoctrinate the masses into accepting the status quo.

Three fruitful paths for future research emerge from these findings. First, does education help promote social order and did its provision actually contribute to

autocracies' survival? There is evidence that the expansion of schooling can sometimes promote acceptance of the status quo (Friedman et.al. 2016), while other times education policies designed to promote adherence to a national identity can backfire (Fouka 2020). Recent work by Cantoni et.al. (2017) in China suggests that how education shapes individual political attitudes in non-democracies depends on the content of the curriculum. Identifying the conditions under which education serves as a stabilizing or destabilizing force is an important task that I leave for future research.

Second, does the theory of conflict-driven educational expansion articulated in this article find support in contexts that are different from the ones studied here, such as recurring conflicts that lack a clear end, civil wars that occur under democracy, or recent periods in which education is conceptualized as a form of redistribution? Examining empirically the impact of civil conflict under different circumstances than the ones studied here would contribute to refine the scope conditions and generalizability of the argument.

Third, what are the long-term repercussions of the state-building roots of public primary education systems? Ansell and Lindvall (2013) write that “modern primary education systems ... remain shrouded in the shadows of the nineteenth century.” If these systems emerged and expanded less as a form of pro-poor redistribution and more as a form of indoctrination to promote social order, do we still see remnants of those early days in the present? In particular, future research should explore the possibility that a key reason why education systems today often fail to reduce poverty and inequality (World Bank 2018) is because that is not what they primarily emerged to accomplish.

Finally, the theory advanced here has implications for the literature on the determinants of public goods provision. While the tendency in that literature has been to propose general theories of such determinants (e.g., Alesina, Baqir and Easterly 1999), this article suggests that taking into account the specific features of a good can be a fruitful path to theorize about why politicians might want to provide it. Different goods can do different things for elites. Schools can help inculcate values of respect for authority; fixing potholes cannot.

## REFERENCES

- Acemoglu, Daron, and James Robinson. 2006. *Economic origins of dictatorship and democracy*. Cambridge: Cambridge University Press.
- Aghion, Philippe, Xavier Jaravel, Torsten Persson, and Dorothee Rouzet. 2019. "Education and Military Rivalry." *Journal of the European Economic Association* 17(2): 376–412.
- Alesina, Alberto, Reza Baqir, and William Easterly. 1999. "Public Goods and Ethnic Divisions." *Quarterly Journal of Economics* 114(4): 1243-1284.
- Alexander, Thomas. 1919. *The Prussian Elementary Schools*. New York: The Macmillan Company.
- Alliaud, Andrea. 2007. *Los maestros y su historia: Origenes del magisterio argentino*. Buenos Aires: Granica.
- Ansell, Ben. 2010. *From the Ballot to the Blackboard: The Redistributive Political Economy of Education*. Cambridge: Cambridge University Press.
- Ansell, Ben, and Johannes Lindvall. 2013. "The Political Origins of Primary Education Systems: Ideology, Institutions, and Interdenominational Conflict in an Age of Nation-Building." *American Political Science Review* 107(3): 505-22.
- Argentina, Congreso de la Nación. 1883-84. Diario de Sesiones, Ley 1420. [https://www.hcdn.gob.ar/secparl/dgral/info/parlamentaria/dip/debates/index\\_b.html](https://www.hcdn.gob.ar/secparl/dgral/info/parlamentaria/dip/debates/index_b.html)
- Bandiera, Oriana, Myra Mohnen, Imran Rasul, and Martina Viarengo. 2019. "Nation-building through compulsory schooling during the age of mass migration." *The Economic Journal* 129(617): 62-109.

- Barkin, Kenneth. 1983. "Social Control and the Volksschule in Vormärz Prussia." *Central European History* 16(1): 31-52.
- Benavot, Aaron, and Phyllis Riddle. 1988. "The Expansion of Primary Education, 1870-1940: Trends and Issues." *Sociology of Education* 61(3): 191-210.
- Besley, Timothy, and Torsten Persson. 2008. "Wars and State Capacity." *Journal of the European Economic Association* 6(2): 522-530.
- Besley, Timothy, and Torsten Persson. 2010. "State Capacity, Conflict, and Development." *Econometrica* 78(1): 1-34.
- Besley, Timothy, and Torsten Persson. 2011. *Pillars of prosperity: the political economics of development clusters*. Princeton [N.J.]: Princeton University Press.
- Blattman, Christopher, and Edward Miguel. 2010. "Civil War." *Journal of Economic Literature*. 3-57.
- Boli, John, Francisco O. Ramirez, and John Meyer. 1985. "Explaining the Origins and Expansion of Mass Education." *Comparative Education Review* 29(2): 145-170.
- Bourguignon, François, and Thierry Verdier. 2000. "Oligarchy, democracy, inequality and growth." *Journal of Development Economics* 62(2): 285-313.
- Bowles, Samuel, and Herbert Gintis. 1976. *Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life*. New York: Basic Books.
- Braun-Llona, Juan, Matias Braun-Llona, Ignacio Briones, Jose Diaz, Rolf Luders, Gert Wagner. 1998. "Economia Chilena 1810-1995: Estadísticas Historicas." Pontificia Universidad Católica de Chile, Documento de Trabajo 187.

- Bravo, Hector F. 1993. "Domingo Faustino Sarmiento (1811-1888)." *Perspectivas: revista trimestral de educacion comparada* XXIII(3): 808-821.
- Brockliss, Laurence, and Nicola Sheldon, eds. 2012. *Mass Education and the Limits of State Building, c.1870-1930*. New York, NY: Palgrave Macmillan.
- Brown, David S., and Wendy Hunter. 2004. "Democracy and Human Capital Formation: Education Spending in Latin America, 1980 to 1997." *Comparative Political Studies* 37: 842-864.
- Cantoni, Davide, Yuyu Chen, David Y. Yang, Noam Yuchtman, and Y. Jane Zhang. 2017. "Curriculum and Ideology." *Journal of Political Economy* 125(2): 338-92.
- Cardenas, Mauricio. 2010. "State Capacity in Latin America." *Economia*.
- Centeno, Miguel Angel. 1997. "Blood and Debt: War and Taxation in Nineteenth-Century Latin America." *American Journal of Sociology* 102(6): 1565-1605.
- Chamarbagwala, Rubiana, and Hilcias E. Moran. "The human capital consequences of civil war: Evidence from Guatemala." *Journal of Development Economics* 94(1): 41-61.
- Collier, Paul. 2003. *Breaking the conflict trap: civil war and development policy*. Washington, DC: World Bank.
- Darden, Keith, and Anna Grzymala-Busse. 2006. "The Great Divide: Literacy, Nationalism, and the Communist Collapse." *World Politics* 59(1): 83-115.
- Darden, Keith, and Harris Mylonas. 2015. "Threats to Territorial Integrity, National Mass Schooling, Linguistic Commonality." *Comparative Political Studies* 49(11): 1446-79.

- Dincecco, Mark, Giovanni Federico, and Andrea Vindigni. 2011. "Warfare, taxation, and political change: Evidence from the Italian Risorgimento." *The Journal of Economic History*: 887-914.
- Egaña Baraona, Maria Loreto. 2000. *La educacion primaria popular en el siglo XIX en Chile: una practica de politica estatal*. Santiago: Ediciones de la Direccion de Bibliotecas, Archivos y Museos.
- Fernandez Abara, Joaquin. 2016. *Regionalismo, liberalismo y rebelion: Copiapo en la guerra civil de 1859*. Santiago: RIL Editores.
- Flora, Peter. 1983. *State, economy, and society in Western Europe, 1815-1975: a data handbook in two volumes*. Frankfurt am Main: Campus Verlag.
- Frias, Francisco. 1971. *Manual de Historia de Chile*. Santiago, Chile: Editorial Nascimento.
- Friedman, Willa, Michael Kremer, Edward Miguel, and Rebecca Thornton. 2016. "Education as Liberation?" *Economica* 83: 1-30.
- Galor, Oded, Omer Moav, and Dietrich Vollrath. 2009. "Inequality in Landownership, the Emergence of Human-Capital Promoting Institutions, and the Great Divergence." *Review of Economic Studies* 76: 143-179.
- Gellner, Ernest. 1983. *Nations and Nationalism*. Ithaca: Cornell University Press.
- Gift, Thomas, and Erik Wibbels. 2014. "Reading, Writing, and the Regrettable Status of Education Research in Comparative Politics." *Annu. Rev. Polit. Sci* 17: 291-312.
- Gonnet, Paul. 1955. "Esquisse de la crise economique en France de 1827 a 1832." *Revue d'Histoire Economique et Sociale*: 249-292.

- Green, Andy. 1990. *Education and state formation: the rise of education systems in England, France, and the USA*. New York: St. Martin's Press.
- Guerry, Andre-Michel. 1832. *Statistique comparée de l'état de l'instruction et du nombre des crimes*. Everat, Paris.
- Guerry, Andre-Michel. 1833. *Essai sur la statistique morale de la France*. Crochard, Paris.
- Guizot, François. 1816. *Essai sur l'histoire et sur l'état actuel de l'instruction publique en France*. Maradan.
- Guizot, François. 1860. *Mémoires pour Servir a l'Histoire de Mon Temps*, t.3. Paris: Michel Lévy Frères.
- Leguizamon, Onesimo. 1882. *Discurso inaugural del 10 de abril de 1882, dirigido al Ministro de Instruccion Publica y a los miembros del Congreso Pedagogico*.
- Leon, Gianmarco. 2012. "Civil conflict and human capital accumulation the long-term effects of political violence in Peru." *Journal of Human Resources* 47(4): 991-1022.
- Lindert, Peter. 2004. *Growing Public: Social Spending and Economic Growth since the Eighteenth Century*. Cambridge, UK: Cambridge University Press.
- Martinez, Luis, and Pablo Apiolaza. 2006. "La Guerra Civil de 1859 y Los Limites de la Modernizacion de Atacama y Coquimbo." *Revista de Historia Social y de las Mentalidades* X(2): 11-39.
- Melton, James. 1988. *Absolutism and the eighteenth-century origins of compulsory schooling in Prussia and Austria*. Cambridge [England]: Cambridge University Press.

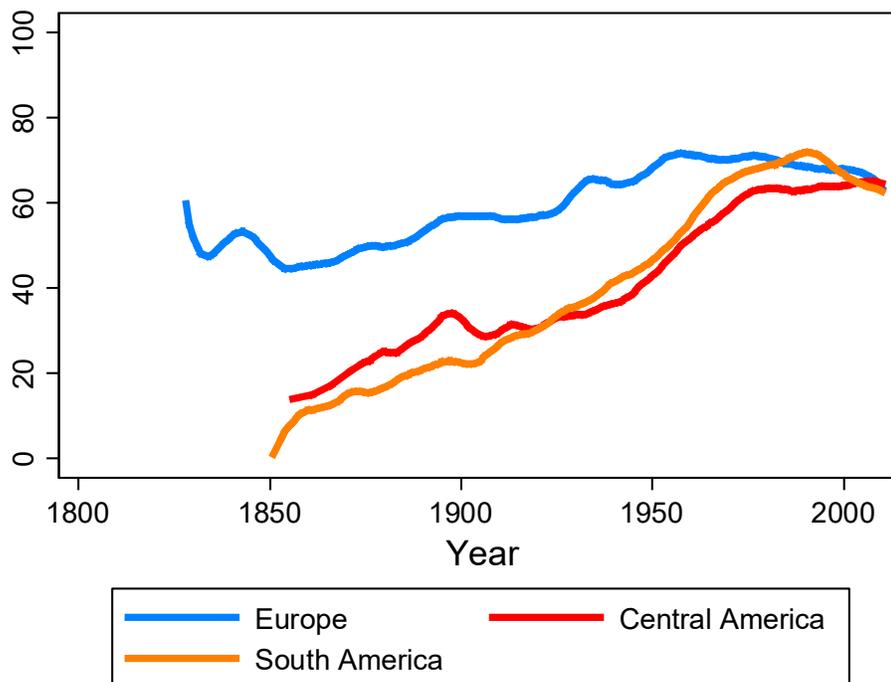
- Montt, Manuel. 1859. "Discurso del Presidente de la Republica en la Apertura del Congreso Nacional de 1859." In Chile, *Documentos Parlamentarios. Discursos de Apertura en las Sesiones del Congreso i Memorias Ministeriales Correspondientes al Segundo Quinquenio de la Administracion Montt*, 5-13. Santiago de Chile: Imprenta del Ferrocarril.
- Newland, Carlos. 1994. "The Estado Docente and Its Expansion: Spanish American Elementary Education, 1900-1950." *Journal of Latin American Studies* 26(2): 449-467.
- North, Douglass, John Joseph Wallis, and Barry Weingast. 2009. *Violence and social orders: a conceptual framework for interpreting recorded human history*. Cambridge: Cambridge University Press.
- Oszlak, Oscar. 2012. *La formacion del Estado argentino*. Buenos Aires: Ariel.
- Paglayan, Agustina. 2020. "The Non-Democratic Roots of Mass Education: Evidence from 200 Years." *American Political Science Review*.
- Palgrave Macmillan (Firm). 2010. *International historical statistics*. [Basingstoke, Eng.]: Palgrave Connect. <http://www.palgraveconnect.com/pc/connect/archives/ihs.html>.
- Pigna, Felipe. 2009. *Los mitos de la historia argentina*, t. 2. Buenos Aires: Planeta.
- Pilbeam, Pamela. 1989. "The Economic Crisis of 1827-32 and the 1830 Revolution in Provincial France." *The Historical Journal* 32(2): 319-338.
- Pilbeam, Pamela. 1991. *The 1830 Revolution in France*. Springer.
- Pinkney, David. 1961. "A New Look at the French Revolution of 1830." *The Review of Politics* 23(4): 490-506.

- Puiggros, Adriana. 1990. *Sujetos, disciplina y curriculum en los orígenes del sistema educativo argentino*. Buenos Aires: Editorial Galerna.
- Ramirez, Francisco, and John Boli. 1987. "The Political Construction of Mass Schooling: European Origins and Worldwide Institutionalization." *Sociology of Education* 60(1): 2-17.
- Sagredo, Rafael, and Cristian Gazmuri. 2005. *Historia de la vida privada en Chile*. Santiago de Chile: Taurus.
- Sarmiento, Domingo F. 1845. *Facundo; civilizacion y barbarie*. Buenos Aires: Espasa-Calpe (1964, 6th edition).
- Sarmiento, Domingo F. 1849. *Educacion Popular*.
- Schleunes, Karl. 1989. *Schooling and society: the politics of education in Prussia and Bavaria, 1750-1900*. Oxford, UK: Berg Publishers.
- Scott, James. 1998. *Seeing Like a State. How Certain Schemes to Improve the Human Condition Have Failed*. New Haven: Yale University Press.
- Serrano, Sol, Macarena Ponce de Leon, and Francisca Rengifo. 2012. *Historia de la Educacion en Chile (1810-2010)*, t. I. Santiago de Chile: Taurus.
- Shemyakina, Olga. 2011. "The effect of armed conflict on accumulation of schooling: Results from Tajikistan." *Journal of Development Economics* 95(2): 186-200.
- Societe pour l'Instruction Elementaire. 1833. "Reponse des manufacturiers." *Bulletin* 52: 150-151.
- Soifer, Hillel. 2015. *State Building in Latin America*. Cambridge: Cambridge University Press.
- Stasavage, David. 2005. "Democracy and Education Spending in Africa." *American Journal of Political Science* 49(2): 343-358.

- Swee, Eik Leong. 2009. "On war and schooling attainment: The case of Bosnia and Herzegovina." *Households in Conflict Network* 57.
- Tedesco, Juan Carlos. 1986. *Educacion y sociedad en la Argentina: (1880-1945)*. Buenos Aires: Ediciones Solar.
- Tilly, Charles. 1990. *Coercion, Capital, and European States, AD 990-1992*. Cambridge, Massachusetts: Blackwell.
- Tilly, Charles, and Raul Zambrano. 1989. "Violent Events in France, 1830-1860 and 1930-1960." ICPSR.
- UNESCO. 2011. *The hidden crisis: armed conflict and education*. Paris: UNESCO.
- Weber, Eugen. 1976. *Peasants into Frenchmen: the modernization of rural France, 1870-1914*. Stanford, Calif: Stanford University Press.
- Wegenast, Tim. 2010. "Cana, Cafe, Cacau: Agrarian Structure and Educational Inequalities in Brazil." *Revista de Historia Economica/ Journal of Iberian and Latin American Economic History* 28(1): 103-137.
- World Bank. 2018. *World Development Report 2018: Learning to Realize Education's Promise*. Washington, DC: The World Bank.
- Zhang, Nan, and Melissa Lee. 2020. "Literacy and State–Society Interactions in Nineteenth-Century France." *American Journal of Political Science*.

## Online Appendix A: Supplementary Figures and Tables

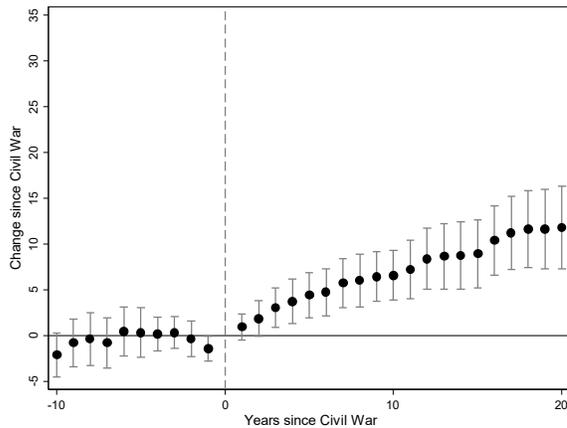
Figure A1. Primary enrollment rate (as a % of the popn. ages 5-14), by Region



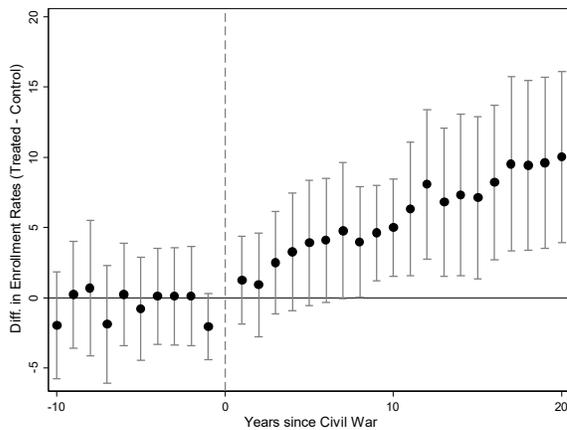
*Source:* Author (see main text and Online Appendix B).

**Figure A2. Impact of Civil War on Primary Education Enrollment Rates --  
Treatment is the Last Year of the Civil War**

Panel A: All civil wars



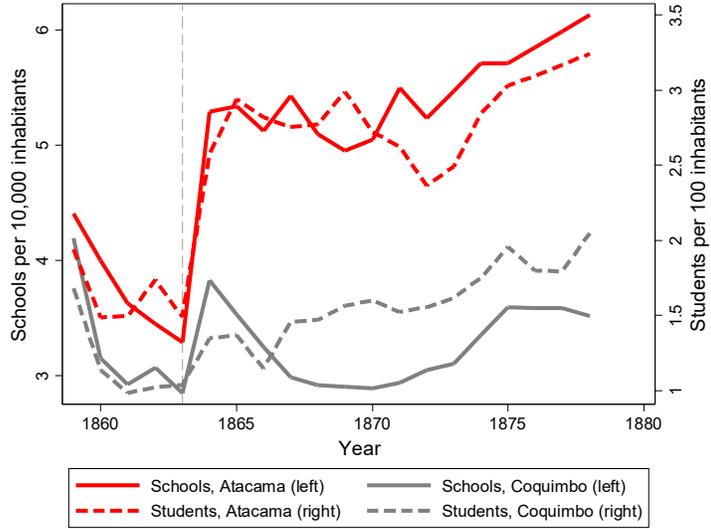
Panel B: Civil wars that occurred under non-democratic regimes



*Note:* Point estimates and 95% confidence intervals for the effect of civil war on primary enrollment rates, based on a semi-parametric difference-in-differences model (Equation 1) estimated for the 10 years before and the 20 years after the end of a civil war. Standards errors clustered at the country level. Panel A includes all civil wars. Panel B is restricted to civil wars that took place during non-democratic regimes.

*Source:* Author for primary school enrollment rates (as a percentage of the population ages 5-14) (see Online Appendix B); CoW for timing of civil war.

Figure A3. Public Primary Schools and Enrollment in Atacama and Coquimbo, 1859-1878



Source: Author based on *Anuario Estadístico de la República de Chile* (multiple years).

**Table A1. List of Civil Wars**

<b>Country</b>	<b>Year(s)</b>	<b>Regime type</b>
France	1848	transition to democracy
Austria	1848-1849	non-democratic
Argentina	1879-1880	non-democratic
Brazil	1893-1894	non-democratic
Peru	1894-1895	non-democratic
Mexico	1899-1900	non-democratic
Venezuela	1899-1903	non-democratic
Chile	1891	non-democratic
Uruguay	1904	non-democratic
Paraguay	1911-1912	non-democratic
Cuba	1912	democratic
Ecuador	1912-1914	non-democratic
Finland	1918	transition to democracy
Italy	1919-1922	transition to democracy
El Salvador	1932	non-democratic
Spain	1936-39	transition to non-democracy
Greece	1944-1949	democratic
Costa Rica	1948	democratic
Colombia	1948-1958	democratic
Bolivia	1952	non-democratic
Dominican Republic	1965	transition to democracy
Guatemala	1966-1971	democratic
Nicaragua	1978-1990	transition to democracy

*Note:* The countries that did not experience civil war in 1830-2015 are: Belgium, Switzerland, Germany, Denmark, Great Britain, Guyana, Honduras, Haiti, Ireland, Jamaica, Netherlands, Norway, Puerto Rico, Portugal, Sweden, Trinidad and Tobago, and Panama.

*Source:* Correlates of War.

**Table A2. Heterogeneous Effect of Civil War on Primary Education Enrollment Rate, Depending on Whether Liberals Won the War or Not**

<b>DV: Primary enrollment rate</b>		
<i>Civil War</i>	7.07 (2.1805)	***
<i>Civil War x LiberalsWin</i>	-2.32 (4.0562)	
Constant	44.95 (4.3074)	***
Country FE	Y	
Year FE	Y	
No. of clusters	29	

*Notes:* Estimated effect of civil war on primary enrollment rates based on a linear difference-in-differences framework given by:  $Y_{i,t} = \gamma_i + \phi_t + \beta_1 CivilWar_{i,t} + \beta_2 CivilWar_{i,t} LiberalsWin_i + \epsilon_{i,t}$ . The model includes country ( $\gamma_i$ ) and year ( $\phi_t$ ) fixed effects.  $CivilWar_{i,t}$  takes a value of 1 for treated countries in the post-treatment period; and a value of 0 otherwise.  $LiberalsWin_i$  takes a value of 1 if liberals win the civil war in country  $i$ , and a value of 0 otherwise. Because civil war can last more than one year, the equation is estimated for the 10 years before the beginning and the 20 years after the end of a civil war. Standards errors clustered at the country level reported in parenthesis. Primary enrollment rates are the number of students enrolled in primary education as a percentage of the population ages 5 to 14. Estimates take into account the 18 civil wars that did not coincide with a regime change. Effects are statistically significant at the \*10%, \*\*5%, and \*\*\*1% level.

*Source:* Author for primary education enrollment rates (see Online Appendix B); Correlates of War for timing of civil war.