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State capacity, schooling, and Fascist education: Evidence from the reclamation of the Pontine Marshes

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Abstract

States typically leverage on schooling to transmit desired values to the population. However, indoctrination through schooling typically requires teachers, school buildings and other capabilities. This paper documents that a low school capacity hampered the effort of the Italian fascist regime in transmitting a fascist ideology. I use evidence from a natural experiment of history—the reclamation of the Pontine Marshes. I argue that the reclamation acted as a shock in the regime’s school capacity. The design and construction of new rural villages gave the regime the opportunity to build schools on a large scale, improving the regime’s capability in transmitting a fascist ideology. This was hardly the case in the contiguous, pre-existent area, in the same province of Latina, where enrollment rates were low. I use this variation in schooling before WWII in an instrumental variable analysis. It shows that better educated areas in the province were more supporting of a post-fascist party in the elections freely held in 1948. Further analyses indicate that school capacity is a critical extensive margin of pedagogical reforms in shaping people values.

Keywords: state capacity, schooling, education, indoctrination, political values, voting, fascism.

JEL Classification: H11, H75, I28, H13, P16, N44

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1 Introduction

For over half a century, historians debated on whether the Italian fascism won hearts and minds during the course of the two world wars. The prevalent view, popularized by Benedetto Croce, maintains that fascism was hardly a discontinuity in the history of the country.¹ Indeed, the firm resistant movement, which contributed to free the country from fascism, and the crowded and joyful celebrations, which broke out in 1945, shed doubts on the capability of that state in affecting Italians' values and forging new fascist men.

Yet, the Italian fascist regime put in action strong interventions on many daily-life aspects, such as instruction, procreation and the organization of many branches of the state and the economy, that have been proved in other contexts to produce long-standing effects on people's values and preferences later in life.² In particular, the existing evidence has pointed out to schooling as a critical leverage through which the state transmits desired values to the citizens through nation-building processes (e.g., Cinnirella and Schueler, 2018; Bandiera et al., 2019) or to impose ideologies in less libertarian regimes that could hardly stand by the coercion alone (e.g., Voigtländer and Voth, 2015; Fuchs-Schündeln and Masella, 2016).³ Prior works have also looked into pedagogical reforms, pervaded by an ideological basis, and robustly demonstrated that such reforms have affected values and attitudes among the treated students (e.g., Clots-Figueras and Masella, 2013; Cantoni et al., 2017; You, 2018).

Schooling had a prominent role in the fulfillment of the “fascistization” of Italy. Mussolini himself, in one of his first speeches after he seized power, traced the direction of that department of the state as follows: “*the government demands that school inspires the fascist identity, [...] demands that school educates the Italian youth to comprehend fascism and to live in the historical momentum created by the fascist revolution.*”⁴ These words were followed by the enactment of what Mussolini defined as “*the most fascist among the reforms implemented by the fascist regime*”—the *Riforma Gentile*—a reform that radically re-designed the pedagogical basis of the instruction, centralized several essential activities and the funding of the schools, and elevated

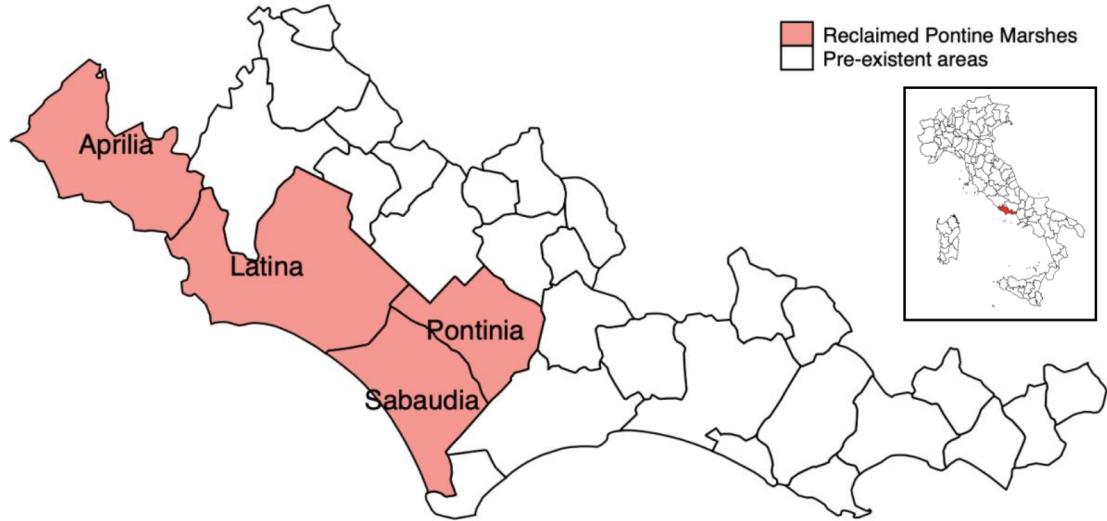
¹The Italian philosopher and historian wrote extensively on fascism. His speeches have been published posthumous in Croce (1963). Prominent speeches viewed fascism as “a virus that hit temporarily Italy” and of “Italians as people that ‘played’ as fascist.”

²Alesina and Fuchs-Schündeln (2007), for instance, have shown that a long exposure to a highly ideological regime—such it was the Eastern Germany—persistently modifies preferences on a number of aspects concerning redistribution. Becker et al. (2016), Lowes et al. (2017), and Dell, Lane and Querubin (2018) documented how the organization of the state matters in shaping individuals' values later in life, while Fenske (2015) showed that colonial instruction persistently changed preferences on marriage practices. The study by Voigtländer and Voth (2014) also reveals that massive infrastructure projects are capable to win hearts and minds.

³See Alesina, Giuliano, and Reich (2019) for a historical and politico-economic analysis of several nation-building processes between 19th and 20th centuries. Lott (1999) has also documented that public expenditure in education, during the second half of the twentieth century, was relatively higher in autocratic regimes, where education oftentimes serves as a means to indoctrinate the population. Aghion et al. (2019) also argue that education is a means to win future wars (through indoctrination) and find, in a panel data analysis, that educational investments as well as primary school enrollment are negatively associated with democracy.

⁴Mussolini in a speech given at the first national congress of the fascist school corporation (Rome, 5th December 1925). In B. Mussolini, Discorsi del 1925, Milano, Alpes, 1926, pp. 249-253. Translation is mine.

Figure 1: Map of the province of Latina



Notes: Contour lines represent municipal boundaries.

the legally compulsory education up to children aged 14. Why then has fascist school not influenced the values of the Italians in a considerable stand?

In this paper I argue that the fascitization of the country failed because the fascist state was incapable of clearing in full the lack of school capacity that historically affected Italy. The absence of a capillary dissemination of school buildings across the country impeded the regime to reach the whole young population with its pedagogical narrative and to eventually achieve a substantial level of indoctrination. According to fascist official documents, still in 1939, school buildings were indeed “*old, short in number and inadequate*” and “*one third more school buildings need to be constructed*” ([Marcucci, 1940](#), p. 360, translation is mine). The situation was particularly grave in the countryside where many pupils, deterred by a considerable opportunity cost to work on the land, were left behind.

I test this theory using historical micro-data from the province of Latina. The province, located at the south end of the region of Lazio, was established in 1935 to merge new reclaimed land, from the famous project of the Pontine Marshes, (in red in the map in Figure 1) and pre-existent areas (in white). I argue that the reclamation of the Pontine Marshes gave the regime the opportunity to design and construct, from scratch and on a large-scale, new rural villages and towns. These new settlements were all equipped with at least one primary school where pupils were mandated to attend. This was hardly the case in pre-existent areas of the province where kids were typically forced to commute for miles to reach the closest school. The considerable variation in school capacity, the reclamation of the Pontine Marshes generated, makes the province of Latina a unique historical setting where testing for geographical patterns

of fascist values.

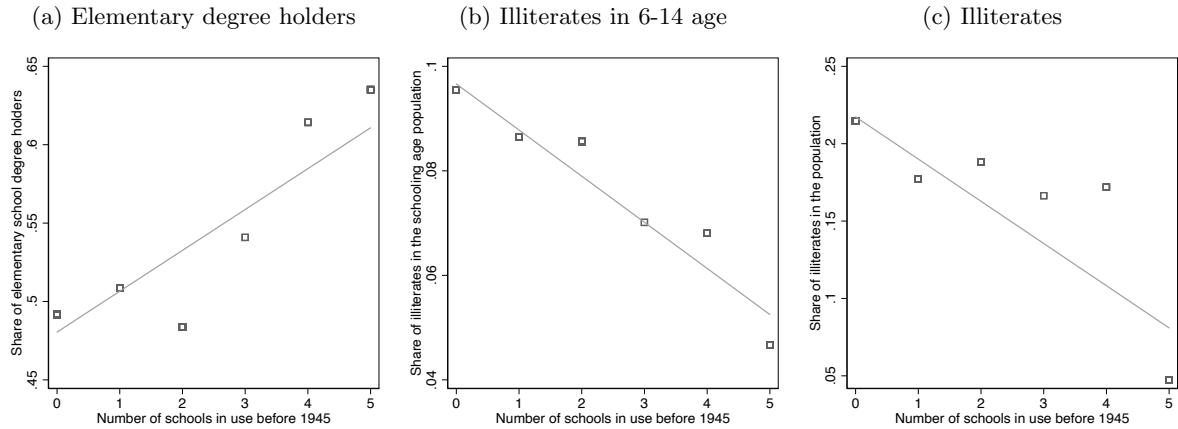
The reclamation of the Pontine Marshes was a massive infrastructural intervention started in 1929 and used to transform more than 80,000 hectares of previously uninhabited and insalubrious malarial marshland into productive, arable land. The new land was then parceled out into farmsteads that were allotted, under a sharecropping system, to colonists, selected to repopulate the marshes. Around the diffused farmsteads, small hubs were constructed to provide colonists with essential services. This specific contractual form helped considerably the regime in monitoring the colonists' life, including school attendance. While the system was designed as an incentive compatible mechanism (it foresaw, from the beginning, a purchase option of the farm subject to complying with the rules imposed by the regime), fascist officers had ample leeway in monitoring colonists' life—officially, to monitor the advancement of the harvest and any possible form of moral hazard.

I begin with by examining electoral support, in the first free parliamentary elections held after the demise of the fascist regime (in 1948), for a post-fascist party—the *Movimento Sociale Italiano* (MSI)—founded by former fascist officers and collaborationists. At the end of the war, many of these collaborationists were prosecuted for the fascist crimes they had committed; however, they could eventually regain liberty after the enactment of an amnesty decree in 1946. The new party was clearly forbidden to be named as “fascist”; yet, it maintained solid ties with the National Fascist Party (PNF) led by Benito Mussolini until 1945. Using variation across 196 polling stations, I find that areas in the reclaimed land were significantly more supportive of the MSI, relative to pre-existent areas in the province. The estimated difference in vote share is 3.25—about the average share in the province secured by that party in 1948.

Importantly, this difference does not seem to stem from economic factors, such as the economic specialization or other micro-economic indicators at household-level. The two areas are also comparable in terms of population. In a more rigorous instrumental variable analysis, that exploits differences in the impact of the fascist regime, relative to the past, on the genesis and development of a municipality and its territory, I estimate a coefficient which is very closed to that obtained through OLS. In more details, I use the number of fascist buildings, divided by the number of buildings constructed before 1919, to select exogenous variation in the probability of having been treated. I corroborate the identifying assumption by testing the reduced form relationship in contiguous and similar provinces, in the same region of Lazio, that did not experience any massive interventions as comparable to the Pontine Marshes.

What factors can be called for to explain this long-standing difference between areas that are so similar and contiguous? Historians of the Pontine Marshes have advanced a number of hypotheses based on qualitative researches. [Mariani \(1976\)](#), for instance, put forward the idea that the involvement of the farmhands and the centrality of agriculture were at the basis of the success of the socio-demographic experiment of the Pontine Marshes. Indeed, before 1918, farmhands were disenfranchised and their participation to the political life of the country very

Figure 2: Primary school buildings during the fascist period and education in 1948



Notes: Squares indicate the average share of people holding an elementary degree (panel *a*), the average share of illiterates in the schooling age population (panel *b*), and the average share of illiterates in the population (panel *c*) in each bin of polling stations with $\tau = \{0, 1, 2, 3, 4, 5\}$ school buildings in operation during the fascist regime. The straight lines draw the linear fits of the square-points.

limited. And, as Mussolini himself recognizes before to take on power,⁵ farmhands were a *corpus* external to the state and for this reason not at all “polluted” from Marxist theories as it was the working class in urban areas. Agricultural workers were very poor and their life was conducted around material aspects with no interest in any ideology. In sum, there was, according to Mariani (1976), ample space for the regime to shape a new generation of fascist rural citizens embedded with new political values. However, data do not indicate that agriculture was predominant in the Pontine Marshes relative to other contiguous areas of the province of Latina.

In this paper, I explore the hypothesis that behind such difference in values there is an uneven spatial distribution of school buildings—the main place where the regime inculcated the fascist ideology—between the two areas that I observe during the fascist period. I hypothesize that the fascitization of the population was relatively more effective in the new land, where, on the back of a massive school building program that went hand-in-hand with the construction of the new settlements, the regime was more capable of reaching a larger fraction of the population. This hypothesis is corroborated by the observation of raw data on schooling and education in 1948, presented in Figure 2. As one can see, areas that had a higher coverage in primary schooling during the fascist period had, in 1948, relatively more people who held an elementary school degree, less illiterates in the schooling age population, and a lower general level of illiteracy in the population.

The centrality of fascist education in forging fascist men is amply debated among historians. Some influential works have initially pointed out to a marginal role of fascist school (e.g., Ostenc, 1981; Charnitzky, 1992). However, little-by-little qualitative research brought evidence

⁵See, for instance, the editorial letter which appeared in the newspaper “Il Popolo d’Italia”, directed by Mussolini himself, on November 16th, 1917.

about a pervasive character of the fascist education (e.g., [Soldani and Turi, 1993](#); [Galfré, 2000](#)). In particular, the pedagogical analysis of school textbooks is revealing a strong imprinting of the regime's ideology in propagandizing the new fascist values (e.g., [Gabrielli and Montino, 2009](#); [Pes, 2013](#); [McLean, 2018](#)). Textbooks were, however, conceived in Rome and distributed nationwide so that it cannot clearly be called for explaining the above-estimated differences. Recent historical accountings of the Italian fascism shed doubt on the real fascistization of the country, through schooling, by looking at the high school drop out figures across the country. [Viola \(2016, 2019\)](#), for example, argue that fascist school buildings were on a large extent unfit to instruction, while, as said above, official documents, dated 1939, acknowledged that a weak school capacity was an urgent issue across the country ([Marcucci, 1940](#)). Yet, this debate lacks quantitative analyses capable of bringing credible evidence in favor of one or the other argument.

I then test rigorously the link between the fascistization of the province of Latina and a battery of educational aspects through an instrumental variable analysis. I use the spatial distribution of school buildings, in use during the fascist period, to identify plausibly exogenous variation in fascist education in 1948. Using this source of variation and holding fixed population, I find that fascist education had a strong long-lasting impact on people values. Importantly, a deviation in the share of people with an elementary degree, equals to the distance between the means in the two groups of polling stations (i.e., new versus old land), can account for the entire premium the MSI secured in the Pontine Marshes in 1948. I estimate similar effects when using the share of the population that cannot write and read as well as of the schooling age population, thus leaving little scope for non-educational channels.

A further inspection of the voting behavior in the province of Latina reveals that fascist education only benefited the post-fascist party and not the other political forces. In particular, the two main institutional forces—the Christian Democrats (DC) and the Communists (PCI), two forces that alone covered almost the 80% of the electoral preferences in the province—were not supported more in better educated areas. This evidence brings support in favor of the hypothesis that fascist education was selective in its content, discriminating among ideological subjects, instrumental to the regime goals, and other educational contents that have been proved to correlate with voting decisions.⁶ Indeed, when I use the distribution of Catholic schools—which had to a fair extent more liberty from the fascist curricula—in place of state schools, in a placebo test, I do not find a larger support for the post-fascist party in 1948.

Two additional results arguably bring further credibility to the analysis. First, I show how the vote premium secured by the MSI in the Pontine Marshes lasted until 1992—i.e.,

⁶There is indeed a widespread consensus among American social scientists on education being a carrier of civic capital (see, for instance, [Glaeser, Ponzetto and Shleifer, 2007](#), for a discussion of this literature and further quantitative evidence in its support). The introduction of compulsory schooling in the United States created a mass of well educated people that engaged more in pro-social activities and that developed a better view of the institutions of the country (e.g., [Dee, 2004](#); [Milligan, Moretti and Oreopoulos, 2004](#); [Bandiera et al., 2019](#)). This is clearly one example of indoctrination through schooling with different socialization goals than the ones pushed by the Italian fascist regime. Fascist education was meant to forge fascist men, not to instill democratic, civic content.

throughout 11 subsequent parliamentary elections. During this period, polling stations in the Pontine Marshes did vote for the MSI as twice as much, on average, as compared to those located in the pre-existent area of the province. After the 1960s the premium shrank a bit, yet remaining significantly larger than zero. Second, I collect additional data from the fascist period and show that the solid relationship between the populations of the Pontine Marshes and the PNF (that after translated into a higher support for the MSI) was built little-by-little. In more details, I gather archival information on the number of people that formally joined the PNF at party committee-level—assembled by federal inspectors who conducted unannounced inspections across committees to report on a number of yearly local activities. This analysis exploits differences in the timing of foundation of each village in the Pontine Marshes (along the timeline 1932-1936). This event generated exogenous variation in the length of time that colonists spent in the reconverted land until an inspection came along. My results indicate that settlements inspected further away since the foundation exhibit a higher membership to the PNF.

This paper connects with a broader context of papers that examine the role of public education in building nations. Influential qualitative contributions include [Dewey \(1916\)](#), [Lipset \(1959\)](#), and [Weber \(1976\)](#). Recent empirical accountings are [Cinnirella and Schueler \(2018\)](#) and [Bandiera et al. \(2019\)](#), that study the effect of policies that enlarged the recipients of public education in 19th century Germany and in the United States during the age of mass migration. Both find robust evidence on education being a critical means through which forging nations. Other related works focused on the building of faithful nations—typically by examining the effects of pedagogical reforms in ideological polities and autocratic regimes in affected cohorts of the population ([Clots-Figueras and Masella, 2013](#); [Voigtlander and Voth, 2015](#); [Cantoni et al., 2017](#); [You, 2018](#)). My study is methodologically different in that pedagogical reforms are held fixed and variation in school capacity across different areas of the province of Latina is utilized to identify the effect of fascist indoctrination. In an additional analysis, that uses cross-municipality variation in the share of population in schooling age, during the fascist period, data reveal that the (potential) exposure to the fascist curriculum impacted on post-fascist vote only in areas where school coverage as well as education was indeed high. In this respect, my study contributes to the above works by highlighting the role of school capacity, as the extensive margin of pedagogical reforms in affecting students' values.

School capacity is typically referred as the capability of the state to influence education through schooling—one of the most critical aspect of state capacity.⁷ While in vast portions of the globe schooling is today universally supplied, in several areas of early 20th century Europe schools were scarce and inadequate in number to meet the increasing demand of education.

⁷See, for example, [Besley and Persson \(2009\)](#) on state capacity, where they develop a model in which policies in a public subject are constrained by past investments. See also [Acemoglu, Garcia-Jimeno and Robinson \(2015\)](#) who investigate the effects of state capacity on economic prosperity across different areas within the boundaries of a country, Colombia.

[O'Rourke and Williamson \(1997\)](#), for example, document a massive gap in literacy and school enrollment rate between Italy and several contiguous countries in 1890s. In Italy only 47% of the population was able to write and read, while in Germany, for example, 97%. They also show how this figure backs on a low school enrollment rate in the former country (37% in Italy versus 73% in Germany).⁸ A further inspection of census data reveals that in the 1920s—i.e., the decade that has seen the rise of fascism in the country—enrollment rates and literacy were dramatically low.⁹ The lack of school capacity that traditionally affected Italy gives the opportunity to use spatial variation in the capacity of the regime in indoctrinating the population—a capacity that were only built substantially in the new settlements of the province.

By looking at the institutional dimension of indoctrination this paper also connects with a sizable literature that explores the link between institutions and culture.¹⁰ Political values are typically transmitted by two main agencies—parents (through socialization) and the state (through indoctrination)—and can persist well beyond a discontinuity in institutions.¹¹ My study documents an enduring difference in fascist values among areas where the effectiveness of fascist indoctrination was considerably different. I find that such difference lasted at least until the election held in 1992—the last one held under the same electoral rule and parties. This piece of evidence is consistent with the findings in [Carillo \(2018\)](#) who documents—without looking at the educational channel—that municipalities nearby large fascist reclamation projects exhibited larger support for the MSI throughout the first Republic.

The next section describes the institutional features of the Italian school system in the pre-WWII period, while Section 3 focuses on other institutional aspects related to the reclamation of the Pontine Marshes. Section 4 shows that the reclamation generated a difference in fascist values in the province of Latina that are observable at the parliamentary elections held in 1948. Section 5 demonstrates that this difference stems from a positive shock in school capacity. Section 6 provides evidence that this difference remained in place for over 50 years, while Section 7 suggests that fascist values were built little-by-little during the fascist time people spent in the new reclaimed area.

⁸It is also worth pointing out to the high level of education in Germany. The almost universal dissemination of schools across the country may explain why scholars of German Nazi indoctrination typically evaluate its effectiveness by exploiting variation across cohorts of individuals exposed to the nazi ideology (e.g., [Voigtländer and Voth, 2015](#)) and not across areas.

⁹According to [Istituto Centrale di Statistica \(1931a, p. 57\)](#), the enrollment rate in the primary school in Italy was 78% of the obliged in the year 1926/27. However, if one excludes the territories that were under the jurisdiction of the Habsburg Empire before World War I—a country notorious for its high school capacity—the enrollment rate drops to 72%.

¹⁰While relatively young, this literature is vast. Important developments are outlined in [Guiso, Sapienza and Zingales \(2006\)](#), [Nunn \(2012\)](#), [Algan and Cahuc \(2014\)](#), [Alesina and Giuliano \(2015\)](#).

¹¹A body of theoretical contributions have underlined a complex and non-trivial interplay between political values and institutions that may appear when institutional changes are not followed hand-in-hand by an immediate cultural shift (e.g., [Ticchi, Verdier, and Vindigni, 2013](#); [Bisin and Verdier, 2017](#); [Iyigun, Rubin, and Seror, 2018](#); [Besley and Persson, 2019](#)). Political scientists have also insisted on the analysis of the series of the Arab spring events to underline the occurrence of incongruences between political values and institutional changes. See, for instance, [Bradley \(2012\)](#) and [Noueihed and Warren \(2012\)](#).

2 State capacity and schooling in pre-WWII Italy

The capability of the state to influence education through schooling is one of the most critical aspect of state capacity—namely, the capability to provide essential public goods and services. A high state capacity have been proved to affect economic prosperity in different context (e.g., Besley and Ghatak, 2010) and schooling, through the introduction of compulsory school, makes no difference (e.g., Angrist and Keueger, 1991; Card, 1999). Nation building processes have also relied on compulsory school in transmitting national identities (Cinnirella and Schueler, 2018; Bandiera et al., 2019).

Compulsory school was introduced in Piedmont in 1859 and then extended to the entire territory of Italy after unification (1861-1870). The Piedmontese law (known as *Legge Casati*) obliged pupils in 6-9 age to attend schooling, but none or light sanctions (introduced after 1877) were imposed to parents that broke compulsory schooling. What is more, the entire system was highly decentralized and considerably left to local administrations. Municipalities had to fund, provide, and manage the schools; they had to hire teachers and pay a salary and enforce compulsory attendance. Most of them, however, were literally incapable of providing such essential service. Very little was retained by the Ministry. It set the curricula and the body of legislation aimed at regulating schooling and teachers' wages.¹² In sum, the extension of compulsory school was highly compromised by the lack of state capacity of the local administrations.¹³

Schooling was one the first department fascists re-organized considerably. In less than one year, since Mussolini was nominated as head of the government in 1922, the regime enacted the famous *Riforma Gentile*, a reform that changed structurally the Italian school system for decades. The reform centralized the school system and contributed to the diffusion of schooling in areas previously not capable of providing teachers and school buildings. It also lifted compulsory school to the age of 14. This produced a tangible reduction in illiteracy in a few years, with a marked drop in the schooling age population. According to Istituto Centrale di Statistica (1936a, p. 4), the share of people between 6 and 9 that were unable to write and read fell from 33.9% to 14.2% between 1921 and 1931; the illiterates in age between 10 and 14 were in 1931 8.7%, while ten years earlier were 18.7%.

However, the ambitious task of closing the gap in illiteracy with other European countries, and, consequently, in forging fascist men, partly failed for at least two reasons. First, the state had to rely considerably on municipalities' capabilities in registering in a list the young population, that, by age, were obliged to attend school—capabilities that, accordingly to official

¹²For a more comprehensive description of the *Legge Casati* and the Italian schooling system before War World I see Cappelli and Vasta (2020).

¹³The law itself stated that the obligation was to be upheld only in municipalities that were capable of providing a number of teachers in sufficient number relative to the underlined number of potential students. The law prescribed that municipalities with less than 5,000 inhabitants should have had at least a teacher in 1,000 population to apply mandatory school. Similarly, municipalities with less than 20,000 inhabitants should have had at least a teacher in 1,200 population, while bigger municipalities should have had at least a teacher in 1,500 population. See Istituto Centrale di Statistica (1931a, p. 1-2).

documents, were low ([Istituto Centrale di Statistica, 1931a](#), p. 2). Municipalities were required to keep this list up to date and send it out to the competent schooling authorities that were entitled to sanction parents for breaking the compulsory law. Official documents state, however, that these lists were far from been accurate, as municipal registers were kept untidy at the time ([Istituto Centrale di Statistica, 1931a](#), p. 2). In sum, the reported number of obliged pupils were likely to be understated, so that the official enrollment rate, estimated at 78% in 1926, was likely to be lower.

Second, the task itself was very ambitious and did not took realistically into account the dramatic initial condition of schooling in Italy. The outbreak of World War I and the high inflation rate that affected the Lira until mid-1920s made things worst. The fact that a rigorous regulation on school building was only decreed in 1939 is symptomatic of an initial period during which the regime proceeded gradually and pragmatically ([Viola, 2019](#)).¹⁴ Retrospectively, the Italian schools system, during the 1920s and 1930s, looked at the regime as “*old, short in number and inadequate*” and “*one third more school buildings need to be constructed*” ([Marcucci, 1940](#), p. 360, translation is mine).

The *Riforma Gentile* also introduced critical innovations on instruction practices and curricula, so as to earn the title of the “*most fascist reform*” from Mussolini himself. As revealed by recent pedagogical analyses of textbooks and pupils’ notebooks, instruction in school was made at service of the fascist propaganda (e.g., [Gabrielli and Montino, 2009](#); [Pes, 2013](#); [McLean, 2018](#)). Classrooms were packed of new technologies that were instrumental to the indoctrinations of students. As one can see from Figure A1 in Appendix, that illustrates a typical classroom in a rural school, teaching was supported by a blackboard, but also by a radio device with a loudspeaker and electrical power sockets to project short propagandistic films. Monitoring and enforcement were also substantially improved by setting a diffused network of inspectors. Inspectors reported on central offices on a number of aspects and had ample authority, including the infliction of punishments to undisciplined teachers.

In summary, the new course of schooling set by the fascist regime centralized critical aspects of the Italian school system and contributed to a dramatic increase in literacy. It also brought forward a massive pedagogical effort to transmit desired values by setting curricula and monitoring teachers. Nonetheless, the regime was not able to clear in full the initial gap in schooling and school buildings were few as compared to the number needed to enforce an effective universal primary education.

¹⁴Regio Decreto 27 maggio 1939-XVIII, n. 875: *Nuove norme per la compilazione dei progetti di edifici scolastici per le scuole elementari e preelementari*.

3 Reclamations and fascism in the province of Littoria: a historical overview

This section provides a short historical overview of the link between fascism and the rural class, the motivations behind the massive interventions aimed at reclaimed marshlands, and a detailed description of the reclamation of the Pontine Marshes and of the colonists that were sent to repopulate the new land. Finally, it describes the birth of post-fascism, in the post-WWII period in Italy, with a focus on the province of interest. The historical references provided here offer a more detailed accounting of the subjects covered in this section.

3.1 The rise of the National Fascist Party and the reclamation of Italy

Before the spark of World War I, land was unevenly distributed in Italy. A first precious evidence on land ownership in Italy is provided by the 1930 census on agricultural holdings ([Istituto Centrale di Statistica, 1930](#)). According to this source, nearly 1% of the farms owned more than 10% of the total arable land in the country. These were big farms operating over a territory larger than 2,500 hectares. On the other end of the spectrum, 40% of the farms, with a land no larger than one hectare, owned the 2.46% of the total arable land in the country.¹⁵ At the end of WWI a solution to this atavistic issue was urgently needed: the redistribution of the land to the farmhands. However, despite the promises the Italian government repeatedly made during the conflict, no redistribution of the land was ever attempted in the years immediately after the conclusion of the war and discussions in the Parliament produced no actions. This is particularly important as farmhands returned from the war overly disenchanted by the idea of the State and raged against the elite of the country and its extractive institutions established at the time.

This potential explosive situation was fruitfully interpreted by Mussolini that from the very earliest times wrote:

“We need to do of Fascism a predominantly rural phenomenon. In the cities residue of the old political parties, of the old cults, and institutions survives. The Italians population is predominantly rural: three and a half out of four millions of combatants are rural. The rural fascists are the toughest; the rural soldiers are the most disciplined. One can ask them to resist to the fatigue, the holding of the hardship and an unquestioned discipline.”¹⁶

Sided by the farmhands, the fascists put pressure on the King with the aim of overcoming a situation of prolonged immobilism. After the *March on Rome* (28 October 1922), Mussolini

¹⁵My computation based on the figures reported in [Istituto Centrale di Statistica \(1930\)](#). On land inequality in the first half of the twentieth century in Italy see also [Cohen and Galassi \(1990\)](#) and [Martinelli \(2014\)](#).

¹⁶Mussolini B., Vivere Pericolosamente, 2 Agosto 1924, in *Scritti e Discorsi*, vol. IV, page 226 (translation is mine).

was nominated head of the Government and in a few years Italy turned onto a dictatorship—a single-party system led by the National Fascist Party (*Partito Nazionale Fascista*, PNF) that remained in place until September 1943.

The tight relationship that the fascism sets up with the rural class was not exclusively motivated by political opportunism, but was also driven by theoretical considerations. At the heart of the fascist doctrine was indeed the idea of *Strength in Number*: the demographic strength of a nation constitutes the basis of its consequent political, economic, and moral strength (e.g. Ipsen, 1996; Protasi and Sonnino, 2003).¹⁷ According to this theory, population should be incremented by favouring the expansions of the most vigorous sections of the population—i.e., more capable to procreate. With an average of 4.59 offspring a woman,¹⁸ the rural class was the one deemed to accomplish the battle for the repopulation of the Italian race.

Before the 1930s, a large part of the Italian coast along the peninsula was unfit for living. Marshes spread all over and the few people living in their peripheries were exceedingly likely to be caught ill with *malaria*.¹⁹ Overall, this unproductive land amounted to about 8 millions of hectares; yet there were already at the time scientific discoveries capable of turning these unproductive marshes into productive land. The political importance of these engineering capabilities were quickly understood by Mussolini. The drainages and the conversion of the new land was in fact an opportunity to give new “conquered” land to farmhands without initiating a potentially costly conflict (through expropriation of existing land) with the landlord bourgeoisie—still powerful in the country.

In a period of time no longer than 12 years the regime converted about 6 millions of hectares into new arable land through more than 1,800 drainage interventions—a massive public intervention that the regime itself defined as *Bonifica Integrale* (“Integral Reclamation”).²⁰ However, while the project was grandiose as a whole, none of these single interventions (with an average extension of about 3,000 hectares) could possibly be of any use to the regime to impress the world and to forge a new fascist race—the ultimate goal of Mussolini (Mariani, 1976, p. 66). As earlier as 1927 the attention of Mussolini suddenly turned to the Pontine Marshes—a blank spot covering most of the south end of the region of Lazio.

¹⁷The economic and political importance of demography was already acknowledged during the liberal epoch (1861 - 1914). Among these, Beloch (1887), one of the most famous demographer and statistician, wrote: “At the time of the Romans the Italian population was a fourth of that of the entire Europe, in 1500s it was seven or eight tenth, at the end of the last century it was a tenth, and at present it is a twelfth. There is no doubt that this ratio is keeping up increasing over time against Italy. Is there anybody who understand what the consequences might be?” (translation is mine).

¹⁸According to the “Inquiry on the Female Fertility” (Istituto Centrale di Statistica, 1931b), females with a husband employed in the agricultural sector had 4.59 offspring on average. This was about one point more than those having a husband employed in the industry sector (3.71), and nearly two points more when the husband occupied an employment as a clerk (2.42).

¹⁹The expected lifetime of farmhands was about 35.7 years in regions not affected by the malaria against 22.5 in those affected by the epidemic. See Snowden (2008).

²⁰The public intervention was regulated under the Law enacted on December 24, 1928, also known as *Legge Mussolini* or *Legge della Bonifica Integrale*. See, for example, Carillo (2018).

3.2 The reclamation of the *Pontine Marshes* and the establishment of the province of Littoria

The reclamation of the Pontine Marshes was no doubt the grandest and the most ambitious public intervention program carried out by the Italian fascist regime.²¹ Started in 1929, it was used to reclaim more than 70,000 hectares of previously uninhabited and insalubrious malarial marshland (only distant 30 miles away from Rome) onto farmland; 23 new settlements were founded in less than 10 years. The first one, that included the flag-ship town of Littoria and several villages around it, were inaugurated on the 18th of December 1932. On the same day, Mussolini gave precise dates of foundations of future settlements in the new reclaimed area of the Pontine Marshes. A non comprehensive list of the new settlements is reported in Table 1. Column 2 indicates the year of foundation of each settlement, collected from [Mazzocchi Alemanni \(1939\)](#).

The entire media operation was backed up in 1935—when most of the work was done and much of the marshland converted—by the foundation of a new province that assembled pre-existent territories, that were formerly part of the two contiguous provinces of Rome and Frosinone, and the new reclaimed area. The province was named Littoria, despite it was a small town with barely 2,577 inhabitants. This was symptomatic of the symbolism of the entire operation as the new province also included important historical towns like Gaeta, Terracina or Formia, that had at the time a population higher than 10,000 ([Istituto Centrale di Statistica, 1936b](#)). Outside these larger centers, agriculture was by far the predominant economic activity in the province.

In the reclaimed area, the agricultural production was regulated under a sharecropping system that assigned a farmstead (that was property of the State) to a colonist in exchange of half of the crops.²² The colonist was also given a purchase option on the farm after 30 years of use. Around the diffused farmsteads, small hubs were constructed to provide colonists with essential services. These were typically a religious chapel, or a church if the settlement was bigger, a pharmacy, some administrative offices, a primary school, a post office, and a local PNF cell. At the time of the inauguration of the site all these facilities were set ready to operate.

The provision of a school was, by no means, obvious. As described in Section 2, school capacity was wanting in several areas of the country and was not rare that a rural village lacked a school. If one looks at retrospective information observed in 1950, nearly 52% of the population in the pre-existent area of the province had an elementary school degree and 9% of the population between 6 and 9 was not able to write and read ([Istituto Centrale di Statistica,](#)

²¹The ambition of the work stemmed from the countless number of conversion projects attempted in two thousands years of history—including notable builders from Caesar to Leonardo Da Vinci. After the unification of Italy, several projects of land reconversion were studied and financed but none were ever implemented. This strengthened the myth of the Pontine Marshes about their resistance to any sort of civilization.

²²Under the sharecropping system a landowner allows a tenant to use the land in return for a share of the crops produced on their portion of land. This system was extensively used in the past in Italy and represented a successful land system particularly in Tuscany (see, for example, [Cohen and Galassi, 1990](#); [Folchi, 2000](#)).

1951). The massive school intervention made in the Pontine Marshes impacted considerably on the literacy of that population: 63% of the population in the reclaimed area had in 1950 an elementary school degree and the illiteracy rate in the schooling age population was around 5%. In sum, the reclamation generated a considerable difference in school capacity between the two areas of the province that eventually impacted on the educational level of the two populations received during the fascist period.

3.3 Selection of the colonists

The repopulation of the new land was done by transferring nearly 80,000 people from other parts of Italy (Treves, 1976). Individuals were not displaced nor they were forced to move to the Pontine Marshes. The decision was free and the regime restricted itself from advertising the opportunity among deprived rural areas in the peninsula. Thus, in principle, there could have been sorting as the most fervent fascist farmers could have been more likely to apply.

Surprisingly, a discussion on the selection criteria is wanting in the historical literature of the Pontine Marshes and this aspect is seldom mentioned by historians. All historians, however, acknowledge the status of profound deprivation of the households that decided to embark into the repopulation of the Pontine Marshes. Gaspari (1985, p. 77) defined the colonists as “a mass of people in profound deprivation and in search of a way out from hunger.”²³ The law (#351/1931 on domestic migrations) offers some insights that may help clarify the motives that led the regime to select specific segments of people in place of others. It stated specific requirements for the selection of a household: (i) at least one element of the household had to be an ex-combatant of the WWI; (ii) the household had to be large enough to successfully manage a farmstead; (iii) in good health and hard-working; (iv) with a low incidence of elder members (Alfieri, 2014, p. 135). In sum, the motives behind these criteria were driven by political reasons (i.e., curbing the revolutionary moods of ex-combatants in the WWI, that since 1919 reclaimed land to cultivate), demographic reasons and theories of eugenics (that indicated the rural class as the most suitable for the repopulation of the area), and pragmatic reasons (i.e., factors that could have increased the odd of success of the project).

Being a fascist enthusiast or being a member of the PNF was not a requirement stated by the law. This, however, cannot rule out the circumstance that the most fervent fascists, among poor veterans in good health and with a large family, could have been relatively more likely to apply to the cause. Fervency, however, should have made farmers initially more passionate of the cause and intrinsically motivated to join the PNF in mass at the arrival. This is not what available data indicate. As I will show in Section 7, PNF members were not initially more in the Pontine Marshes, relative to the pre-existent area in the province of Littoria. Conversely, data

²³Gaspari (1985) reports a wide range of precious interview materials administered to these colonists. None of the interviewees acknowledged a link with fascism at the time the decision of moving into the Pontine Marshes was made.

indicate that fascist attachment, in the reclaimed area, grew little-by-little with time between 1935 and 1939.

3.4 The foundation of the *Movimento Sociale Italiano*

In April 1945, the war was over and the nazi-fascist forces defeated. The new proclaimed Italian Republic hurried up in banning any potential new attempts to restore fascism in the country (the so-called Legge Scelba). At the same time, there were rising concerns that, after two years of harsh civil war (1943-1945), an amnesty bill to any sort of political crimes in wartime was needed for the pacification of the country (e.g., [Franzinelli, 2006](#)). The then Minister of Justice, Palmiro Togliatti, partisan and head of the Communist Party, took up this concern promulgating a broad amnesty bill—the so-called *Togliatti Amnesty*.²⁴ Thanks to this amnesty bill, on December 1946, former fascist officers and collaborationists re-organized themselves and founded the *Movimento Sociale Italiano* (MSI) a party that, despite could not be named as fascist, held a tight connection with the PNF and the former regime.

The province of Littoria was considerably shook by the profound institutional changes that occurred in a tiny time lapse. Those changes hit profoundly the identity of the area. Littoria itself—a word that highly resembled the fascist ideology—was renamed as Latina and several fascist monuments and symbols of the fascist collective memory, in abundance in the province, were removed by force.²⁵ The province was, then, one of the last to re-organize the post-fascist politics. The provincial federation of Latina was founded on September 1947 and, according to [Stabile \(2005, p. 65\)](#), gathered together fascist ex-combatants during the civil war, former prisoners in the allied boot camps, colonists of the reclaimed Pontine Marshes, and many young people that actively participated to the fascist activities in schools and in other branches of the PNF during the fascist period. This copious and various human capital permitted the party to ensure its presence across the whole province in a relatively little time ([Stabile, 2005, p. 65](#)).

Despite this delay, the MSI achieved important results in the parliamentary elections held on April 1948. With over 4,000 votes the province stood up as one of the fortress of the post-fascist party across the country. Results were even better in 1953 and during the 1950s when the MSI steadily obtained the rank of the second most voted party in the province after the Christian Democrats (DC). This was particularly remarkable as one considers that at the time the provincial federation of the MSI could spent for campaigning a twentieth of what the DC could afford ([Vona, 2005, p. 71](#)). In the next section, I will document how a large part of this support came from the reclaimed Pontine Marshes.

²⁴ Decree of 22 giugno 1946, number 4: *Amnistia e indulto per reati comuni, politici e militari*.

²⁵ Literally, Littoria can be translated as “fascistville.” The *fascio littorio*, a bundle of wooden rods that enclose an axe and its blade, was indeed the symbol of the fascist rule as historically it was meant to symbolize the authority of the Roman Empire over its populations.

Figure 3: Distribution of polling stations across the province of Latina in 1948



Notes: Colors of the circles are proportional to the share of votes secured by the *Movimento Sociale Italiano*. Circles in white indicates polling stations that belong to the first quartile of that vote share distribution. The other green circles indicate polling stations which belong to the second, third, and fourth quartile, according to the gradient of shades, with the darker green color denoting the fourth quartile.

4 Fascist values in the immediate post-WWII

In this section, I explore the link between the reclamation of the Pontine Marshes and fascist values in the first free parliamentary election held after the demise of the fascist regime: the elections in 1948. I first describe the data employed in the analysis. I then test for a difference in post-fascist voting between the Pontine Marshes and pre-existent areas in the province of Latina. I corroborate this analysis with an instrumental variable estimation.

4.1 Data for the 1948 election

The province of Latina was founded in 1935 to merge new reclaimed areas, from the reclamation of the Pontine Marshes, and pre-existent areas. Between 1935 and 1948 the two areas shared same institutional setting. Marked differences in their genesis and development, however, translated into important electoral differences that I observe in the elections of 1948. To obtain sufficient statistical power, I gather electoral information at polling station level from the historical archive of the lower chamber of the Italian parliament. Overall, data covers 196 polling stations, divided into 33 municipalities. Figure 3 illustrates the distribution of such stations across the two areas of interest (the Pontine Marshes in yellow and pre-existent area in white). The archival record assembles the number of votes that each list in that election collected in a polling station. I focus on the number of votes collected by the MSI, but assemble additional information on the votes secured by the two main political forces—the Christian Democrats

(DC) and the Communists (PCI).²⁶

Polling stations are designed so as to cover as homogeneously as possible the entire territory. This is generally the case in urban areas, but in villages, where typically only one polling station is provided, deviations from the mean are the norm. The average polling station has a dimension of 660 people, but for the reason above-described there still exist variation. The standard deviation observed across the 196 stations is 140 people. I divide the number of votes secured by each list by the number of voters in the constituency. As reported in Table 2, the average polling station had a percentage of votes secured by the MSI equals to 3.21. DC and PCI obtained an average percent of votes equal to 53.43 and 23.30, respectively.

The average share of votes secured by the MSI in the province masks a considerable variation that this paper examines. This is evident by looking at Figure 3. Each poling station, marked by a dot, is colored according to its position in the distribution of the share of MSI votes. White dots are those belonging to the first quartile. Even graphically, it is easy to appreciate a prevalence of white dots across pre-existent areas. The shades of green indicate higher positions in the distribution. Darker green dots, predominant in the reclaimed area, indicate polling stations that lie in the top quartile. Overall, the average MSI vote share in the Pontine Marshes is 5.70 and 2.65 in pre-existent areas.

This electoral source is matched with census information, at municipal level, about the specialization of the economy, education, and other micro-economic aspects at the household level. These data are gathered from the 1951 census provincial volume which reports information collected during the course of 1950. The general picture that emerges from Table 2 is that the province of Latina was a predominantly agricultural economy (70% of the total workers was employed in agriculture) with a general low education level. 18% of the total population was not able to write and read and only 52%, on average, had the elementary school completed. Consequently, the illiteracy rate in the schooling age population (i.e., the number of 6-14 aged population that can not write and read) was high as well (about 8% on average). Only a handful of people held a university degree.

Micro-economic aspects also reveal a general poor situation in the province yet in 1950. Three aspects are considered in the regression framework: the average household size per room, the share of houses with a toilet facility and with electric power supplied. Both variables are likely to capture the poverty rate in the population. Typically, several people were spaced into a single room in poor households, while a few in a relatively rich household. The average municipality had 1.73 family members per room, but the variable ranges from 1.33 to 2.15. Moreover, households were seldom supplied with electrical energy and the poorest did not have a toilet facility. Descriptive data indicate that the average municipality had a 0.61 probability to get connected to power and a 0.41 probability to a have a toilet facility.

²⁶Figure A4 in the Appendix reports a typical sheet with the number of votes across parties in the election of 1948 as stored in the historical archive of the lower chamber of the Italian parliament.

An important aspect is however whether these control variables vary sensibly between the reclaimed land and pre-existent areas. In Table 3 I provide a balance test for the whole set of variables employed in the regression framework. Reassuringly, all the control variables are not found to differ in a significant fashion (see panel *C*). The average number of inhabitants is similar between polling stations in the two areas and so is the economic specialization of the workers (both sides were heavily specialized in the agricultural sector). Also the three above described micro-economic indicators are not statistically different in the two areas. The difference in post-fascist votes between the two areas are therefore unlikely to be explained by these factors.

4.2 Pontine Marshes and fascist values in 1948: a statistical association

Panel *A* in Table 3 also displays differences in electoral voting between the two areas in 1948. Across the province does not seem to be a marked difference in the support of the two leading parties—the Christian Democrats (DC) and the Communist party (PCI) which alone secured the 80% of the total votes. Polling stations in the Pontine Marshes, however, have 3.049 percentage points more in the MSI vote share than pre-existent areas in the province. Viewed against an average vote share in the province of 3.207 percentage points, the estimated difference is large in magnitude.

In this section, I assume that the support to the post-fascist party is a function of a dummy variable, PM_{ij} , which is 1 if the polling station is sited in the reclaimed Pontine Marshes, as follows:

$$MSI_{ij} = \alpha + \beta PM_{ij} + X_i\gamma' + \Gamma_j\lambda' + \varepsilon_{ij}, \quad (1)$$

where i indicates a polling station and j a municipality. X_i is a vector of covariates that vary across polling stations (i.e., population and its square) and Γ_j is a vector of observables that vary at municipal level (i.e., the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, the average household size per room, the share of households with a toilet facility, and the share of households that had electric power supplied).

It is worth remarking here the structure of the data employed in Eq. 1. Electoral data, in fact, vary across polling stations, i . Covariates included in Γ_j , however, are only available at municipal level j . To account for this structure of the data and absorb redundant information within municipality, I cluster residuals ε_{ij} at municipal level.

Table 4 adds little-by-little control variables to check whether the estimated coefficient β is sensible to their inclusion. Column 2 includes the population and its square as a control. In addition, column 3 adds labor market variables, such as the share of workers in the agricultural sector and in industry. It also controls for the ratio between the two so as to control for the relative specialization in industry of the area. Finally, in column 4 I also add the three above-

described micro-economic indicators. None of the controls enter significantly into the model, with the exception of the share of households with electric power that negatively correlates with MSI support. Unsurprisingly, the effect proved to be stable across columns and it is slightly larger (3.249 percentage points) in the full-fledged column 4.

4.3 Fascist buildings and fascist values in 1948: an IV analysis

One of the biggest empirical challenges one faces when β is estimated through Eq. 1 is that the simple geographical difference could be correlated with underlined, unobservable characteristics. What one would need, ideally, is to select plausibly exogenous variation in the impact that the fascist regime left during the course of the two world wars. In this section I use a measure of the architectural impact of the fascist regime, relative to the past, on the genesis and development of a municipality and its territory.

Constructions was indeed one of the main sector that drove the fascist economy. Pumped by considerable public investments, the regime left its imprinting sparsely and almost everywhere across the country, re-shaping the appearance of the Italian cities as well as of the countryside. The province of Latina made, of course, no exception. From the 1971 census provincial volume, I gather information on the age of construction of existing buildings across municipalities in the province ([Istituto Centrale di Statistica, 1971](#)). I select two periods of interest and use the number of buildings constructed during the fascist period (i.e., 1919-1945) and those pre-existent when World War I came to an end. I then divide the two, as specified in Eq. 2, so as to obtain a measure of the architectural impact of the fascist regime, relative to the past, on the genesis and development of a municipality and its territory:²⁷

$$\text{Fascist buildings} = \frac{\# \text{ Fascist buildings}}{1 + \# \text{ Pre-existent buildings}}. \quad (2)$$

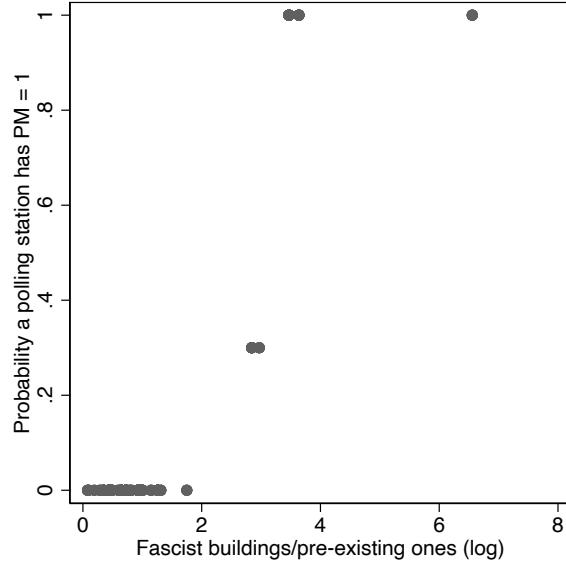
The average ratio in the province is 21.01, but the standard deviation is 99.35 (see Table 2). The distribution features a long upper tail and for this reason I use a logarithmic transformation of Eq. 2 in the regression framework.

In Figure A5, in Appendix, I report the scatterplot between the number of fascist buildings (in pre-existent one) and the number of pre-existent buildings prior to 1919 on a log-log scale. As one can see, the region features a bulk of historical villages (on the right-end) and a handful of new sites (in the left-upper corner) where 40 buildings pre-exist before 1919 at most. While the fascist restyling involved also the former group of municipalities (in some instances fascist buildings were 7 times those constructed before 1919), in the second group, those founded from the reclamation of the Pontine Marshes, there were only a few number of pre-existent ruins that hunters used to step over during hunting stages.

In Figure 4 I show that this measure is a strong predictor of the probability that a polling

²⁷Clearly, as several municipalities in the sample have no pre-existent buildings I add 1 to the denominator.

Figure 4: Average number of observations for which $\text{PM}_j = 1$ and fascist impact



Notes: The figure plots the ventiles of the distribution of polling stations according to the logarithm of the number of fascist buildings per pre-existing ones. The y-axis displays the mean of the number of polling stations, in the bin, for which $\text{PM}_{ij} = 1$.

station is sited in the reclaimed Pontine Marshes. In more details, I divide the distribution of polling stations according to the number of fascist buildings per pre-existing ones in twenty bins of the same size (i.e., ventiles) and compute the average number of observations for which $\text{PM}_{ij} = 1$. As one can see, this probability (in the y-axis) is zero where the fascist presence was bare and increases monotonically when we move rightward—i.e., toward areas where the regime impacted more considerably.

In Table 5 I therefore present the coefficient estimated through 2SLS. Column 2 reports the estimation of π_1 using the following second stage regression:

$$\text{MSI}_{ij} = \pi_0 + \pi_1 \widehat{\text{PM}}_{ij} + X_i \gamma' + \Gamma_j \lambda' + u_{ij}, \quad (3)$$

where $\widehat{\text{PM}}_{ij}$ is estimated, in the following first stage, using variation in the logarithm of the ratio between the number of fascist buildings and pre-existing buildings:

$$\text{PM}_{ij} = \theta_0 + \theta_1 \text{Fascist buildings}_j + X_i \gamma' + \Gamma_j \lambda' + v_{ij}. \quad (4)$$

As one can see, polling stations sited in the Pontine Marshes were significantly more supporting of MSI, even when one uses plausibly exogenous variation in the fascist architectural impact. The estimated difference through 2SLS is positive and statistically different from zero and its magnitude, equals to 3.171 percentage points, is closed to the OLS estimation reported in column 1 of Table 5.

The first stage estimation (i.e., $\hat{\theta}_1$) is also positive and statistically significant and the associated Kleibergen-Paap F-test, which takes into account the clustering of the standard error at municipality level, rejects the hypothesis that the instrument is weak (column 4). Finally, in column 5 I report the reduced form estimation that is positive and statistically significant. It tells us that 1SD increase in the ratio between the number of fascist buildings and pre-existing buildings (equals to 99.35) is associated to 3.77 percentage points more in MSI vote share. Taken together, this exercise indicates that the architectural fascist impact is a strong predictor of MSI support after the war and that the causal effect operated through the big infrastructural project of the Pontine Marshes.

A critical aspect of this instrumental variable analysis is whether the exclusion restriction assumption holds. For this to be true it must be that, unlike PM_{ij} , the architectural impact of fascism was not affected by geographical, economic, or political aspects, relevant in 1948. While this assumption can not unfortunately be directly tested for, I provide two related exercises that, taken together, render unlikely the fact that fascist buildings influence political preferences in 1948, through alternative channels. First, in Table A1 in Appendix I provide evidence that the instrument is uncorrelated with the observable covariates included in the regression analysis. Second, I test whether the reduced form relationship holds in similar, contiguous areas that, however, did not experience a systematic infrastructural project comparable to the reclamation of the Pontine Marshes. Because of the geographical proximity, these areas share a number of similarities with the province of Latina. One can therefore speculate that if alternative causal channels exist, the reduced form estimation must hold, in these areas, with the positive sign too.

I then collect electoral data (at municipal level) and information on the age of construction of the buildings in the two neighbor provinces which also belong to the same region of Lazio: the provinces of Rome and Frosinone.²⁸ I present this additional analysis in Table A2 in Appendix. Reassuringly, in neither of the two contiguous provinces the vote shares obtained by the MSI in the 1948 election is correlated with the instrument. Also, the related R^2 is very closed to zero, indicating that the age of construction of the buildings is not capable of explaining variation in the left-hand side variable in areas that did not experience a massive infrastructural project like the Pontine Marshes reclamation.

5 Fascist education and post-fascist vote

The above-described analysis indicates that where the fascist regime had a large impact on the development of an area, like in the Pontine Marshes, the population was more likely to vote for

²⁸The city of Rome was also substantially re-shaped by the fascist regime. However, one can hardly assert that the fascist times were the most important period in the development of the eternal city. The ratio between the number of fascist buildings and pre-existing buildings is indeed 8.65. The position of Rome is clearly marked in Figure A6 in Appendix that, similarly to Figure A5, put in connection the number of fascist buildings (in pre-existent one) and the number of pre-existent buildings prior to 1919, on a log-log scale, across the municipalities of the two provinces. Results are robust to the exclusion of Rome from the regression as displayed in Table A2.

fascist parties—even after the demise of the regime. But what was the impact really about? In this section, I explore the role of education and indoctrination through schooling on the fascitization of the area.

5.1 Education and schools in the province of Latina

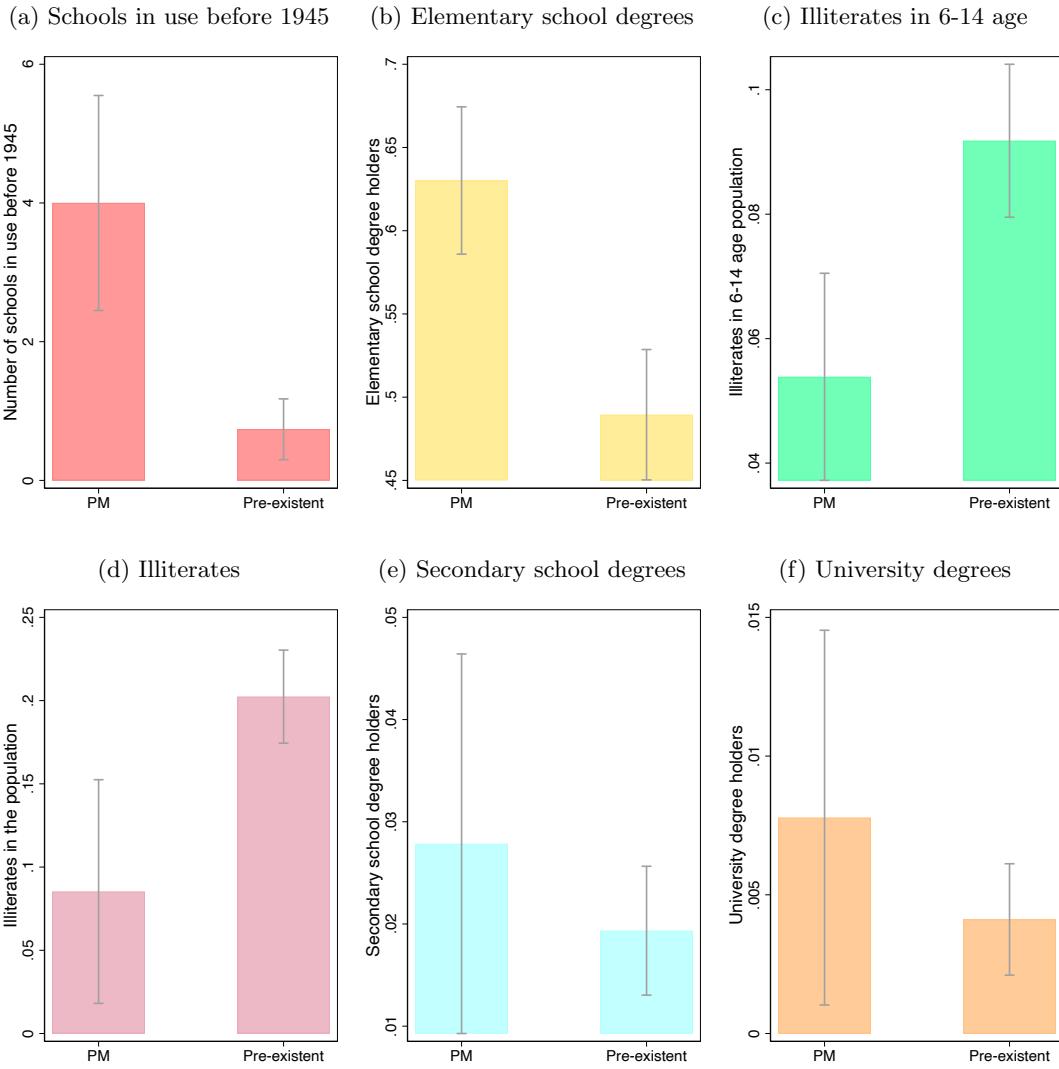
The role of education as a means to indoctrinate a population to a specific culture or set of values is well acknowledged in the literature and well documented by empirically studies (e.g., [Clots-Figueras and Masella, 2013](#); [Voigtländer and Voth, 2015](#); [Cantoni et al., 2017](#)). Historians have been particularly interested in the study of the Italian fascist case, debating whether the Italian schooling system successfully served the authoritarian regime in shaping minds and hearts.²⁹ As explained in Section 2, the regime reformed substantially the schooling system by radically redesigning the pedagogical basis of the instruction, by centralizing several critical activities and the funding of the schools, and by elevating the legally compulsory education up to children aged 14. Despite this big effort produced tangible results in the fight of illiteracy, historians of the Italian fascism shed doubt on the real fascitization of the country on the ground of a general lack of school buildings that left many pupils, especially in the countryside, behind (e.g., [Viola, 2016, 2019](#)).

The province of Latina provides with an invaluable setting where to test for differences in fascist values caused by variation in school capacity. The province in fact assembled two areas with a considerable difference in school capacity. Unlike pre-existent areas, the reclamation of the Pontine Marshes gave the regime a favorable window of opportunity to design and construct, from scratch, new rural villages and towns which were all equipped with at least a school building where pupils were mandated to attend. This generated an appreciable difference in the spatial distribution of school buildings between the two areas of the province.

To test this theory I collect specific information on the age of construction of primary school buildings that are still in use as school. These data come from the Ministry of Education, relative to the existing body of schools in operation in the province of Latina as of 2011. The use of these data, in place of information collected during the fascist period, unfortunately not available at municipal level, has pros and cons that is worth to briefly discuss here. The major issue is that this list is not necessarily exhaustive. Some schools may have been shut down between 1945 and 2011 and, consequently, some information on the distribution of schools during the fascist period could have been lost. This is particular important for schools that were provided in the countryside, during the first half of the 20th century, to bridge the gap between the urban and the rural areas. Several of them, in fact, were eventually shut down during the 1980s when the latter begun to depopulate at a fast pace. However, it is important to pointing out to the fact

²⁹As discussed in the introductory section, initial contributions argued that the fascist school had a little role in the fascistization of the country (e.g., [Ostenc, 1981](#); [Charnitzky, 1992](#)); subsequent works, based on a pedagogical analysis of fascist textbooks, rejected that hypothesis by arguing a considerable leverage of fascist ideology in the Italian school (e.g., [Gabrielli and Montino, 2009](#); [Pes, 2013](#); [McLean, 2018](#)).

Figure 5: Educational differences in 1948



Notes: ‘PM’ is the group of polling stations sited in the reclaimed Pontine Marshes and ‘pre-existent’ is that where polling stations are sited in the areas formerly part of the province of Rome and Frosinone. Schools in use before 1945 are state elementary schools.

that the two areas in the province were equally agricultural at the time: the resulting missing pattern is arguably unlikely to be prevalent in either of the two areas. Reassuringly, a tight connection between these number of schools and a set of educational outcomes observed in 1948 appears robust, as well illustrated in Figure 2.

One important advantage in using retrospective information is that one can work with definitions that are easy to understand. Statistics used at the time, in fact, referred to the word ‘school’ as “*the set of students attending one grade or more under the full time responsibility of a teacher*” ([Istituto Centrale di Statistica, 1931a](#), p. 31, translation is mine). This could have been inflated the number of schools making difficult to draw meaningful conclusions according to current standards.

I then use the number of available primary school buildings that were in use before 1945 (for which I have evidence in 2011). Variation in this number captures the extensive margin of schooling—i.e., places where the regime was more effective in inculcating the fascist ideology in a municipality. The average municipality had 1.337 primary schools (see Table 2). The reclamation of the Pontine Marshes, however, generated ample discrimination in schooling within the province, with the reclaimed area having 4 school buildings, on average, at municipal level and the pre-existent area just 0.74 (see panel *a* of Figure 5).

In addition to that Figure 5 reports a set of bar graphs that illustrate critical (and statistically significant) differences in the field of education in 1948, i.e. immediately after the demise of the fascism, between the two areas. The reclaimed area not only had more schools where the regime inculcated the fascist ideology to the students (panel *a*), but also had a larger participation in the primary school (panel *b*), a lower share of schooling age population that cannot write and read (panel *c*), and a lower general level of illiteracy (panel *d*). Conversely, there was no difference in the share of people that held a secondary school (panel *e*) or a university degree (panel *f*).

5.2 The reclamation of the Pontine Marshes as a shock in school capacity

In this section, I thus explore whether indoctrination (through schooling) was at the base of the creation of fascist men in the Pontine Marshes. Specifically, I examine whether better educated areas had higher fascist values and were, therefore, more supportive of the MSI in 1948. To select plausibly exogenous variation in education, that could be attributable to the fascist regime's capability to indoctrinate the populace, I employ as an instrument the number of schools in operation before 1945. The idea is that a more capillary distribution of schools increased school attendance and the capability of the regime in indoctrinating the populace and forging young fascist men.

This instrumental variable analysis exploits the reclamation of the Pontine Marshes as a shock in school capacity. As stressed above, in the new reclaimed area schooling was considerably more capillary than in pre-existing areas because the massive infrastructural project made easier for the regime to construct schools. This quasi-natural experiment makes sure that pre-determined political preferences had not affected the decision of building a school—a circumstance that could have invalidated the instrument.³⁰

Figure 2 illustrates the first stage of the proposed instrumental variable graphically. As

³⁰Another identifying assumption is that the provision of a primary school affected only education. Education is certainly expected to be linked to other economic factors; but if one think of the economic effects of a school provision a direct impact is less obvious. It is hard to argue, for instance, that the building of few schools could have sustained the economic development of an area and survived to the depletion of the war. This hypothesis is also corroborated by the data that indicate that the number of school buildings existent before 1945 balances along a number of economic dimensions observed in 1948—such as population, economic specialization, and a number of micro-economic indicators. Indeed, as one can see from column 2 of Table A1, none of these variables correlate with the proposed instrument.

remarked above, education goes in the same direction of school provision and square points, which depict mean values of the y-axis variable across the provision of schools, nicely fit a straight line and scatter around it. Taken together, the three panels of Figure 2 indicate that in areas where more primary schools were in operation as of 1945 there was a higher share of the population that held an elementary degree in 1948 (panel *a*), a lower share of illiterates between the age of 6 and 14 (panel *b*), and a lower share of illiterates in the population (panel *c*). In sum, the number of schools in use at 1945 seems to be a strong predictor of a number of educational aspects observed in 1948.

In Table 6 I study the relationship between MSI support in the election of 1948 (MSI_{ij}) and education in a regression framework. All the columns in the table include the same controls utilized above. That is: the population (and its square) around the polling place, that are included in the vector X_i ; the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture to control for the economic specialization; and the household size at room level and the share of households that had electric power supplied and a toilet facility to hold fixed micro-economic factors across observations that are included in Γ_j . Moreover, since the main explanatory variable is at municipal level, this set of regressions also control for the total population in the municipality in 1948.

The following regression describes the relationship between fascist education and post-fascist voting:

$$MSI_{ij} = \alpha + \beta Education_j + \delta Population_j + X_i\gamma' + \Gamma_j\lambda' + \varepsilon_{ij}, \quad (5)$$

where $Education_j$ is one of the three variables described above. Once again, residuals ε_{ij} are assumed to cluster within a municipality. OLS estimates of β are reported in columns 1, 4, and 7 of Table 6 where $Education_j$ is the share of people with an elementary degree observed in 1948 (column 1), the share of illiterates in the schooling age population (column 4), and the share of illiterates in the population (column 7), respectively. The direction of the effect estimated is as expected; however, none of them are statistically different from zero.

A critical flaw of Eq. 5 is that education and voting are typically jointly determined. The fascist regime's propaganda put in action a toolkit of policies which influenced both political preferences as well as the education of the people and that makes unreasonable to put education on the right-hand side of the regression. To overcome this issue, I then use as explained an instrumental variable estimation. The instrument—the number of schools in use before 1945—is employed to select plausibly exogenous variation in education, as specified in the following first-stage regression:

$$Education_j = \theta_0 + \theta_1 Schools\ before\ 1945_j + \delta Population_j + X_i\gamma' + \Gamma_j\lambda' + v_{ij}, \quad (6)$$

which is in turn utilized to estimate π_1 —the causal effect of fascist education on the vote share

for the post-fascist party at the election of 1948:

$$\text{MSI}_{ij} = \pi_0 + \pi_1 \widehat{\text{Education}}_j + \delta \text{Population}_j + X_i \gamma' + \Gamma_j \lambda' + u_{ij}. \quad (7)$$

It is worth remarking that π_1 is estimated in 1948—i.e., when Italy turned to a Republic after having defeated fascism. The estimated effect thus cannot be affected by the direct presence of fascist rulers.

Estimates of π_1 are reported in columns 2, 5, and 8 of Table 6. The effect, on MSI support, induced by the diffusion of primary school degree holders in the population is displayed in column 2 and it is positive, statistically significant, and sizable—this is equivalent to 3.088 SDs in the share of people with an elementary degree (i.e., $= 30.876 \times 0.1$). To assess the magnitude of the effect, recall from Table 2 that the mean of MSI vote share is 3.207. Thus the effect of the diffusion of primary school caused an increase in support for MSI which is equivalent to the 97% of the mean in the province.

In column 3 I also report the first stage estimation, i.e. $\hat{\theta}_1$, which is also positive and statistically significant. Importantly, $\hat{\theta}_1$ is estimated by comparing municipalities with a similar population. Within this bin of observations, $\hat{\theta}_1$ indicates that one school more provided increased the share of people with an elementary degree by 0.027. Column 3 also reports the associated Kleibergen-Paap F-test. The F-test on the excluded instrument is slightly outside the safe zone recommended by [Stock, Wright, and Yogo \(2002\)](#) for ruling out the employment of a weak instrument. However, it is important to note that the model is just-identified and that just-identified instrumental variable estimates are “*median unbiased and therefore unlikely to be subject to a weak instruments critique*” ([Angrist and Pischke, 2008](#), p. 213). What is more, the reduced form estimation, which is proportional to the causal effect of fascist education on post-fascist voting, is, as expected, positive and statistically different from zero. This effect, reported in column 10 of Table 6, indicates that one school more provided increased the MSI vote share by 0.834 percentage points.

In the rest of the table, I use the share of illiterates in the schooling age population and the share of illiterates in the population as measures of poor education in the municipality. As one can see, the fight in the reduction of illiteracy, conducted by the fascist regime through the provision of schools, ultimately caused an increase in fascist values, that survived to the demise of the regime itself. Consistently with the proposed mechanism, while both the effects are large, the magnitude of the effect of fighting the illiteracy of the youngest is higher. I find that 1SD below the mean in the share of the schooling age population that cannot write and read caused a 3.221 percentage points increase in the vote shares for the MSI (i.e., 90.739×0.035). Finally, 1SD below the mean in the share of illiterates caused a 2.262 percentage points increase in the vote shares for the MSI (i.e., 29.486×0.076). In columns 6 and 9, I also report the associated first stage estimation. The estimation of $\hat{\theta}_1$ is negative and statistically significant in both cases

and the Kleibergen-Paap F-test is well above the value of 10 ([Stock, Wright, and Yogo, 2002](#)).

To assess the magnitude of the effect of fascist education on post-fascist voting and obtain a figure which is comparable with that estimated in Table 5, it is also worth looking at a deviation equals to the distance between the means in the two groups of polling stations. Consider, for instance, the share of people with an elementary degree. The mean in the reclaimed Pontine Marshes is 0.630 and that in the pre-existent area is 0.489. A shift in the share of people with an elementary degree, from the average polling station in the pre-existent area to the average one in the Pontine Marshes, is thus 0.141 and explains a change in MSI vote share in 1948 equals to 4.323 ($= 30.876 \times 0.141$). I estimate similar effects when looking at the share of illiterate population as well as of the schooling age population that cannot write and read. These results thus indicate that the difference in fascist values between the two sides of the province of Latina enlarges once one looks directly at the educational channel.

5.3 Additional analyses on fascist education and post-fascist vote

5.3.1 Catholic schools

Historians have long argued that the Church played a critical role in the containment of the fascistization of Italy during the course of the two World Wars (e.g., [Gaudio, 1995](#)). Catholic private schools, that traditionally had a monopoly position in the market of education in the country, were granted a considerable liberty from the state schooling authorities after the Laterans pacts, which Mussolini and the Pope Pius XI signed in 1929 to put an end to the conflict between Italy and the Vatican state. After 1929, the fascist state and the Church, competed vigorously in forging men—fascist or Christian men. Could a more capillary presence of Catholic schools in the pre-existent area of the province explain the premium of post-fascist vote in the Pontine Marshes?

To answer this question, I gather additional data on the number of Catholic schools in use in the province during the fascist period. Once again, because of the lack of historical data, I rely on retrospective information published by the Ministry of Education in 2018. The list provided by the Ministry, however, does not report the age of construction that I collect from the information listed on the schools' websites. Overall, I collect evidence on 5 Catholic schools operating at the time in the province of Latina—and, not surprisingly, only 1 in the new reclaimed area where the state took seriously indoctrination.

In Table A3 in Appendix I then test whether the presence of Catholic schools affected education (columns 1 to 3) using the specification in Eq. 6 and the same controls. As one can see, the presence of Catholic schools reduced the share of people that held a primary school degree, as that measure only counts state elementary schools (column 1). Importantly, it contributed to fight illiteracy, especially that related to the schooling age population for which I found a coefficient that is negative and statistically significant (column 2). The effect is also negative for

the illiteracy level in the population, however the estimate is statistically imprecise (column 3).

In column 4 of Table A3 I test a reduced form *placebo* model including the number of Catholic schools constructed before 1945 as the explanatory variable and the vote share secured by the MSI in 1948 as the outcome. Reassuringly, the estimated *placebo* effect is positive but not statistically significant. This result, coupled with the evidence provided in columns 2 and 3, indicates that fascist education was indeed selective in its content. Catholic schools improved the educational level where they were in service but did not raise fascist enthusiasts.

Finally, column 5 of Table A3 shows that the relationship between the number of state schools and post-fascist vote, reported in column 10 of Table 6, is robust to the inclusion of Catholic schools. In sum, while Catholic schools played a role in educating the population in the province, they are unable to explain why MSI collected a substantial higher support in one of the two areas.

5.3.2 Other political parties

Another falsification test comes from the estimation of the effect of fascist education on the support of the two major Italian political parties: the Christian Democrats (DC) and the Communists (PCI). The two parties were founded in 1945 but they both were the result of the Italian civil war (1943-1945) that put against partisans and the nazi-fascist forces. Among the several groups of partisans, Catholics and Communists were among the most prominent.³¹ The ideals and the delegates of these two parties had no connection at all with the National Fascist Party; on the contrary, they were proud opponents of the fascist regime. There is a priori no reasons to believe that the reclamation of the Pontine Marshes benefited the two parties nor that exposure to the fascist education did it.

With this purpose, Table A4 in Appendix tests whether polling stations in the Pontine Marshes were also more supportive of these two parties. Columns 1 to 4 use the vote share secured by DC to the 1948 election rounds as the outcome. As one can see, there is no significant difference in the vote share between the reclaimed area and the pre-existent one in the province, where the party secured the 54% of the available votes. The difference shrinks further when the full set of covariates are included in the regression framework (column 4). This finding is corroborated by the use of the variable fascist buildings (i.e, the logarithm of the ratio between the number of buildings constructed by the fascist regime and those built before 1919) in place of the dummy indicating the location in the Pontine Marshes (column 5). Even in this case, I find no association between the architectural fascist impact on the municipal territory and the support for the DC in 1948. Similarly, columns 6 to 10 of Table A4 report estimations using the vote share of the PCI on the left hand side of the regression. Communists obtained the 23% of the available votes in 1948 in the pre-existent municipalities of the province. From this baseline,

³¹See, for instance, [Fontana, Nannicini, and Tabellini \(2017\)](#) on the contribution of the Catholic and Communist partisan groups in fighting the nazi-fascist forces and on the long-term effects of the fight on these two parties.

I find that polling stations in the Pontine Marshes do not differ significantly, irrespective of which covariates we include in the regression framework. Finally, I find no differences in the PCI support among polling stations that belong to municipalities where the regime impacted variously (column 11).

In Table A5 I explore whether differences in education mapped into a different voting pattern for these two parties. In columns 1 to 4 the outcome variable is the vote share of DC in 1948, while in columns 5 to 8 the outcome variable is the vote share secured by the Communists. As one can see, the share of people that held a primary school degree does not correlate with neither of the two outcomes (columns 1 and 5), and so does the share of illiterates in the schooling age population (columns 2 and 6). On the contrary, Communists seem to obtain more votes in areas where the share of illiterates was relatively higher (column 7). As pointed out above, however, these associations are unlikely to be informative because of a potential endogeneity. It is therefore more instructive to look at the correlation between school capacity and voting. As one can see from column 4, I find no statistically differences in the DC vote share among polling stations that had a different school capacity during the fascist period. Interestingly, however, there appears to be a negative association between the number of schools in use before 1945 and the PCI vote share. This suggests that fascist education was particularly harmful for the Communists that in areas with an additional school, in use during the fascist period, collected 5.291 percentage points less (more than one fifth of the mean vote share in the province).³²

5.3.3 Schooling age population during the fascist period

Prior works have specifically examined cohort effects on individual values. [Clots-Figueras and Masella \(2013\)](#), for instance, exploit variation across cohorts of people in exposure to the Catalan language at school. [Voigtländer and Voth \(2015\)](#) explore differences in anti-Semitic values across birth cohorts, documenting large anti-Semitic attitudes within individuals born between 1930 and 1939. Similarly, [Fuchs-Schündeln and Masella \(2016\)](#) use variation across birth cohorts in the length of exposure to the DDR socialist education system and [Cantoni et al. \(2017\)](#) use variation across cohorts of Chinese students that adopted a new school curriculum. Did cohorts in schooling age during the fascist period exhibit a higher enthusiasm for a post-fascist party in 1948? The answer to this question has necessarily to take into account a differential ability of fascist in transmitting fascist values—well-documented above in the 1930s-1940s province of Latina. Because of an uneven distribution of schools, the regime was unable to reach part of the schooling age population in certain areas. The regression analysis, thus, should be able to capture the effect of having more people in the schooling age population (i.e., those that have been *potentially* more exposed to fascist education) as well as the effect of a better school

³²Table A6 also displays 2SLS estimations using the number of schools in use before 1945 as an instrument and PCI vote share on the left hand side (the only one for which the reduced form hints at a causal link). As one can see, when plausible exogenous variation in fascist education is used, the effect on Communist support becomes statistically significant and causal.

capacity on post-fascist vote.

I then use the following interaction effect model:

$$\text{MSI}_{ij} = \alpha + \beta_1 \text{PM}_{ij} + \beta_2 \text{FSA}_j + \beta_3 \text{PM}_{ij} \times \text{FSA}_j + X_i \gamma' + \Gamma_j \lambda' + \varepsilon_{ij}, \quad (8)$$

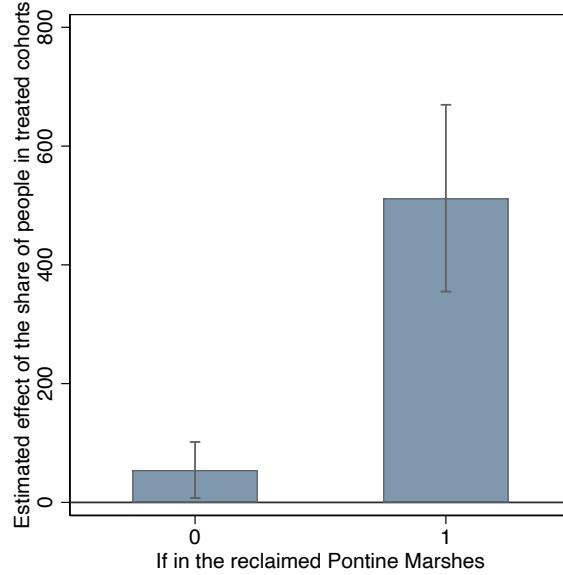
where, as above, MSI_{ij} is the vote share secured by the MSI in 1948 and PM_{ij} is a dummy variable equals to 1 if the polling station is in the Pontine Marshes. Controls that vary at polling station level are included in X_i ; those that vary at municipal level are in Γ_j . And residuals are clustered at municipality level. The only innovation Eq. 8 features is the inclusion of the variable FSA_j , which is the share of individuals, in a municipality, that were in the schooling age during the fascist period. Indeed, unlike the above-described works which utilize individual-level information, unfortunately unavailable for a small area such as the province of Latina, I rely on cross-municipality variation to capture a potential different exposure to fascist education. The higher this share is, in fact, the more likely is that in that area more people have been exposed to the fascist ideology.

The birth cohorts that were obliged to attend the fascist school are those born between the years 1909 and 1939. The eldest cohort of people were 14 in 1923, when the compulsory school was lift up that age, and the youngest were 6 in 1945. I use disaggregated information on the population by age from the 1951 census volume ([Istituto Centrale di Statistica, 1951](#)) and compute the share of the population that was in the age bracket 6-14 between 1923 and 1945. The average share in the province of Latina is 0.573 though it varies considerably across municipalities—ranging from 0.529 to 0.596 (see Table 2).

Estimations of β_1 , β_2 , and β_3 are reported in column 1 of Table A7 in Appendix. Both coefficients are statistically different from zero. Interestingly, polling stations in municipalities with a larger fraction of the population in schooling age during the fascist regime voted more for the MSI in 1948 ($\hat{\beta}_2$). However, this could stem from the fact that these cohorts were the youngest in the population at the time the elections were held and youngest are typically those segments of the population that support extremist platforms. For this reason, I focus on the interaction term between that share and the dummy indicating the location in the Pontine Marshes, captured by the coefficient β_3 . The interaction term is positive and large: in areas where the regime had arguably a better school capacity, a larger fraction of the population in schooling age during the fascist regime translated into a larger support for the post-fascist party in 1948.

One can appreciate this compound effect by evaluating it at the margin. I do this in Figure 6 which illustrates the marginal effects of the share of people in schooling age, during the fascist period, between the reclaimed Pontine Marshes (right-hand side bar) and the pre-existent areas (left-hand side bar). As one can see, the effect of having more people, in the population, that were potentially more exposed to fascist education is, as expected, positive in both the two

Figure 6: Size of the population exposed to the fascist education, Pontine Marshes, and support for MSI in 1948



Notes: The graph bar draws the marginal effect of the share of people exposed to the fascist education, between the reclaimed Pontine Marshes (right-hand side bar) and the pre-existent areas (left-hand side bar), using Eq. 8 and estimations reported in Table A7. The share of people in schooling age, during the fascist period, has a standard deviation equals to 0.014.

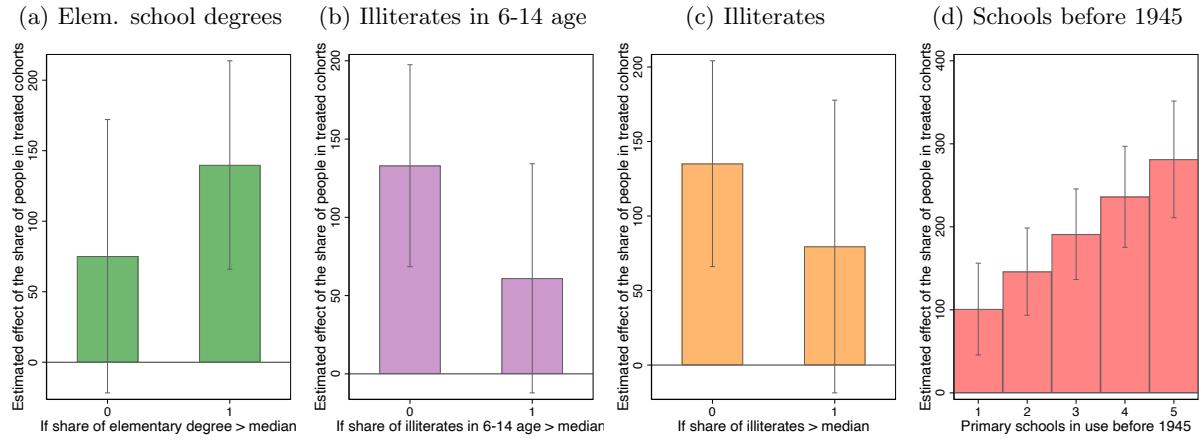
areas—the two bars are indeed both above zero and statistically significant. However, the right-hand side bar is higher and, remarkably, the difference between the two areas is statistically different from zero.³³ In other words, in the Pontine Marshes, where the regime could rely on a much better school capacity, the transmission of fascist values was more effective and had relevant long-lasting effect that impacted on the post-fascist vote in 1948.³⁴

To track more closely the link between school capacity, school attendance, and fascist education, which eventually impacted on the post-fascist vote, I directly look at the amount of education in the municipalities. Table A8 in Appendix and Figure 7 use, in place of the dummy PM_{ij} , the share of elementary degree holders, the share of illiterates in the schooling age, and the share of illiteracy in the total population, as well as the number of schools in operation before 1945 in a municipality. In particular, Figure 7 presents the marginal effects from the estimates reported in Table A8. The four panels all show how the effect of having more people in schooling

³³To assess the magnitude of the two marginal effects, recall that a standard deviation in the share of people exposed to the fascist education is equal to 0.014. This means that 1SD higher in the focal variable translates into an increase of MSI vote share of 0.763 percentage points in the pre-existent area and of 7.172 percentage points in the reclaimed area.

³⁴In columns 2 and 3 of Table A7 I use the vote share in 1948 for the DC (column 2) and the PCI (column 3) as the outcome variable. The only coefficient of interest that enter the regression framework in a statistically significant form is β_2 . Not surprisingly, the Christian Democrats collected less votes within the youngest cohorts while the Communists more. However, what is important for our analysis is the interaction term which is not statistically different from zero. Consistently with the findings outlined in Section 5.3.2, these results indicate that differences in school capacity did not impact on voting for the two major parties.

Figure 7: Size of the treated cohort of population, education, and support for MSI in 1948



Notes: The set of graph bars draw the marginal effects of the share of people exposed to the fascist education. Panel (a) shows these effects between areas where the share of elementary degree holders is above the median, panel (b) between areas where the share of illiterates in the schooling age population is above the median, panel (c) between areas where the share of illiterates in the population is above the median. Panel (d) shows these effects across areas with a different school capacity. The share of people in schooling age, during the fascist period, has a standard deviation equals to 0.014.

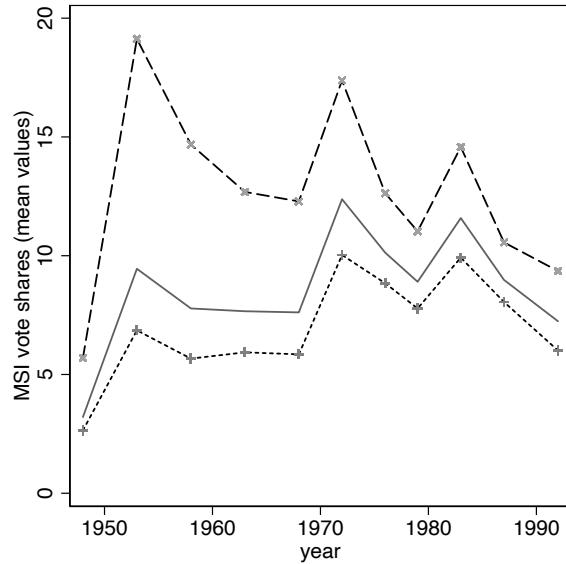
age, during the fascist period, on post-fascist vote is positive only in relatively highly educated areas (panels *a*, *b*, and *c*) and is higher in areas where more schools were provided (panel *d*)—in other words, in areas where that segment of the population indeed attended fascist school.

6 Evidence from 50 years of democratic elections

How enduring these fascist values are? In this section I explore the persistence of fascist values in the Pontine Marshes by examining voting across 11 election rounds in the lower chamber of the parliament in the province of Latina. The Italian electoral system indeed represents a suitable setting to do so as from 1948 to 1992 elections were held under the same electoral rule and political parties. In particular, the MSI, founded in December 1946, appeared in the Italian political arena until 1995. Christian Democrats and the Communists similarly lasted until 1994 and 1991. It is therefore possible to trace the evolution of political preferences for about 50 years.

With this goal in mind, I digitize 4466 entries from archival records (historical archive of the Italian lower chamber). Each entry represents a polling station in the province of Latina and for each of them I collect the number of votes secured by the major political parties and the underlined population. The number of polling stations has increased at a steady pace in the province—hand-in-hand with the underlined growth of the population. As reported in Figure A7 in Appendix, the number of polling stations in a municipality was 10.33 in 1948 (where the total number in the province was 196) and reached the maximum of 52.43 in 1992 (where polling

Figure 8: Evolution of the MSI vote shares in the province of Latina across 11 elections



Notes: The continuous black line depicts the mean of the MSI vote share in the whole sample (i.e., in all the municipalities of the province of Latina). The dashed line above (with the ‘x’ symbols) indicates the evolution of the mean of the MSI vote share in the reclaimed Pontine Marshes (i.e., PM = 1). The dashed line below (with the ‘+’ symbols) indicates the evolution in pre-existent areas of the province (i.e., PM = 0).

stations were 622 in total).

During this 50 year window of elections the MSI secured 8.948 votes in 100 people—a figure which is considerably higher than the one observed in 1948.³⁵ This reflects, as well illustrated in Figure 8, the increase in support that the party experienced after the elections held in 1953 and that kept at a high level until 1992. The post-fascist party collected the 9.449% of votes in 1953 and peaked three times in 1972, 1976, and 1983—elections in which the vote share of MSI went beyond the bar of 10% in the province of Latina (see the solid line in Figure 8). The graph also displays a differential evolution of post-fascist votes in the two areas of the province. While the shares secured by the MSI were steadily between 10% and 20% in the reclaimed Pontine Marshes, in the rest of the province they had never outweighed the bar of 10%.

The difference in post-fascist vote between the two areas of the province can be better appreciated in a regression framework. Denoting PM_{ij} a dummy equals to 1 if the polling station is located in the reclaimed Pontine Marshes, we can estimate β , the premium of votes secured by the MSI in that area:

$$MSI_{ijt} = \alpha + \beta PM_{ij} + X_{it}\gamma' + \Gamma_{jt}\lambda' + \eta_t + \varepsilon_{ijt}. \quad (9)$$

Once again, i denotes a polling station nested in a municipality j . t indicates an election year. To absorb redundant information within a municipality-election cell, I cluster standard errors

³⁵See Table A9 for summary statistics related to the extended period.

at municipality-by-election year level.

The identification of β relies on the inclusion of a number of covariates, X_{jt} , that vary at municipality-by-election year level, and of a set of election fixed effects, η_t , added to control for confounding circumstances specific to an election round. The set of covariates included in Eq. 9 are necessarily different from that used in 1948. The province, in fact, after the economic boom of the 1960s became one of the most industrialized area in the country, and the economic prosperity made obsolete and uninformative some of the microeconomic indicators used in the above analysis.

I reconstruct the evolution of each covariates across the election years using entries collected by the census volumes published in 1951, 1961, 1971, 1981, and 1991.³⁶ Figures A8 and A9 in Appendix display the evolution of some of these variables. Figure A8 indeed shows that a large part of the province rapidly industrialized after mid-1960s. The distributions of the ratio between the number of employees in industry and agricultural sector rapidly moved up after 1963, reaching a value of 3 employees in industry in one employed in agriculture in the median polling station. Moreover, as one can see from Figure A9, the number of households with electric power monotonically increased across the years and the distribution degenerated since late 1960s (panel *a*). A similar pattern is shown in panel (*b*) that plots the evolution of distributions in the number of households with a toilet facility. Finally, panel (*c*) illustrates the evolution of distributions in the number of households per room. After a rapid increase in late 1950s, the distributions shrank, since early 1970s, toward the bottom of the plot and converged to a ratio of 1 person in a room. For these reasons, in the baseline regressions I will follow a more conservative approach and leave out of the regression framework the above indicators. However, in the Appendix I will show how results are not sensitive to their inclusion.

Baseline results are shown in Table 7. The table has 12 columns, 11 for each election round where β is estimated separately, and one (column 12) which combines the whole observations. Table A10, in Appendix, replicates Table 7 but includes the micro-economic indicators as controls. As one can see, the premium of votes obtained by the post-fascist party increased considerably after the elections held in 1948 that were to a great extent influenced by the dynamics of the Cold War and the DC and communist propaganda. The difference in the vote shares secured by the MSI in 1953, between the reclaimed Pontine Marshes and the pre-existent area, was 12.116—about four times the share obtained in 1948. This difference kept high until mid-1970s when it slightly reduced. Over the entire period, the estimated difference is 5.168.

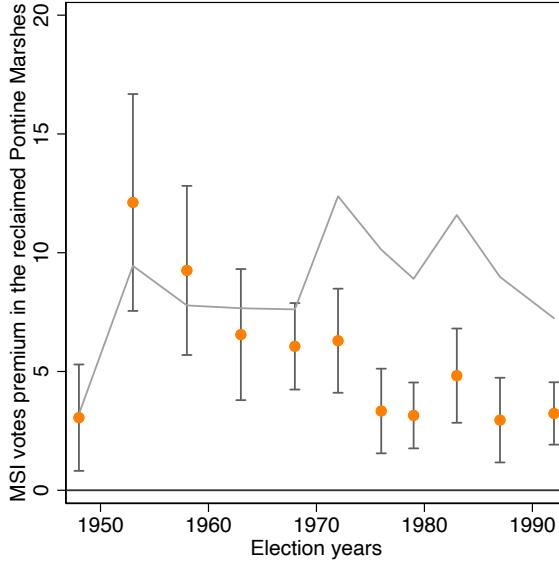
The evolution of the MSI premium in the Pontine Marshes can be better appreciated from

³⁶Specifically, I use linear interpolation to interpolate the missing information in that election year using the two closest in time data points. For example, the value of the variable z_{1968} for the election year 1968 is estimated using the following formula:

$$z_{1968} = z_{1961} + \left(\frac{z_{1971} - z_{1961}}{1971 - 1961} \right) \times (1968 - 1961),$$

where z_{1971} and z_{1961} are both observed from the censuses.

Figure 9: Difference in the MSI vote shares across elections



Notes: Each dot is the estimated coefficient of the differential vote share for MSI between polling stations in the reclaimed Pontine Marshes and the rest of the province of Latina in each election year, from 1948 to 1992. See columns 1 to 11 of Table 7. Vertical bands depict the 95% confidence interval around the estimated coefficient. Each regression controls for population (in 000) and its square around the polling stations, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, and cluster standard errors at municipality level. The grey line draws the evolution of the average vote share secured by the MSI in the province across the 11 election rounds.

Figure 9, which plots the coefficients β estimated through the columns 1 to 11 of Table 7 as orange dots. The trajectory of the dots across the election years had a spike in 1953, as remarked above, and after that reduced steadily. However, if one compares the position of the dots against the grey line, which indicates the average share in the province, the magnitude of the votes secured by the MSI in the Pontine Marshes seems to be constant and in the ballpark of 100% of the average until 1968. After 1968, the mean vote share in the province had a progression towards 10 percentage points—progression that was considerably driven by an increase of votes in the pre-existent area.

Table A11 in Appendix also instruments the dummy $I(Pontine\ Marshes)$ using the measure of architectural impact of the fascist regime in the origin and development of the municipality. The analysis follows strictly the same lines of that presented in Section 4, so I remind to that section the reader interested in the exclusion restriction and in the relevance of the instrument. Column 2 of Table A11 reports the 2SLS estimate of β . As one can see, these are larger than the OLS estimate (reported in column 1) indicating that geographical differences were likely to bias OLS. Columns 3 and 4 present, in addition, the estimates from the first stage and the reduced form. Both are positive, as expected, and statistically significant.

Finally, interesting insights comes from the inspection of the evolution of votes achieved by the major parties in the province between 1948 and 1992. In Figure A10 I plot the evolution

of the votes premium achieved in the reclaimed area, relative to the pre-existent one, by the Christian Democrats (grey line around the green area) and the Communists (black line around the red area). The exercise is exactly the same of Figure 9 and regressions include the same set of covariates. Throughout the entire period, no statistical difference appears in the vote share secured by the DC. Communists seem, instead, to be the party that suffered more from the increase in support for the MSI after 1953. After that election round, in fact, the PCI obtained a loss of votes in the reclaimed Pontine Marshes, relative to the pre-existent area, which is in the ballpark of 10 percentage points. This is sizable as it accounts for about half of the entire period average of PCI vote share.

7 Fascist values in fascist times

The results documented above indicate that the reclamation of the Pontine Marshes was a major public intervention through which the regime increased its capability to inculcate the fascist ideology. In particular, that analysis shows that the reclamation was an as good as random event that effected considerably schooling and fascist values. But when were these values transmitted? As discussed in Section 3, a potential concern is that colonists were selected to repopulate the Pontine Marshes because they were more fascist. Although the main analysis shows that variation in schooling within the reclaimed area is capable of explaining a good portion of educational levels, in this section I examine rigorously this concern.

7.1 Data from the fascist period

I collect, from several historical sources, information on the reclamation of the Pontine Marshes. An invaluable source of information on the reclamation of the Pontine Marshes is provided by Mariani (1976). Details on the life of colonists and the organization of the new settlements are supplied in Gaspari (1985), Ghirardo (1989), Folchi (2000), Caprotti (2007, 2008), Pennacchi (2010), Alfieri (2014). Technical details about the infrastructural project are collected from Mazzocchi Alemanni (1939). These also include information on the years of foundation of each site reported in column 3 of Table 1. As one can see, the majority of the villages, around the area of Latina (yet named as *Littoria*), were founded in 1932. Others villages were inaugurated later. The last to be founded was Aprilia, in 1936. All these settlement were included in the brand-new province of Latina, established in 1935, together with pre-existent territories from the provinces of Rome and Frosinone.

I combine this information with data about the political activity conducted in the province by the National Fascist Party (PNF). This information is collected from archival records in the State Central Archive and has never been used before. From this source I collect the number of people who joined the PNF as members at party committee-level. This invaluable information was assembled by the party federal inspectors between 1935 (the year a provincial federation

was founded in Latina) and 1939 (the last year before Italy entered World War II). An example of a sheet filled in by the inspectors of the PNF concerning the committee of Manarola in 1939 is illustrated in Figure A2 in the Appendix section.

Inspectors were an independent body of the party and so guaranteed to the highest hierarchies of the PNF a reliable picture of the situation at the most local level. However, as inspections came unannounced, committees were not inspected all the years. A list of the years when an inspection happened, in the Pontine Marshes area, is reported in column 4 of Table 1. As one can see, some committees in the reclaimed area were inspected once, others up to three times during the period of scrutiny, resulting in an unbalanced panel data set. I use columns 3 and 4 of Table 1 to compute the number of years passed between the inspection and the foundation.

The main outcome variable used is the ratio between the number of PNF members and the number of total population that settled in the area of the committee. Exploiting the highly disaggregated information contained in the provincial volume of the 1936 census ([Istituto Centrale di Statistica, 1936b](#)), I am able to match population and PNF members at committee level.³⁷ The ratio gives us the share of the population that formally joined the PNF at party committee-by-year level. On average about 6 people out of 100 held a PNF membership card, but a considerable variation appears across committees (the standard deviation is equal to 0.042, see Table A12). Zooming into the Pontine Marshes, one can see how the bulk of variation across PNF committees (the dots in Figure 10) stems from a discontinuity in these shares collected within 3 years of foundation and those collected after 4 years since foundation.

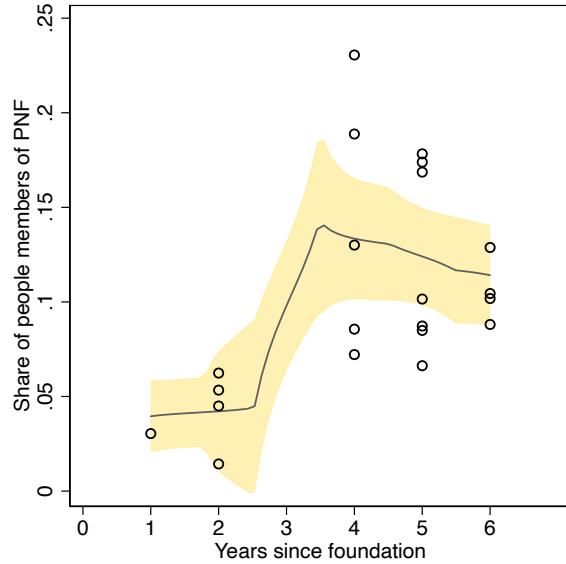
Two additional variables are used in the analysis. First, from the same archival sources I assemble information on the expenditures made by each committee in the province. Part of these data are displayed in Figure A3 for the year 1938, in their original form. The average PNF committee in the province spent about 12,560 Lire and the standard deviation is 15,820 Lire. Second, I use census data on the number of public servants at municipal level in 1936. From 1936 onward, in fact, being a member of the party was mandatory for holding a public post. I use this information to construct the share of public servants in the total workforce in a municipality. As shown in Table A12, this share is 0.04 on average, thus highlighting the agricultural basis of the provincial economy.

7.2 Members of the PNF across the province

In this section I use the above-described data to test whether a considerable difference in fascist attachment appeared, immediately after the reclamation, between constituencies in the reclaimed Pontine Marshes and pre-existent locations. To this purpose I start examining whether

³⁷The information on the population in Aprilia, a town only founded in 1936, is collected from [Bianchini \(1956\)](#). For a few of villages the census only reports the population at a higher (sub-municipality) level. For example, Borgo Bainsizza and Borgo Montello were both part of the municipality of Latina and were aggregated in the district of Bainsizza. Bainsizza had a population of 2967. I proceed by splitting the population of Bainsizza between the two villages. The population in the average committee is 6360. See Table A12 which reports summary statistics for the main variables employed in the analysis.

Figure 10: Share of members of the Fascist National Party (PNF) in the reclaimed land



Notes: Data are gathered from the inspections of the PNF officers in the committees of the brand-new province of *Littoria* during the period between the reclamation of the Pontine Marshes and the outbreak of World War II.

in the former area the share of PNF members was relatively higher than in pre-existent sites. Formally, this analysis can be rephrased as follows:

$$\text{PNF}_{it} = \alpha + \beta \text{PM}_i + X_{it}\gamma' + \eta_t + \varepsilon_{it}, \quad (10)$$

where PNF_{it} is the share of PNF members in the population in the party committee i and year t ; PM_i is a dummy equals to 1 if the committee i is in the redeemed Pontine Marshes. X_{it} is a vector of covariates and η_t is a set of year fixed effects that are included to absorb common shocks operating in a given year. Residuals, ε_{it} , are robust to heteroskedasticity and are clustered at party committee level to account for intraclass correlation. In Table 8 I report the estimations of the coefficient β —the difference in the share of PNF members in the population between the two sets of committees. Column 1 shows that such difference was indeed statistically larger than zero (at 1% level of confidence) and equals to 6.6 percentage points—i.e., about 100% the period mean of the share of PNF members.

Figure 11: Map of the new Pontine Marshes settlements

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Notes: Colored circles localize settlements with at least one PNF committee and one inspection between the reclamation of the Pontine Marshes and the outbreak of WWII. Red circles indicate settlements founded in 1932. The purple circle indicates a settlement founded in 1933. The blue circle indicates a settlement founded in 1934. The green circles indicate settlements founded in 1935, while the yellow one indicates a settlement founded in 1936. The underlined map is sourced by [Mariani \(1976\)](#).

An important assumption of my empirical analysis is that colonists, that settled in the Pontine Marshes, were not *initially* more fascist than the old-time inhabitants of the province. As discussed in Section 3.3 this is unlikely for a number of reasons. However, one can test formally this assumption by looking at the earliest years of settlement. Fervent fascists that sorted into the Pontine Marshes from other areas of the country should have shown enthusiasm and passion especially during the earliest bits at the arrival. To demonstrate that this conjecture is wrong, I use information on the year of foundation of each site (where the PNF committee operated). The year of foundation varies across PNF committees as the reconversion of the Pontine Marshes proceeded gradually from 1932 to 1936. Figure 11 illustrates this spatial variation in a map of the PNF committees, in the new land, where I have evidence of at least an inspection between 1935 and 1939. The oldest settlements, in red, were built in 1932. The newest one is in yellow and was built in 1936.

I compute the difference between the year when an inspection occurred and the year of foundation, $\Delta(\text{years})_{it}$. By construction $\Delta(\text{years})_{it}$ takes on zeros for pre-existent committees. In column 2 of Table 8, I then re-estimate the coefficient of interest β by restricting the sample to pre-existent committees and committees in the first quartile of the distribution of $\Delta(\text{years})_{it}$ in the re-deemed Pontine Marshes (the first quartile is a distance equal to 3 years). As one can see, in column 2 the estimation of β turns as not statistically different from zero.

The result in column 2 thus suggests that brand-new committees, inspected nearest foundation, were not more fascist than pre-existent ones. When interpreting this finding one should take into account that, as described in Section 3.2, towns and rural villages in the Pontine Marshes were fully equipped (of a chapel, or a church, a pharmacy, administrative offices, storage areas, a school, a post office, and a local PNF cell) *before* colonists moved into the site and no additional colonists were admitted at a later stage.³⁸ In this respect, initial frictions on the supply side are unlikely to explain the lack of initial difference in the share of people that joined the PNF party.

In column 3 of Table 8 I do the opposite and re-estimate β by restricting the sample to pre-existent committees and committees in the second, third, and fourth quartile of the distribution of $\Delta(\text{years})_{it}$ in the re-deemed Pontine Marshes. Now, the coefficient turns positive and statistically significant, indicating that committees inspected after 4 years since foundation were indeed more fascist than pre-existent ones.

In column 4 I test more formally this relationship by directly exploiting in the right-hand side of the regression plausible exogenous differences in the years spent in the settlement before the occurrence of an inspection. I therefore estimate the following regression:

$$\text{PNF}_{it} = \alpha + \beta_1 \text{PM}_i + \beta_2 \Delta(\text{years})_{it} + X_{it}\gamma' + \eta_t + \varepsilon_{it}. \quad (11)$$

³⁸See, for instance, [Mariani \(1976\)](#) or [Caprotti \(2007\)](#). In particular, [Mariani \(1976, p. 171\)](#) remarks that the three pillars of the new settlements are “*the labor, the ethics, and the numerus clausus*” (translation is mine).

Once again, it is worth remarking that $\Delta(\text{years})_{it}$ not only varies across years (i.e., from 1935 to 1939) but also across PNF committees. Results show that the intensive margin in the years spent in the reclaimed Pontine Marshes explains the entire variation in the share of PNF members. β_1 (which captures the extensive margin), indeed, turns small and not statistically significant, while β_2 is 0.016 and statistically significant—in other words, is the time spent in the reconverted land under the supervision of the regime that seems to foster fascist attachment.

I obtain similar estimates in column 5 of Table 8, where I also include year fixed effects to control for common shocks that might have occurred in a specific year of inspection. Using this specification as a benchmark, one can assess the magnitude of the coefficient β_2 , keeping in mind that a standard deviation in the main explanatory variable is 2.056 (see Table A12). This computation indicates that PNF committees inspected 1SD (in the number of years) after, since foundation, had 3.906 percentage points more in PNF membership, relative to pre-existent committees (i.e., $= 0.019 \times 2.056 \times 100$).

An important concern of the above analysis is the potential role of unobservables in explaining the results of Table 8. Bigger constituencies, for instance, might have had received intentionally more attention by the fascist propaganda and this could have reflected in the shift in the PNF membership in the marshland that hosted the province capital, Littoria. Moreover, it could be that some party committees were more “politically active” and spent more resources to foster membership. More importantly, it could be that the shift in the PNF membership has been driven by the enactment of decrees that forced people to hold the PNF card to maintain their job. Although the possession of the PNF card was not mandatory (and, as I have explained above, it was not required for settlement in the new land), in 1936 the regime forced public servants to become members of the party to hold their post. Hence, it could be that Littoria hosted much of the bureaucrat apparatus of the province—therefore, the massive presence of servants could explain the shift documented in Table 8.

In Table 9 I report these additional results (column 5 of Table 8 is replicated in column 1 for easiness of comparison). Column 2 includes population, while column 3 tests whether expenditure at committee level explains the shift in the PNF membership. In column 4 I test whether after the 1936, in municipalities with a higher share of public servants, PNF committees increased members and whether this variation explains the shift in PNF membership we saw in Table 8. Finally, in column 5 I add a dummy equals to 1 if the committee is located in the city of Littoria (Littoria Banary and Littoria Ganelli) and in column 6 I include all these covariates in a full-fledge regression.³⁹ Irrespective of the specification one looks at, β_2 remains positive and statistically significant.

³⁹ Unfortunately, I do not have information on the resources spent in the two PNF committees of Littoria. As a consequence, the dummy Littoria is automatically dropped in column 6.

8 Conclusions

States typically leverage on schooling to transmit values to the population—values that are instrumental to the elite purposes. Because of that, elites have historically invested considerably in education to activate nation building processes and to control masses. However, indoctrination through schooling typically requires teachers, school buildings and other capabilities to detect and prosecute the parents of students who drop school. This paper documents that this set of capabilities, generally referred to as school capacity, hampered the effort of the Italian fascist regime in transmitting a fascist ideology—a conclusion that a wealth of qualitative, historical researches reached without however looking at schooling.

A comparison of Italy and Germany, on school capacity, during the years between the two world wars, can illuminate on the role of schooling in affecting people's view. In nearly half the time Mussolini had on his disposal, the Nazi regime in Germany shaped minds in a very effective way, reactivating, for instance, long-standing anti-Semitic attitudes that are still strongly present in today Germany ([Voigtländer and Voth, 2015](#)). This paper suggests that, behind this different achievement, there has been a critical difference in school capacity. It is well acknowledged, in fact, that, when Hitler came to power, he could count on a highly disseminated school system and on an almost universal participation in primary schooling. This was not the case in Italy—a country that traditionally suffered from a low school capacity. Yet, the fascist regime invested considerably on education, but it was not capable to clear the gap in full. As a result, several areas, especially the countryside, remained uncovered and therefore unreached by the fascist propaganda in school. This perspective, thus, enriches the classical link between curricula and indoctrination ([Clots-Figueras and Masella, 2013](#); [Cantoni et al., 2017](#)) and indicates that school capacity is an important extensive margin of pedagogical reforms in affecting values.

To identify the effect of school capacity and fascist education on people values, this paper exploits a natural experiment of history—the reclamation of the Pontine Marshes. Several historians and social scientists have looked into the most ambitious infrastructural project carried out by the fascist regime. None however have studied this event as a shock in school capacity in the brand-new province of Latina—a province that assembled pre-existent areas and the reclaimed territories once known as Pontine Marshes. While in the pre-existent areas the enrollment rates in primary schools were low, the construction of the new settlements gave the regime the opportunity to build a strong school capacity with the goal of forging new fascist men. The reclamation of Pontine Marshes thus generated a considerable variation in school capacity between the two areas in the province.

My results show that fascist education had a strong long-lasting impact on people values that I observe through 11 election rounds held between 1948 and 1992. The effect of fascist education is also sizable and important. For example, a deviation in the share of people with an elementary degree, equals to the distance between the means in the two areas of the province,

can account for the entire premium that a post-fascist party secured in the Pontine Marshes in 1948. I estimate similar effects when using the share of the population that cannot write and read as well as of the schooling age population. This circumstance leaves little scope for alternative non-educational channels linking the reclamation in 1930s with post-fascist votes after WWII.

The conclusions of this study brings forward important policy implications, particularly for weak state countries. States interested in transmitting values—e.g., civic values—should first increase their school capability and then redesign curricula. This is particularly important if one looks, for instance, at tax compliance. Countries with a low fiscal capacity have been increasingly leveraging on people internal motivations to raise tax compliance and revenues obtaining, however, meagre results (e.g., [Luttmer and Singhal, 2014](#)). School may rather offer a way to change structurally and over a long period the view of the people.

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Table 1: List of PNF committees in the Pontine Marshes between the reclamation and the outbreak of WWII

<i>PNF committee</i>	<i>Municipality</i>	<i>Foundation of the site</i>	<i>Years of Inspections</i>
Littoria Barany	Littoria	1932	1937
Littoria Ganelli	Littoria	1932	1938
Borgo Bainsizza	Littoria	1932	1936, 1937, 1938
Borgo Carso	Littoria	1932	1936, 1937
Borgo Faiti	Littoria	1932	1937
Borgo Grappa	Littoria	1932	1936, 1937, 1938
Borgo Isonzo	Littoria	1932	1938
Borgo Montello	Littoria	1932	1936, 1937
Borgo Sabotino	Littoria	1932	1936, 1937
Sabaudia	Sabaudia	1933	1935
Doganella	Cisterna di Littoria	1934	1936
Pontinia	Pontinia	1935	1937
Borgo Hermada	Terracina	1935	1937
Aprilia	Aprilia	1936	1937

Notes: Information on the settlement foundation is gathered from [Mazzocchi Alemanni \(1939\)](#); data on inspections from PNF federal inspectors are assembled from the State Central Archive.

Table 2: Summary statistics — 1948 data

	mean	sd	min	max	count
<i>A. Electoral data</i>					
MSI votes (share)	3.207	2.812	0.000	13.793	196
DC votes (share)	53.432	15.813	12.892	92.718	196
PCI votes (share)	23.301	16.164	0.391	74.739	196
Population (000)	0.661	0.135	0.190	0.976	196
<i>B. Census information</i>					
<i>I(Pontine Marshes)</i>	0.184	0.388	0.000	1.000	196
Illiterates (share)	0.181	0.077	0.047	0.412	196
Illiterates in the schooling age (share)	0.085	0.035	0.017	0.270	196
Elementary degree (share)	0.515	0.100	0.201	0.690	196
University degree (share)	0.005	0.004	0.000	0.012	196
Employees in agriculture (share)	0.699	0.210	0.294	1.138	196
Employees in industry (share)	0.108	0.057	0.000	0.248	196
Industry/agriculture ratio	0.207	0.210	0.000	0.844	196
Household size per room	1.726	0.165	1.325	2.150	196
Households with toilet facility (share)	0.410	0.148	0.035	0.693	196
Households with power supply (share)	0.607	0.161	0.073	0.906	196
People in schooling age during fascism (share)	0.573	0.014	0.529	0.596	196
<i>C. Instruments</i>					
Fascist buildings	21.009	99.350	0.079	703.000	196
Schools in use before 1945	1.337	1.626	0.000	5.000	196

Table 3: Balance test for covariates observed in 1948

	(1) Mean	(2) Difference
<i>A. Electoral outcome variables</i>		
MSI votes (share)	3.207*** (0.524)	3.049** (1.383)
DC votes (share)	53.43*** (3.064)	-6.093 (4.128)
PCI votes (share)	23.30*** (3.032)	-2.191 (4.300)
<i>B. Variables on education</i>		
Illiterates (share)	0.181*** (0.0182)	-0.117*** (0.0330)
Illiterates in the schooling age (share)	0.0848*** (0.00638)	-0.0379*** (0.00817)
Elementary degree (share)	0.515*** (0.0222)	0.141*** (0.0217)
University degree (share)	0.00479*** (0.00113)	0.00367 (0.00332)
<i>C. Control variables</i>		
Population (000)	0.661*** (0.0168)	-0.00558 (0.0530)
Employees in agriculture (share)	0.699*** (0.0476)	-0.00972 (0.127)
Employees in industry (share)	0.108*** (0.0137)	-0.00912 (0.0282)
Industry/agriculture ratio	0.207*** (0.0543)	-0.0456 (0.0846)
Household size per room	1.726*** (0.0319)	-0.0706 (0.0383)
Households with toilet facility (share)	0.410*** (0.0319)	-0.0274 (0.0882)
Households with power supply (share)	0.607** (0.0271)	-0.0193 (0.0541)

Balanced test based on information provided on 196 polling stations in the province of Latina in 1948. Column 2 reports the difference between polling stations located in the reclaimed Pontine Marshes and outside. Standard errors are clustered at municipality level, reported in parentheses.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Differential voting for MSI in the reclaimed Pontine Marshes in 1948

	Dependent variable is: Vote share for MSI			
	(1)	(2)	(3)	(4)
$I(Pontine\ Marshes)$	3.049** (1.383)	3.181** (1.266)	3.056*** (1.099)	3.249*** (0.887)
Population (000)		14.374 (9.266)	10.118 (8.704)	9.025 (8.998)
Population (000, squares)		-10.598 (6.388)	-7.747 (6.515)	-6.435 (6.880)
Employees in agriculture (share)			-2.706 (3.037)	-0.314 (3.891)
Employees in industry (share)			5.605 (11.967)	19.130 (12.480)
Industry/agriculture ratio			-2.471 (3.778)	-3.798 (3.219)
Households size per room				2.603 (2.788)
Households with a toilet facility (share)				1.903 (2.941)
Households with power supplied (share)				-5.999** (2.624)
Constant	2.647*** (0.318)	-2.055 (3.349)	1.277 (3.480)	-3.132 (7.677)
Observations	196	196	196	196
R^2	0.177	0.192	0.214	0.296

Notes: Dependent variable is MSI vote share. The unit of observation is the polling station.

$I(Pontine\ Marshes)$ is a dummy variable equals to 1 if a polling station is sited in the reclaimed Pontine Marshes. Robust standard errors clustered at municipality level. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Differential voting for MSI in the reclaimed Pontine Marshes in 1948 — 2SLS estimates

	Dependent variable is: Vote share for MSI			
	OLS estimates		2SLS estimates	
	(1)	second stage	first stage	reduced form
$I(Pontine\ Marshes)$	3.249*** (0.887)	3.171*** (0.867)		
Fascist buildings			0.258*** (0.045)	0.819*** (0.299)
Kleibergen-Paap F-test			33.252	
Observations	196	196	196	196
R^2	0.296	0.296	0.794	0.248

Dependent variable is MSI vote share. The unit of observation is the polling station. $I(Pontine\ Marshes)$ is a dummy variable equals to 1 if a polling station have been part of the socio-demographic experiment during the thirties. Fascist buildings is the logarithm of the ratio between the number of buildings built during the fascist period and (1 plus) the number of buildings built before the 1919 (see Eq. 2). Column 3 uses Fascist buildings to instrument for the probability of being in the Pontine Marshes. All the columns control for population (in 000) and its square, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, the average number of persons in a room of a house and the share of houses that had electric power supplied and a toilet facility. Robust standard errors clustered at municipality level. Symbols:
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: MSI votes shares and elementary education — 2SLS estimates

	Dependent variable is: Vote share for MSI									
	OLS	2SLS estimates		OLS	2SLS estimates		OLS	2SLS estimates		reduced form
		second stage	first stage		(4)	(5)		(6)	(7)	
	(1)	(2)	(3)							
Elementary degree	1.901 (3.645)	30.876* (16.308)								
Illiterates in the schooling age				-8.766 (18.252)	-90.739** (40.979)					
Illiterates							-13.000 (8.077)	-29.486*** (9.514)		
School buildings in use before 1945		0.027** (0.012)				-0.009*** (0.002)			-0.028*** (0.005)	0.834*** (0.276)
Kleibergen-Paap F-test		5.111				17.925			36.874	
Observations	196	196	196	196	196	196	196	196	196	196
R ²	0.142	0.283	0.347	0.145	0.393	0.576	0.194	0.106	0.737	0.251

53

Dependent variable is MSI vote share. The unit of observation is the polling station. Elementary degree is the share of population that hold an elementary school degree. Illiterates in the schooling age is the share of the population age 6-14 that can not write and read. Illiterates is the share of the total population that can not write and read. Fascist school buildings is the number of schools, currently in use, that have been constructed before 1945. All the columns control for population (in 000) and its square around the polling stations, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, the average number of persons in a room of a house and the share of houses that had electric power supplied and a toilet facility. They also include the logarithm of the population of the municipality. Robust standard errors clustered at municipality level. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Differential voting for MSI in the reclaimed Pontine Marshes

	Dependent Variable is Vote Share for MSI											
	(1) 1948	(2) 1953	(3) 1958	(4) 1963	(5) 1968	(6) 1972	(7) 1976	(8) 1979	(9) 1983	(10) 1987	(11) 1992	(12) All Rounds
$I(PontineMarshes)$	3.056*** (1.099)	12.116*** (2.241)	9.254*** (1.748)	6.552*** (1.354)	6.061*** (0.893)	6.295*** (1.076)	3.336*** (0.875)	3.150*** (0.681)	4.825*** (0.974)	2.954*** (0.875)	3.233*** (0.645)	5.168*** (0.538)
Year FE	No	No	No	No	No	No	No	No	No	No	No	Yes
Clustering	M	M	M	M	M	M	M	M	M	M	M	M×T
Observations	196	251	299	324	350	404	456	480	520	564	622	4466
R^2	0.214	0.460	0.430	0.368	0.372	0.399	0.239	0.222	0.309	0.148	0.274	0.350

Dependent variable is MSI vote share. The unit of observation is the polling station. All the columns control for population (in 000) and its square around the polling stations, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture. Robust standard errors are clustered at municipality level (M) in columns 1 to 11 and at municipality \times election year level (M×T) in column 12. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: PNF membership between the reclamation of the Pontine Marshes and the outbreak of WWII

	Dependent Variable is: Share of people that are members of the PNF				
	(1) full	(2) $\Delta(\text{years}) \leq 3$	(3) $\Delta(\text{years}) \geq 4$	(4) full	(5) full
$I(\text{Pontine Marshes})$	0.066*** (0.016)	0.001 (0.010)	0.082*** (0.017)	-0.005 (0.027)	-0.015 (0.024)
$\Delta(\text{years})$				0.016*** (0.006)	0.019*** (0.006)
Constant	0.042*** (0.003)	0.042*** (0.003)	0.042*** (0.003)	0.042*** (0.003)	0.045*** (0.004)
Year FE	No	No	No	No	Yes
Observations	74	58	70	74	74
R^2	0.477	0.001	0.637	0.551	0.567

Dependent variable is the membership share of the National Fascist Party (PNF) between 1935 and 1939. The unit of observation is party committee \times year. $I(\text{Pontine Marshes})$ is a dummy variable equals to 1 if the committee is located in the reclaimed Pontine Marshes. $\Delta(\text{years})$ is the number of years since the foundation of the site and it is zero for pre-existent committees. $\Delta(\text{years}) = 3$ is the first quartile of the distribution of the number of years since the foundation of the site in the reclaimed Pontine Marshes. Year FE are years of inspection t , conducted by PNF federal inspectors, fixed effects. Standard errors clustered at party committee level shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: PNF membership between the reclamation of the Pontine Marshes and the outbreak of WWII — Alternative mechanisms

	Dependent Variable is: Share of members to the PNF					
	(1)	(2)	(3)	(4)	(5)	(6)
$I(Pontine\ Marshes)$	-0.015 (0.024)	-0.016 (0.023)	-0.005 (0.030)	-0.014 (0.024)	-0.011 (0.024)	-0.006 (0.027)
$\Delta(years)$	0.019*** (0.006)	0.018*** (0.006)	0.017** (0.008)	0.018*** (0.006)	0.017** (0.006)	0.015** (0.007)
Population (000)			-0.001 (0.001)			-0.002** (0.001)
Committee's expenditure (000)				-0.000 (0.000)		0.001* (0.000)
Public Servants (share) $\times I(year \geq 1936)$					0.258 (0.184)	0.139 (0.163)
Littoria						0.029 (0.027)
Constant	0.045*** (0.004)	0.052*** (0.005)	0.046*** (0.005)	0.046*** (0.004)	0.045*** (0.004)	0.054*** (0.005)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	74	74	70	69	74	65
R^2	0.567	0.578	0.533	0.584	0.577	0.578

Dependent variable is the membership share of the National Fascist Party (PNF) between 1935 and 1939. The unit of observation is party committee \times year. $I(Pontine\ Marshes)$ is a dummy variable equals to 1 if the committee is located in the reclaimed Pontine Marshes. $\Delta(years)$ is the number of years since the foundation of the site and it is zero for pre-existent committees. Year FE are years of inspection t , conducted by PNF federal inspectors, fixed effects. Standard errors clustered at party committee level shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Online Appendix

State Capacity, Schooling, and Fascist Education:
Evidence from the Reclamation of the Pontine Marshes

By Alessandro Belmonte

A Additional Figures and Tables

Figure A1: A typical classroom in a rural fascist school



Figure A2: A typical sheet compiled by PNF federal inspectors

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FEDERAZIONE DEI FASCI DI COMBATTIMENTO DI LITTORIA																																																																						
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Notes: The figure displays information from the inspection in the PNF committee of Maranola that took place on the 16th of April, 1939. The number of members in that committee was 186.

Figure A3: Financial needs across PNF committes in 1938

Allegato B

P. N. F.
FEDERAZIONE DEI FASCI DI COMBATTIMENTO
LITTORIA

DI

Fabbisogno finanziario occorrente ai FASCI DI COMBATTIMENTO della provincia
 per lo svolgimento di tutte le attività loro affidate.

N. d'ordine	FASCI DI COMBATTIMENTO	Ammontare delle spese sostenute (pagate e da pagare) nel corrente anno XVI, escluse i contributi assegnati alla G. I. L.	Ammontare fabbisogno finanziario occorrente per lo svolgimento di tutte le attività affidate ai FF. di Combattimento per l'anno XVII, escluse quelle della G. I. L. e dell'O. H. D.
1	Aprilia	4.062 55	5.600 -
2	Bassiano	5.500 --	6.000 -
3	Borgo Bainzizza	2.078 20	2.150 -
4	Borgo Carso	3.800 --	2.000 -
5	Borgo Faiti	4.578 40	5.000 -
6	Borgo Grappa	1.591 70	2.000 -
7	Borgo Hermada	3.225 30	3.000 -
8	Borgo Montello	7.405 45	6.000 -
9	Borgo Sabotino	3.970 --	3.000 -
10	Borgo Vodice	870 --	950 -
11	Campodimele	2.007 55	3.000 -
12	Campoleone	1.500 --	2.000 -
13	Castelforte	16.014 30	15.000 -
14	Cisterna di Littoria	17.621 45	18.000 -
15	Cori	25.383 20	20.000 -
16	Fondi	36.471 65	20.000 -
17	Formia	21.268 90	19.000 -
18	Gaeta	67.719 75	64.000 -
19	Giulianello	1.300 --	2.000 -
20	Itri	4.932 70	5.300 -
21	Lenola	4.287 65	5.500 -
22	Maenza	5.715 --	7.000 -

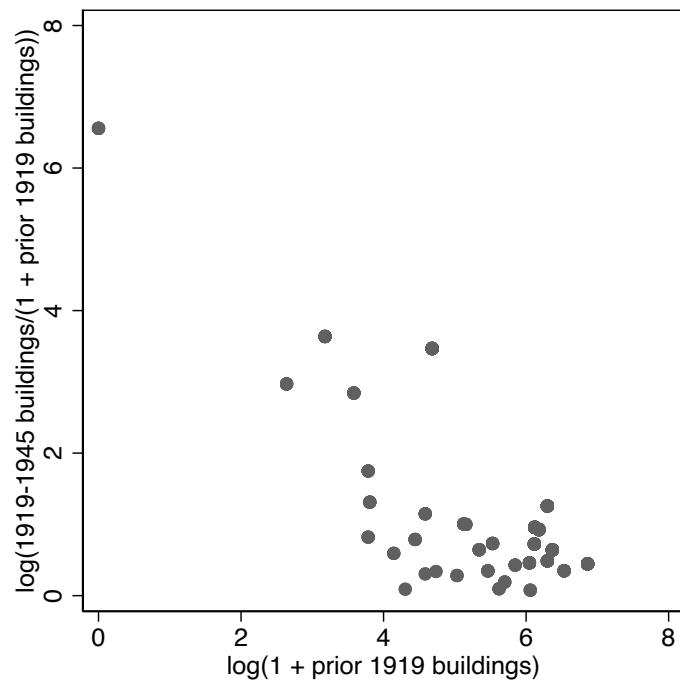
Figure A4: A typical sheet with electoral information as stored in the historical archive of the lower chamber of the Italian parliament

2201

C O M U N E	Numero della Sezione	VOTI DI LISTA																		TOTALE voti di lista validi per Sezione	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
Quedu	Riporto	984	6544	28	2560	654	929	363	2723	786	17	455	385	31	45649					31808	
	15	23	182	1	67	4	16	13	25	7	=	3	4	1	320					633	
	16	20	181	=	49	8	17	10	31	5	1	9	7	=	289					627	
	17	18	137	=	42	5	15	13	30	8	=	3	5	3	223					501	
	18	14	151	=	44	2	18	8	27	16	=	4	4	=	303					589	
	19	15	160	1	38	4	21	7	27	15	1	3	5	=	363					660	
	20	18	139	3	41	6	17	13	33	14	1	4	5	1	356					639	
	21	13	120	1	36	8	18	6	31	25	=	2	2	=	372					639	
	22	17	138	=	71	11	29	8	39	27	1	4	5	1	383					634	
	23	28	116	=	83	6	18	5	43	11	=	5	8	=	348					672	
ITRI	1	6	39	2	131	4	18	11	35	14	=	3	4	=	29					686	
	2	11	209	3	148	1	4	3	41	6	1	3	16	=	158					598	
	3	8	190	3	121	6	16	4	27	4	1	6	10	3	218					662	
	4	15	112	=	136	5	24	5	31	26	2	15	15	1	245					692	
	5	8	195	=	144	6	24	4	49	13	=	3	9	=	742					696	
	6	209	1	95	6	9	2	34	13	=	=	10	1	197					582		
	7	5	123	=	87	8	8	2	56	4	=	1	5		144					643	
	8	9	136	3	60	7	26	4	91	12		3	6		834					589	
	9	32	56		39	4	12	3	57	17		4	3		207					434	
	10	13	144		57	2	14	3	79	5		1			335					653	
	11	13	72		59	2	17	5	36	10		3	7	1	164					389	
	12	38	121		40	7	20	5	79	23	1	1	12		363					709	
	13	37	67		51	20	16		78	20		6	1		307					603	
	14	37	58		25	18	6		67	29		4	6		301					541	
	15	23	57		30	5	14	1	63	31		3	9		233					468	
	16	23	82		66	10	14	4	67	27		4	7		266					568	
	17	35	96		67	13	17	5	108	42	1	5	6	3	323					720	
	A riportare . . .	1458	10010	42	42	4347	830	1357	505	1126	1208	24	251	560	44	22660					47475

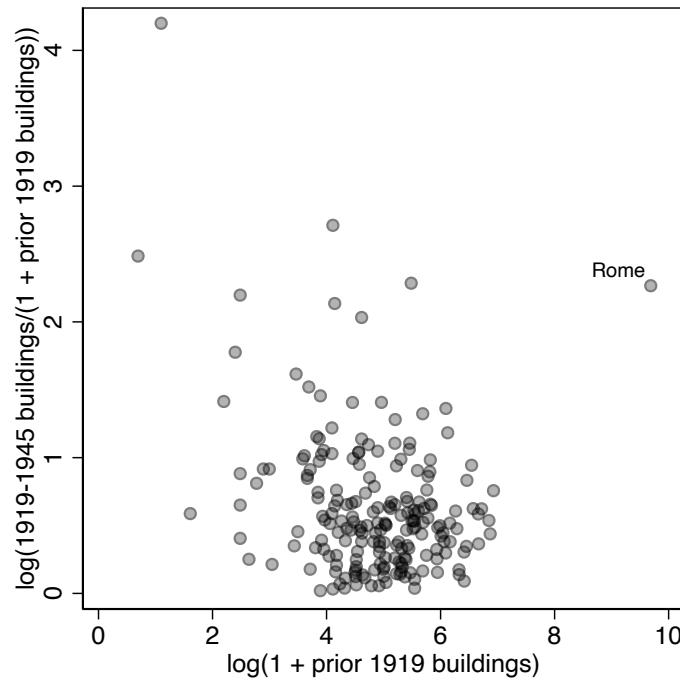
(Malaspina)

Figure A5: Fascist and pre-existent buildings



Notes: The figure displays the cross-municipality scatterplot between the number of fascist buildings (in pre-existent one) and the number of pre-existent buildings prior to 1919. The graph is reported on a log-log scale.

Figure A6: Fascist and pre-existent buildings in the provinces of Rome and Frosinone



Notes: The figure displays the cross-municipality scatterplot between the number of fascist buildings (in pre-existent one) and the number of pre-existent buildings prior to 1919. The graph is reported on a log-log scale.

Figure A7: Average number of polling stations in a municipality across election years

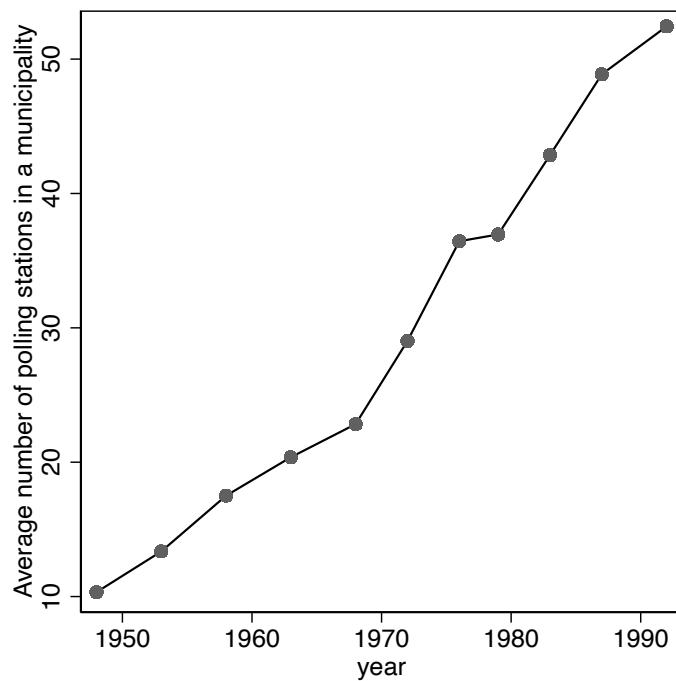


Figure A8: Evolution of the distributions of the ratio between employees in industry and agriculture

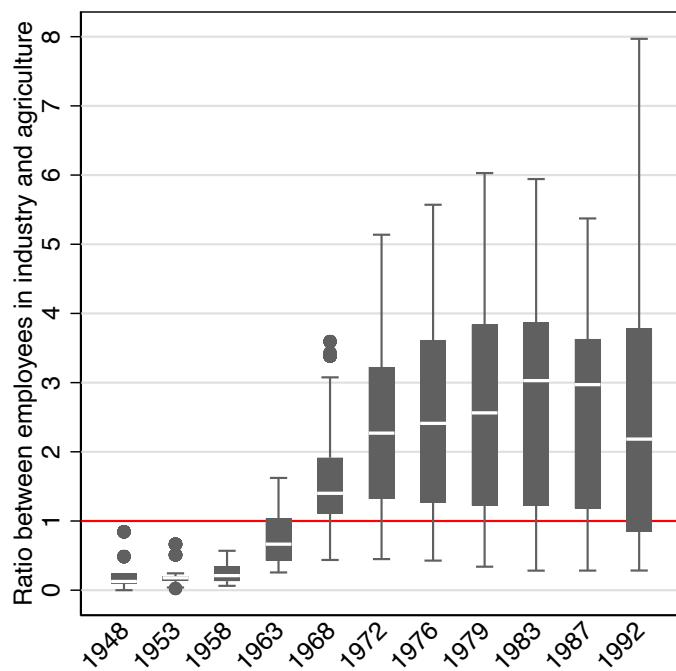


Figure A9: Indicators of economic prosperity

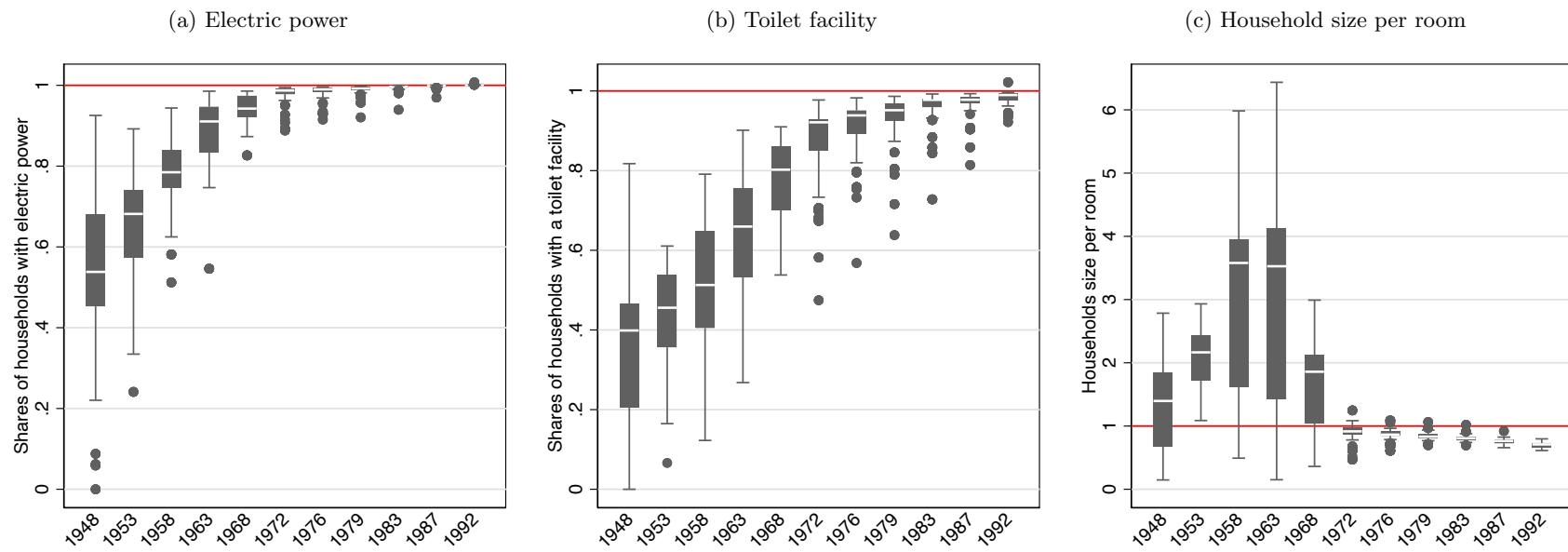
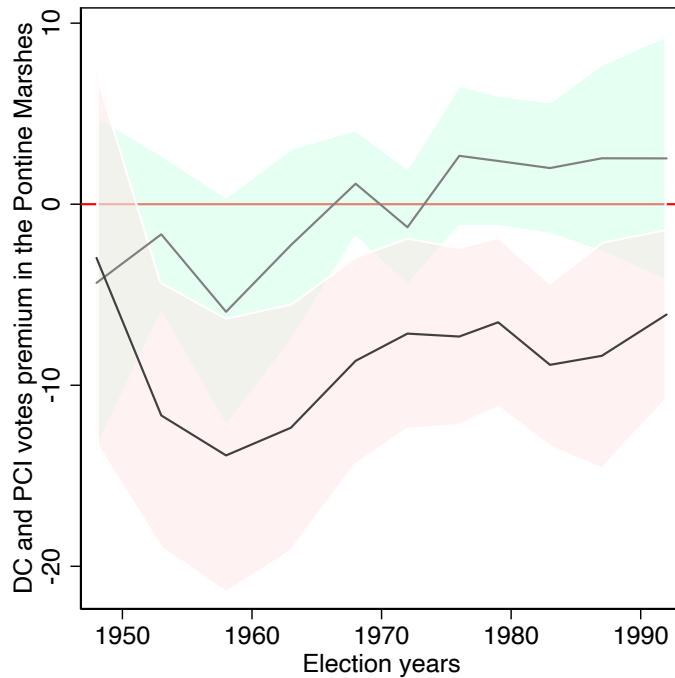


Figure A10: Difference in the DC and PCI vote shares across elections



Notes: The two lines depict the estimated coefficients of the differential vote share for Christian Democrats (DC), around the green area, and the Communists (PCI), around the red area, between polling stations in the reclaimed Pontine Marshes and the rest of the province of Latina in each election year, from 1948 to 1992. Areas boundaries depict the 95% confidence interval around the estimated coefficients. Each regression controls for population (in 000) and its square around the polling stations, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, and cluster standard errors at municipality level.

Table A1: Correlations between covariates and the two instruments

	(1) Fascist buildings	(2) School before 1945
Population (000)	0.008 (0.015)	0.001 (0.011)
Employees in agriculture (share)	0.003 (0.033)	-0.017 (0.028)
Employees in industry (share)	-0.007 (0.008)	0.002 (0.007)
Industry/agriculture ratio	-0.026 (0.026)	-0.008 (0.027)
Household size per room	-0.012 (0.014)	-0.015 (0.011)
Toilet in the house (share)	-0.012 (0.023)	0.015 (0.015)
Power supply in the house (share)	-0.020 (0.015)	0.014 (0.011)

Standard errors clustered at municipal level in parentheses * $p < 0.05$,
** $p < 0.01$, *** $p < 0.001$

Table A2: Reduced form analysis in the provinces of Rome and Frosinone

	Dependent variable is: Vote share for MSI in 1948				
	full sample	Province of Frosinone	Province of Rome	Rome excluded	
	(1)	(2)	(3)	(4)	(5)
Fascist buildings	-0.005 (0.004)	-0.010 (0.006)	-0.002 (0.005)	-0.003 (0.005)	-0.005 (0.004)
Observations	201	89	112	111	200
R^2	0.003	0.022	0.001	0.001	0.004

Dependent variable is MSI vote shares in 1948. The unit of observation is municipality.
 Robust standard errors shown in parentheses. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: MSI votes shares and catholic education

	Dependent variable is:				
	Elementary degree (1)	Illiterates in the schooling age (2)	Illiterates (3)	MSI vote share (4)	MSI vote share (5)
Catholic school buildings in use before 1945	-0.100** (0.042)	-0.028** (0.013)	-0.034 (0.029)	1.762 (1.413)	0.908 (1.189)
State school buildings in use before 1945				0.763** (0.282)	
Observations	196	196	196	196	196
R ²	0.342	0.544	0.581	0.174	0.259

Dependent variable is MSI vote share. The unit of observation is the polling station. Elementary degree is the share of population that hold an elementary school degree. Illiterates in the schooling age is the share of the population age 6-14 that can not write and read. Illiterates is the share of the total population that can not write and read. State school buildings in use before 1945 is the number of schools, currently in use, that have been constructed before 1945. Catholic school buildings in use before 1945 is the number of private, Catholic schools, currently in use, that have been constructed before 1945. All the columns control for population (in 000) and its square around the polling stations, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, the average number of persons in a room of a house and the share of houses that had electric power supplied and a toilet facility. They also include the logarithm of the population of the municipality. Robust standard errors clustered at municipality level. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Differential voting for DC and PCI in the reclaimed Pontine Marshes in 1948

	Dependent variable is vote share for:									
	Christian Democrats (DC)					Communists (PCI)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>I(Pontine Marshes)</i>	-6.093 (4.128)	-6.223 (4.250)	-4.347 (4.541)	-3.533 (4.475)		-2.191 (4.300)	-1.946 (4.749)	-2.968 (5.085)	-5.978 (5.239)	
Fascist buildings					-2.006 (1.499)					-1.161 (1.730)
Population (000)		-21.058 (51.577)	-34.273 (46.562)	-26.397 (43.689)	-36.624 (40.753)		36.387 (44.232)	52.713 (43.246)	74.457 (47.456)	75.487 (45.896)
Population (000, squares)		2.448 (41.131)	22.855 (36.952)	18.668 (35.792)	27.637 (32.606)		-8.450 (35.524)	-27.892 (34.698)	-47.283 (37.070)	-46.950 (35.290)
Employees in agriculture (share)			11.953 (23.005)	31.152 (31.627)	27.606 (33.818)			1.552 (26.309)	-40.269 (43.661)	-36.905 (44.351)
Employees in industry (share)				-99.444 (112.275)	-87.171 (111.093)	-92.214 (109.099)		114.207 (126.103)	41.325 (99.300)	39.588 (101.589)
Industry/agriculture ratio					62.247** (26.009)	67.823** (25.901)	65.466** (24.916)		-49.643** (24.118)	-52.900** (22.139)
Households size per room						0.166 (12.552)	-0.064 (12.411)			-22.299* (12.395)
Toilet in the house (share)						30.039 (32.822)	29.199 (33.286)			-53.820 (41.617)
Power supply in the house (share)						-33.102* (17.549)	-34.703** (16.510)			-50.306 (41.031)
Constant	54.551*** (3.711)	67.377*** (15.262)	56.040* (28.951)	44.148 (42.783)	54.168 (47.001)	23.704*** (3.662)	3.457 (12.600)	-1.505 (31.415)	59.102 (51.691)	52.750 (53.581)
Observations	196	196	196	196	196	196	196	196	196	196
R ²	0.022	0.046	0.192	0.260	0.277	0.003	0.049	0.146	0.300	0.290

Dependent variable is DC vote share in columns 1 to 5 and PCI vote share in columns 6 to 10. The unit of observation is the polling station. *I(Pontine Marshes)* is a dummy variable equals to 1 if a polling station have been part of the socio-demographic experiment during the thirties. Fascist buildings is the logarithm of the ratio between the number of buildings built during the fascist period and (1 plus) the number of buildings built before the 1919 (see Eq. 2). Robust standard errors clustered at municipality level. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: Christian Democrats, the Communists, and elementary education

	Dependent variable is:							
	Vote share for DC				Vote share for PCI			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Elementary degree	-0.556 (20.956)				-18.039 (22.749)			
Illiterates in the schooling age		37.184 (80.558)				37.240 (88.450)		
Illiterates			-11.071 (31.281)				90.059** (40.277)	
School buildings in use before 1945				2.376 (1.434)				-5.291*** (1.786)
Observations	196	196	196	196	196	196	196	196
R ²	0.335	0.338	0.336	0.363	0.325	0.319	0.395	0.452

Dependent variable is DC vote share. The unit of observation is the polling station. Elementary degree is the share of population that hold an elementary school degree. Illiterates in the schooling age is the share of the population age 6-14 that can not write and read. Illiterates is the share of the total population that can not write and read. School buildings in use before 1945 is the number of schools, currently in use, that have been constructed before 1945. All the columns control for population (in 000) and its square, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, the average number of persons in a room of a house and the share of houses that had electric power supplied and a toilet facility. They also include the logarithm of the population of the municipality. Robust standard errors clustered at municipality level. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6: PCI votes shares and elementary fascist education — 2SLS estimates

	Dependent variable is: Vote share for PCI		
	(1)	(2)	(3)
Elementary degree	-195.927** (99.958)		
Illiterates in the schooling age		575.788*** (220.005)	
Illiterates			187.104*** (55.878)
Observations	196	196	196
R ²	0.283	0.393	0.303

Dependent variable is PCI vote share. The unit of observation is the polling station. Elementary degree is the share of population that hold an elementary school degree. Illiterates in the schooling age is the share of the population age 6-14 that can not write and read. Illiterates is the share of the total population that can not write and read. All the columns control for population (in 000) and its square around the polling stations, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, the average number of persons in a room of a house and the share of houses that had electric power supplied and a toilet facility. They also include the logarithm of the population of the municipality. Robust standard errors clustered at municipality level. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A7: Fascist generation and vote in 1948

	Dependent variable is: Vote share in 1948 for		
	MSI (1)	DC (2)	PCI (3)
<i>I(Pontine Marshes)</i>	-268.279*** (39.084)	-148.552 (508.446)	113.401 (509.183)
Share of people in schooling age 1923-1945	54.531** (23.197)	-619.583*** (153.174)	280.221* (141.349)
<i>I(Pontine Marshes)</i> × Share of people in schooling age 1923-1945	457.721*** (66.028)	266.548 (861.778)	-211.597 (860.880)
Constant	-31.571 (18.677)	400.696*** (103.225)	-102.711 (86.870)
Observations	196	196	196
<i>R</i> ²	0.404	0.418	0.331

Dependent variable is MSI vote share in column 1, DC (the Christian Democrats party) vote share in column 2, and PCI (the Communists) in column 3. The unit of observation is the polling station. *I(Pontine Marshes)* is a dummy variable equals to 1 if a polling station have been part of the socio-demographic experiment during the thirties. All the columns control for population (in 000) and its square, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, the average number of persons in a room of a house and the share of houses that had electric power supplied and a toilet facility. Robust standard errors clustered at municipality level. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A8: School capacity, cohorts exposed to fascist education and post-fascist vote

	Dependent variable is: Vote share for MSI			
	(1)	(2)	(3)	(4)
Share of people in schooling age 1923-1945	75.187 (47.578)	132.983*** (31.668)	135.100*** (33.899)	55.867* (30.551)
Elementary degree (> median)	-37.130 (28.764)			
Elementary degree (> median) × Share of people in schooling age 1923-1945	64.684 (50.629)			
Illiterates in the schooling age (> median)	39.683** (18.851)			
Illiterates in the schooling age (> median) × Share of people in schooling age 1923-1945	-71.952** (33.006)			
Illiterates (> median)	31.530 (29.344)			
Illiterates (> median) × Share of people in schooling age 1923-1945	-55.551 (51.441)			
School buildings in use before 1945		-26.027*** (4.641)		
School buildings in use before 1945 × Share of people in schooling age 1923-1945		45.077*** (7.866)		
Observations	196	196	196	196
R ²	0.333	0.377	0.331	0.407

Dependent variable is MSI vote share. The unit of observation is the polling station. Elementary degree is the share of population that hold an elementary school degree. Illiterates in the schooling age is the share of the population age 6-14 that can not write and read. Illiterates is the share of the total population that can not write and read. Fascist school buildings is the number of schools, currently in use, that have been constructed before 1945. All the columns control for population (in 000) and its square around the polling stations, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, the average number of persons in a room of a house and the share of houses that had electric power supplied and a toilet facility. They also include the logarithm of the population of the municipality. Robust standard errors clustered at municipality level. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A9: Summary statistics — Post-WWII data

	mean	sd	min	max	count
<i>A. Electoral data</i>					
MSI votes (share)	8.948	5.386	0.000	40.659	4466
DC votes (share)	40.658	11.540	0.671	92.718	4466
PCI votes (share)	22.593	13.833	0.391	92.394	4466
Population (000)	0.557	0.141	0.047	1.578	4466
<i>B. Census information</i>					
Employees in agriculture (share)	0.226	0.164	0.047	1.138	4466
Employees in industry (share)	0.273	0.145	0.000	0.641	4466
Industry/agriculture ratio	2.009	1.592	0.000	7.969	4466
Households size per room	1.281	1.058	0.000	6.436	4466
Households with power supplied (share)	0.927	0.140	0.000	1.008	4466
Households with a toilet facility (share)	0.830	0.210	0.000	1.022	4466

Table A10: Differential voting for MSI in the reclaimed Pontine Marshes — Additional covariates

	Dependent Variable is Vote Share for MSI											
	(1) 1948	(2) 1953	(3) 1958	(4) 1963	(5) 1968	(6) 1972	(7) 1976	(8) 1979	(9) 1983	(10) 1987	(11) 1992	(12) All Rounds
$I(PontineMarshes)$	3.049** (1.383)	12.269*** (2.712)	9.014*** (1.944)	6.754*** (1.215)	6.439*** (1.006)	7.352*** (2.011)	3.787** (1.421)	3.246*** (0.993)	4.657*** (1.473)	2.510** (1.013)	3.345*** (0.651)	4.952*** (0.537)
Year FE	No	No	No	No	No	No	No	No	No	No	No	Yes
Clustering	M	M	M	M	M	M	M	M	M	M	M	M×T
Observations	196	251	299	324	350	404	456	480	520	564	622	4466
R^2	0.177	0.429	0.395	0.329	0.334	0.257	0.126	0.131	0.201	0.107	0.244	0.326

Dependent variable is MSI vote share. The unit of observation is the polling station. All the columns control for population (in 000) and its square around the polling stations, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture, the average household size per room and the share of households that had electric power supplied and a toilet facility. Robust standard errors are clustered at municipality level (M) in columns 1 to 11 and at municipality \times election year level (M×T) in column 12. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A11: Differential voting for MSI in the reclaimed Pontine Marshes — 2SLS estimations

	Dependent variable is: Vote share for MSI			
	OLS estimates		2SLS estimates	
	(1)	second stage	first stage	reduced form
<i>I(Pontine Marshes)</i>	5.168*** (0.538)	6.358*** (0.523)		
Fascist buildings			0.258*** (0.015)	1.642*** (0.186)
Kleibergen-Paap F-test			299.028	
Election year FE	Yes	Yes	Yes	Yes
Observations	4466	4466	4466	4466
<i>R</i> ²	0.350	0.341	0.782	0.371

Dependent variable is MSI vote share in 11 election rounds (1948-1992). The unit of observation is the polling station. *I(Pontine Marshes)* is a dummy variable equals to 1 if a polling station is located in the reclaimed Pontine Marshes. Fascist buildings is the logarithm of the ratio between the number of buildings built during the fascist period and (1 plus) the number of buildings built before the 1919 (see Eq. 2). Column 3 uses Fascist buildings to instrument for the probability of being in the Pontine Marshes. All the columns control for population (in 000) and its square, the share of employees in agriculture in the workforce, the share of employees in industry in the workforce, the ratio between employees in industry and agriculture and include election year fixed effects. Robust standard errors clustered at municipality×election year level. Symbols: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A12: Summary statistics — Data on the fascist period

	mean	sd	min	max	count
PNF members in the pop. (share)	0.060	0.042	0.014	0.231	75
<i>I(Pontine Marshes)</i>	0.280	0.452	0.000	1.000	75
Years of inspection since foundation	1.173	2.056	0.000	6.000	75
Population (000)	6.360	5.578	0.867	18.332	75
Expenditure of PNF committees (Liras, 000)	12.436	15.740	0.227	67.719	71
Public servants in the workforce (share)	0.038	0.018	0.014	0.097	69