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Samuel Bazzi
Masyhur Hilmy
Benjamin Marx

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ABSTRACT

This paper explores how state and religious providers of education compete during the nation building process. Using novel administrative data, we characterize the evolution of Indonesia's Islamic education system and religious school choice after the introduction of mass public primary schooling in the 1970s. Funded through informal taxation, Islamic schools entered new markets, became more formal, and introduced more religious curriculum to compete with the state. While primary enrollment shifted towards state schools, religious education increased overall as Islamic schools absorbed growing demand for secondary education. In the short run, electoral support for the secular regime weakened in markets with greater public school construction. Over the long run, cohorts exposed to mass public schooling as children are more invested in religion than in the national identity. Our findings offer a new perspective on the political economy of education reforms and the emergence of parallel systems of public goods provision.

Samuel Bazzi
University of California, San Diego
School of Global Policy and Strategy
9500 Gilman Drive, 0519
La Jolla, CA 92093
and CEPR
and also NBER
sbazzi@ucsd.edu

Masyhur Hilmy
Boston University
Department of Economics
270 Bay State Rd.
Boston, MA 02215
mhilmy@bu.edu

Benjamin Marx
Boston University
Department of Economics
270 Bay State Road
Boston, MA 02115
bmarx@bu.edu

An online appendix is available at http://www.nber.org/data-appendix/w27073

1 Introduction

Providing education is one of the central missions of modern states. Yet, mass public schooling is a recent historical phenomenon. For centuries, religious organizations dominated schooling markets across Europe, the Middle East, and elsewhere. In many countries, the state curtailed religious influence in education through sweeping secularization policies. In other countries, religious schools still cater to large numbers of students. These varied trajectories raise important questions about how state and non-state providers of education compete throughout the nation-building process. Recent work has examined the link between schooling reforms and ideology (Alesina et al., 2021; Cantoni et al., 2017; Squicciarini, 2020) but has not explored the competitive response to state expansion in education markets, nor its potential to trigger a backlash (Carvalho et al., 2022; Fouka, 2020). In this paper, we provide new insights on this competitive process and its implications for cultural change.

We explore the political economy of education reforms in Indonesia, the world's largest Muslim country. Millions of Indonesians were educated in religious institutions historically, and around one-fifth of students attended Islamic schools in 2019. This dual system persisted despite many attempts by the state to reform it. In the 1970s, the country underwent a drastic expansion of its public schooling system through the celebrated *Sekolah Dasar* Presidential Instruction, or SD INPRES (Duflo, 2001). This policy not only increased access to public primary schooling, but also aimed to homogenize education through the adoption of a single secular national curriculum (Boland, 1982; Kelabora, 1976). We study how the Islamic school system adapted to this landmark policy and mitigated its impacts.

Our empirical strategy examines the dynamic effects of SD INPRES on education markets and exposed cohorts. We use several novel data sources to explore how the policy shaped multiple dimensions of schooling content and cultural outcomes. Nationally-representative surveys capture Islamic school choice, and administrative data record the universe of schools with date and location of establishment. The latter comprise nearly 220,000 secular and 160,000 Islamic schools, including day (*madrasa*), boarding (*pesantren*), and Qur'anic study schools (*diniyah*). Additional survey and administrative data help uncover local mechanisms for mobilizing and funding the Islamic sector response to SD INPRES. For some schools, we also observe a breakdown of curriculum hours in 2019, which we use to measure religious instruction and to identify shifts in ideological differentiation. Together, these data enable us to characterize supply- and demand-side responses over the ensuing decades.

We develop a stylized conceptual framework to guide our analysis. The setup first clarifies why mass schooling involves a confrontation with incumbent religious providers. If resource constraints initially prevent the state from building schools everywhere, markets appear segmented as religious schools target either the more religious markets or markets not served by the state. Starting from this baseline equilibrium, we hypothesize that development may increase revenue for both state and religious providers. The state challenges religious providers in their strongholds, but the latter also enter new markets to compete with public schools and further differentiate their curriculum to attract more religious students. Introducing secondary education raises the likelihood that religious and state schools will co-locate, as religious schools seek to absorb the new influx of primary graduates.

Using a suite of difference-in-differences (DID) methods, we evaluate how SD INPRES affected Is-

lamic school entry at different levels of policy variation and market aggregation. The state allocated schools across districts proportional to their non-enrolled-student population. The conceptual framework clarifies why such targeting *de facto* implied greater SD INPRES construction in markets with more Islamic schools. Motivated by this insight, we estimate DID specifications that flexibly account for differential trends in Islamic education and deploy the new synthetic DID approach (Arkhangelsky et al., 2021), which is more robust to potential violations of parallel trends. Using our granular administrative data, we also exploit, for the first time, the staggered entry of INPRES schools at the village level.

Islamic school construction increased in areas where the state built more primary schools. We find greater entry both at the primary level, where new *madrasa* provided an alternative to newly built public primary schools, and at the secondary level, where *madrasa* capitalized on growing demand for continued schooling among INPRES graduates—especially in markets where the state was not building secondary schools. This ensured that the state-led educational expansion failed to crowd out Islamic schools. Informal boarding schools and afternoon Qur'anic study schools also entered, but these informal institutions decreased as a fraction of all new Islamic schools.

The new *madrasa* entering high-INPRES districts after the program also provided more religious curriculum. We measure differentiation based on classroom hours devoted to religious subjects, including Islamic law, theology, and ethics, as well as Arabic instruction. The increase in Islamic content comes, in part, at the expense of core subjects in the standard curriculum, including study of the national language and *Pancasila*, the secular ideology of the state. Our framework suggests that such differentiation may have been necessary for Islamic schools to remain competitive. However, these responses directly undermined the state's efforts to homogenize and secularize education.

The Islamic sector leveraged its own resources to respond to the state's mass schooling effort. While windfall oil revenues allowed the state to build more than 61,000 schools between 1973–80, increased revenue from a simultaneous spike in the global price of rice accrued to the largely informal Islamic taxation system. In addition, the Islamic sector leveraged inalienable religious endowments (*waqf*) to expand educational infrastructure. This revenue stream, built on private charity, supports religious investments in education markets across the Muslim world. We show that the entry response was stronger in villages with a larger *waqf* base before INPRES and greater exposure to the concurrent rice price shock. Meanwhile, as state oil revenue collapsed in the early 1980s, capacity constraints in public secondary schools deepened, thus creating an opportunity for the Islamic sector to capture SD INPRES graduates.

While Islamic schools lost market share in primary education, they expanded in secondary and ultimately increased exposure to formal Islamic education. Among school-age cohorts, SD INPRES decreased Islamic elementary enrollment. However, mass primary schooling created excess demand for secondary education, and the Islamic sector was able to absorb many INPRES graduates in its newly built secondary institutions.[1] Overall, demand effects at the secondary level offset substitution effects at

[1]Auxiliary data from the Indonesian Family Life Survey suggest that nearly 80% of students in Islamic secondary schools attended public primary schools, and Indonesia is not unique in the prevalence of public-to-private transitions. In a series of studies, James (1987a,b, 1993) observed, across many countries, that excess demand for secondary education was an inevitable outcome of mass primary schooling interventions and a potential driver of growth in private secondary schools. An advisor to the Indonesian government observed that "[i]n 1972, any plan that rapidly increased the number of students going beyond grade 6 would have resulted in grave problems of accommodation" (Beeby, 1979, p. 193).

the primary level and made it more likely that exposed cohorts attended a formal Islamic school. Thus, SD INPRES increased not only years of schooling but also, unexpectedly, exposure to *madrasa* education.

We show that heterogeneous preferences shaped these demand-side responses. Female students exhibit weaker substitution effects at the primary level, where *madrasa* offered an alternative to parents wary of educating their daughters in secular public schools, especially after a ban on female veiling in those schools. While SD INPRES had more limited impacts on total years of schooling among girls (roughly half the size among boys), those impacts might have been even more limited if not for the new Islamic primary options. Families were also more likely to send their children to an Islamic secondary school in high-INPRES regions with deeper historical support for Islamic politics.

These results open a new window into the celebrated SD INPRES program and help explain the surprising political and ideological legacy of mass schooling. The school expansion did not benefit the autocratic President Suharto's political party, *Golkar*, in the 1977 and 1982 elections, nor after 1987 when affected cohorts began to vote. In the medium to long run, school-age exposure to SD INPRES did not increase support for *Pancasila*, use of the national language, or affinity with secular principles. Instead, exposed cohorts are more literate in Arabic (a core part of Islamic school curriculum) and exhibit greater piety across a range of Islamic practices. Among legislative candidates in the 2019 election, exposed cohorts are more likely to run with an Islamic party than with *Golkar* and less likely to campaign on nation-building themes. Finally, Arabic literacy among affected cohorts is passed on to children in the next generation. Together, these results show that Indonesia's landmark mass public schooling policy did not bolster support for the regime nor adoption of a secular Indonesian identity.

Our paper provides a new framework for understanding competition between the state and other providers of public goods over the course of development. While our focus is on education, the dynamics we study may apply broadly to other domains of competition between formal and informal actors, including tax collection (Olken and Singhal, 2011), health (Lowes and Montero, 2019), policing (Blattman et al., 2021), or justice (Acemoglu et al., 2020). Competitive frictions are especially salient at early stages of development where limited capacity often leads states to outsource service delivery (Banerjee et al., 2019; Romero et al., 2020). Equipped with rich data on both formal and informal schools, we provide original insights on the challenges associated with the formalization process. Our findings have implications for many settings where dual systems of governance involving traditional, informal, or religious authorities have endured (Acemoglu et al., 2014; Basurto et al., 2020).

Building on research across the social sciences, we also provide novel evidence on the role of education in nation building (Anderson, 1983; Boli et al., 1985; Gellner, 1983; Green, 1990). Recent work shows that mass schooling is introduced during periods of social conflict (Paglayan, 2022) and describes the strategies used by states to engage with religious schools (Ansell and Lindvall, 2013).[2] Our key innovation lies in understanding how the responses by non-state actors shape the impacts of mass schooling. Squicciarini (2020) shows how Catholic schooling slowed the diffusion of technical

[2] Alesina et al. (2021), Paglayan (2021), and Testa (2018) study why non-democratic regimes engage in mass schooling. Cantoni and Yuchtman (2013) examine the tradeoffs governments face in determining new forms of educational content. In the U.S., Bandiera et al. (2019) link the rise of compulsory schooling to nation-building efforts in response to mass immigration. Cantoni et al. (2017) study how a curriculum reform affected political attitudes in China. Other studies show that education fosters civic values and engagement (Andrabi et al., 2020; Dee, 2004; Larreguy and Marshall, 2017).

knowledge in 19th century France (see also Franck and Johnson, 2016); West and Woessmann (2010) argue that such backlash was pervasive in European states with a large Catholic population but where Catholicism was not the state religion.[3] In contrast, we explore competition between state and non-state schools after one of the largest school expansion programs ever implemented. Ultimately, the Islamic sector response contributed to the program's limited impacts on secular nation building.

Prior work on SD INPRES has not explored market dynamics or the program's nation-building consequences. Akresh et al. (2018) and Mazumder et al. (2019) explore intergenerational effects on similar outcomes as Duflo (2001), while Ashraf et al. (2020) study effects on ethnic groups with a bride price tradition. Martinez-Bravo (2017), Roth and Sumarto (2015), and Rohner and Saia (2019) explore impacts on governance, intergroup tolerance, and conflict. We expand the scope of analysis to provide new insights into the political economy of education policy in societies with a strong non-state schooling sector.

These insights also advance the literature on education and its consequences for religious transmission. Some have explored the returns to Catholic schooling (Altonji et al., 2005; Neal, 1997), while others provide background on Islamic schooling in Muslim societies (Andrabi et al., 2006; Berman and Stepanyan, 2004). Few studies distinguish between private secular and private religious schools, which often pursue distinct ideological objectives. Our findings suggest that mass public schooling in Indonesia fell short of its ideological objectives through a combination of exposure to religious education and increased transmission of Islamic values (as in the models of Bisin et al., 2020; Carvalho et al., 2022). As a result, religiosity did not wane in the long run. As such, our paper is among the first to link educational expansion to greater piety, at the expense of secularization objectives.[4] We provide a new answer to the puzzle of enduring religion in modernizing societies: religious institutions vary in their capacity to adapt to secularization, and religious schools can provide a relevant substitute to public education.

2 Political Economy of Education in Indonesia

Indonesia's vibrant Islamic education sector reflects the enduring role of religious schools in a country home to more than 230 million Muslims. This section provides relevant background on the origins and the resilience of the country's dual education system. Appendix C additionally presents qualitative accounts from Islamic schools constructed during the mass schooling era.

2.1 Origins and Characteristics of the Dual Education System

Indonesia's education system has historically been comprised of secular and religious schools. The former were modeled after the Dutch system and first built in large numbers during the colonial era. After 1945, amidst heated debate about the role of religion in the young nation, Indonesia's new leaders opted for a state-run secular education system governed by the Ministry of Education and Culture (MEC) and

[3] On cultural backlash to state schooling policies, see also Fouka (2020) and Sakalli (2019) for examples from the U.S. and Turkey.
[4] Many studies show that education weakens religious practice (e.g., Hungerman, 2014), with examples in Germany (Arold et al., 2022; Becker et al., 2017) and Turkey (Cesur and Mocan, 2018; Gulesci and Meyersson, 2016). However, across countries there is considerable heterogeneity in the education–religiosity relationship (see Appendix Figure A.10).

regularly sought to diminish the influence of religious schools.[5]

Islamic schools long predated secular schools. The country's first religious schools were the *pesantren*, a type of boarding school blending Islamic and Javanese pedagogical principles. The oldest *pesantren* in our data was founded in the 15th century. Contemporary *pesantren* are dedicated to the study of Islam, face little regulatory oversight, and offer instruction across multiple ages often in the same classroom.

Madrasa, the main type of Islamic school operating today, are day schools that use methods similar to secular schools but offer more religious content. Inspired by reformist influences from the Middle East, they appeared in Indonesia in the early 1900s as an attempt to modernize Islamic education and counter Western influence (Kelabora, 1976; Kuipers, 2011). *Madrasa* operate at the same levels as secular schools, from primary to junior secondary to senior secondary, but teach a range of religious subjects that are not covered in the latter. This includes Islamic law (*fiqh*), doctrine (*aqidah*), ethics (*akhlaq*), the Qur'an and traditions of Prophet Muhammad (*hadith*), Arabic language, and history of the Prophets (*qisa al-anbiya*). In our data, the average *madrasa* devotes 26% of instruction hours to religious content, only 5% is devoted to *Pancasila* and Civic Education, and an additional 5% to Indonesian language and literature. Beyond the formal *madrasa*, more informal schools known as *madrasa diniyah* focus largely on Qur'anic study, often operate in the afternoon, and attract students who attend public schools in the morning.

Although officially under the purview of the Ministry of Religious Affairs (MORA), the Islamic education system is highly decentralized with most establishments run through autonomous *waqf* endowments. *Waqf* provide the land on which schools are built and some of the revenue to cover construction and operating costs. Under Islamic law, assets held in *waqf* are inalienable and can only be used for religious or charitable purposes. Bazzi et al. (2020) show how land transfers into *waqf* across Indonesia in the 1960s allowed Islamic institutions such as *pesantren* and *madrasa* to thrive and ensured their long-term financial autonomy. In addition to *waqf*-based financing, voluntary faith-based contributions (*infaq*) and obligatory alms (*zakat*) are important sources of revenue. Large Islamic organizations run only a small fraction of all Islamic schools, but they are important for mobilizing these community contributions.[6]

Islamic schools comprise the majority of all private schools (more than 60% in 2019), and within many markets, private school choice is tantamount to Islamic school choice. Unlike non-religious private schools, Islamic and state schools charge minimal fees. According to 2015 household survey data (*Susenas*), average annual costs of primary *madrasa* were USD 20 compared to USD 21 for primary public, and students report traveling similar distances to attend each type of school. This suggests ample scope for local competition, something already observed in the early 1970s: "[e]xcept for the small number who can afford the more expensive private schools, the only significant choice at the primary level is between schools under the Education Department [i.e., SD] and religious schools" (Beeby, 1979).

At the time of writing, Islamic schools enroll 21% of Indonesia's 60 million students (Appendix Table A.14). More than two-thirds of these students attend formal *madrasa* with the remainder in *pesantren*. The rest attend secular schools, the vast majority of which are public, especially at the primary level.

[5]For example, in 1958, a failed reform aimed to limit religious instruction time to 21–28% of study hours in Islamic schools.
[6]One of these large Islamic organizations, *Muhammadiyah*, controlled over 3,000 hectares of *waqf*-endowed property as of 2004 (Jahar, 2005), and it operated roughly 1,900 or 3.6% of all *madrasa* in 2019.

2.2 The Politics of SD INPRES

Despite multiple reform attempts under Indonesia's first president, Sukarno, the government failed to homogenize the country's education system and to achieve universal primary schooling. In the 1960s, Indonesia was deeply divided and a new regime, President Suharto's New Order, took hold after mass violence decimated a burgeoning Communist movement.

Suharto prioritized universal public education as part of a broader secular nation building agenda at odds with organized Islam. The regime tried in 1967 and again in 1972, failing both times, to convince Islamic schools to become state-run and to reduce their religious curriculum in exchange for greater fiscal subsidies. Less than a decade later in 1982, the government would effectively ban the Islamic veil for girls inside public schools. Confrontation also emerged across domains besides education. In the early 1970s, the state enacted a Marriage Law challenging Muslim marital norms enforced by Islamic courts (Cammack, 1989). In 1973, the regime forced Islamic political organizations into the umbrella United Development Party (*Partai Persatuan Pembangunan* or PPP). In 1977, the regime forced the PPP to drop Islamic symbolism, and in 1984 forced it to adopt *Pancasila* as its official ideological platform.

It was during this conflictual period that the regime launched SD INPRES. Equipped with windfall oil revenues, the government allocated considerable resources for primary school construction. Presidential Instruction No. 10/1973 and subsequent yearly decrees specified funding allocations to each district as a function of the child population not enrolled in school. In total, up to 61,000 schools were constructed between 1973–80 under the program, with districts receiving between 16 and 824 new elementary schools.[7] Parallel to the school expansion program, a 1972 decree stipulated that all formal education must be administered by the MEC. This was strongly opposed by Muslim leaders and abandoned in 1975.[8] The regime also intended to expand secondary school construction after SD INPRES implementation. However, as oil prices collapsed in the early 1980s, budgetary resources dried up, leaving the country with far fewer secondary public schools than anticipated by planners in the 1970s.

This vast reform agenda aimed at secularizing and homogenizing primary education. Civic education was to supplant certain Islamic subjects, while instruction was to take place in the national language, *Bahasa* Indonesia, rather than local ethnic languages or Arabic. The goal was to build a citizenry steeped in the inclusive *Pancasila* ideology and invested in the national identity. A World Bank (1989) report notes that "…public education was viewed by the Government as a key medium for promoting national unity—first, through instruction in *Pancasila*, and next through instruction in the national language" (p. 14), and that "[i]n so large and dispersed a country …policymakers have consistently looked to neighborhood primary schools as vehicles for national integration" (p. 35).

Given its objective to expand public schooling, SD INPRES was prone to confrontation with the Islamic sector. The policy rule allocated resources proportional to the non-enrolled primary-school-age population at the district level within provinces. This meant building more schools in areas with greater unmet demand for formal education. As discussed in Section 3, such areas are precisely those where

[7] The Presidential Decrees for 1973–74 (INPRES 10/1973 and 6/1974), 1975–76 (6/1975 and 3/1976), 1977–78 (3/1977 and 6/1978) and 1979–80 (12/1979 and 6/1980) authorized grants for 6,000, 10,000, 15,000, and 14,000 new schools, respectively.

[8] According to Zuhdi (2006, p. 89), Muslim leaders believed the Decrees "intended, among other things, to weaken the status of the Islamic educational institutions …they assumed that the government was trying to eliminate these latter …".

Islamic schools had greater presence historically.[9] Qualitative accounts suggest many in the Muslim community perceived SD INPRES to be targeting Islamic sector strongholds (see Appendix C). Islamic school staff were required to take courses in *Pancasila* and accused of mobilizing for the PPP. In some communities, preachers urged congregants not to send their children to SD INPRES, which were derided as "school in hell" (*sekolah dalam neraka*) using a twist on the official acronym (*sekolah dasar negeri* or SDN).

3 Conceptual Framework

This section describes a stylized model for understanding the interplay between state and religious schools. The framework is meant to guide the empirical analysis as we consider different actors operating in education markets. It also clarifies how heterogeneous preferences and local market structure shape competitive responses to mass schooling interventions. Appendix B provides the formal derivations and a more thorough discussion.

Overview. Consider a large and diverse society comprised of N education markets. In each market, formal schools compete for students ordered on a line in terms of their religious preferences, à la Hotelling (1929). We consider two types of actors on the supply side: the state sector and the religious sector. The latter refers to the decentralized combination of local organizations and communities that provide religious instruction, possibly across more than one market.

Each sector maximizes total school enrollment, which ultimately shapes ideology in the population. State schools and religious schools decide which markets to enter and how religious to make their curriculum; the cost of entry is fixed and identical across all markets. In keeping with the ideological objectives of secular nation-building, state schools are constrained to offer a secular curriculum—they must be located at the left end of the Hotelling line in each market. There are two margins of competition in this framework: which markets to enter and, within a given market, how religious to make the curriculum in religious schools. School quality is assumed to be higher in the state sector, but not so high as to allow the state to capture all demand.

Each market hosts a continuum of students with heterogeneous preferences for religious schooling. All markets have the same number of students but vary in their ideology; larger markets are home to a wider continuum of preferences. Students attend the school that maximizes their utility. This involves a tradeoff between quality and the utility students gain from attending a school more aligned with their own religious preferences: the marginal student in a market with two schools is indifferent between attending a state school (with higher quality) and a religious school (with more religious curriculum).

[9] The SD INPRES guidelines were vague about how Islamic education should be treated. Decrees were only addressed to the Minister of Education and not the Minister of Religion who oversaw *madrasa*. An article early in the original decree (10/1973) references students not accommodated in public elementary schools, but later discussions of the proportionality rule merely refer to children who have not been accommodated without specifying the type of school. Furthermore, the proportional targeting was informed by the 1971 Census, which did not distinguish Islamic school enrollment. Observers at the time noted that official "targets have no reference to children enrolled in primary Madrasah" (Beeby, 1979, p. 196) and that the low enrollment rates in official data for some regions "could well be a function of the number of children who attend madrasah instead of sekolah dasar" (Orr et al., 1977, p. 133).

Baseline Market Equilibrium. Prior to mass schooling, the state sector has an initial budget strictly less than N, preventing it from entering all markets. The religious sector's budget is a constant fraction of the state's budget. Intuitively, the state and the religious sector raise revenue from the same tax base, but the religious sector has a lower capacity to mobilize resources, through informal means.

In this baseline setup, state and religious schools maximize enrollment by avoiding direct confrontation. The two sectors avoid serving the same markets and, in doing so, capture populations with distinct religious preferences. Religious schools, in particular, enter markets not served by the state as well as markets where the state has entered but where preferences are heterogeneous enough to support both types of schools. In the latter markets, religious schools attract the more religious students located toward the right of the Hotelling line. If budget constraints are binding enough that neither sector can enter some markets, then students in those markets remain unenrolled or attend informal schools.

After Mass Schooling. As economic development unfolds, the budget of both sectors grows and mass schooling becomes feasible. This first allows the state to enter many more markets, some of which will feature only Islamic schools given the longstanding market segmentation described above.

Figure 1 validates this prediction in our context, using data described below. Panel (a) illustrates the policy rule of school allocation under SD INPRES: the number of schools allocated to a district is proportional to the population of children not enrolled in school in 1971. Panel (b) shows that Islamic primary schools are more likely to operate in areas under-served by the state. This induces a strong correlation between the number of SD INPRES schools built and the pre-existing stock of Islamic schools (panel c).[10] Table 1 corroborates the graphical evidence in Figure 1. First, we find similar targeting patterns using supply-side (column 1) or demand-side (column 2) measures of Islamic primary education. Second, conditional on the prevalence of Islamic education, the vote share of Islamic parties in the 1950s is also positively correlated with SD INPRES construction (column 4), which is consistent with the state allocating more schools to markets with a greater range of religious preferences. Finally, column 5 provides more localized evidence on confrontation: INPRES schools were more likely to be built in villages with an Islamic elementary school and less likely in villages with a non-Islamic elementary school.

Thus, the state-led expansion of schooling leads to intensified local competition. Because the religious sector draws on the same tax base as the state, its resources have grown as well, allowing it to continue to enter more markets (see Section 4.1). The strength of these competitive responses depends on the size of the state's budgetary shock and the scope for the religious sector to mobilize resources of its own, leading to the testable prediction that the religious sector enters markets where its own revenue-raising capacity through informal Islamic taxation is higher (Section 4.2). Finally, this induces new religious schools to further differentiate their curriculum to maintain enrollment and capture more conservative students in markets newly served by the state. Informal schools, which we conceptualize as an outside option for all students who are formally unenrolled, are outcompeted in all markets where the presence of state and formal religious schools has increased (Section 4.3).

We then introduce the possibility for religious schools to maximize a combination of elementary and

[10] In panel (d), we additionally control for the vote share of Islamic parties in the 1955 and 1957 elections, the last democratic contests before our study period. Estimates remain similar as in panel (c).

secondary enrollment, thus allocating some of their budget towards Islamic secondary school construction. This changes their incentives for entry and curriculum choice at the primary level. As the state first prioritizes primary schools, this creates an opening for religious schools to capture growing demand for secondary education among the now-larger cohort of primary-educated students (Section 5). Thus, the religious sector no longer seeks to avoid competition from state schools but rather may actively prioritize markets with growing demand for secondary schooling among new public elementary graduates.

Ideological Consequences. The Hotelling (1929) competition-on-a-line framework is useful for understanding the downstream effects of mass schooling on nation building (Section 6). The students choosing between a state school and a religious school eventually become citizens who support either the ruling secular regime or the religious opposition. If the opposition adopts a common religious policy platform across all markets, then it would capture higher support in more religious markets as long as religious schools remain sufficiently differentiated in their curriculum. Thus, greater mobilization of community resources for religious education directly translates into more market entry, higher enrollment, and higher popular support and vote shares for the religious opposition.

4 Religious School Entry and Differentiation

This section studies the dynamic effects of SD INPRES on education markets. First, Muslim society, equipped with a mechanism for quickly mobilizing private resources (*waqf*), expanded religious schooling in locations with greater SD INPRES entry. Second, newly entering Islamic schools in these locations provided more religious content. Third, SD INPRES induced formalization within the Islamic sector. Together, these results set the stage for understanding changes in religious school choice.

4.1 Islamic School Entry

We use data from administrative school registries and two distinct identification strategies to characterize the Islamic sector entry response to SD INPRES. The first relies on cross-sectional policy variation at the district level. The second exploits the staggered entry of SD INPRES at the village level.

Data on School Registries. We use newly compiled administrative data from MORA comprising the universe of *madrasa* and *pesantren* active in 2019 (see Appendix D for details). In total, there are 52,398 formal *madrasa* across different grade levels, 82,871 informal *madrasa diniyah* (Qur'an study schools), and 25,938 *pesantren* with establishment dates spanning more than 100 years. We rely on an analogous MEC registry of secular schools active in 2019. These data comprise 219,145 schools and include date of establishment, grade level, and private/public status. We address potential concerns about survival bias in these registries using a triennial census of villages (known as *Podes*) beginning in 1980.[11]

[11] While *pesantren* constitute an important part of the response to SD INPRES, their higher level of informality makes them more difficult to study than *madrasa*. *Susenas* does not record *pesantren* attendance as *pesantren* do not follow the national exams. Nor does the MORA registry clarify the level at which a given *pesantren* organizes its instruction; many, in fact, teach students of all ages under one roof.

District-Level Identification. We estimate a balanced panel specification at the district-year level:

$$y_{jt} = \theta_j + \theta_t + \beta \text{INPRES}_{jt} + (\mathbf{X}_j' \boldsymbol{\theta}_t)' \boldsymbol{\eta} + \varepsilon_{jt}, \tag{1}$$

where y_{jt} denotes the number of Islamic schools built in district j and year $t \in [1960, 1999]$, per 1,000 children in 1971, and θ_j and θ_t are corresponding fixed effects. $INPRES_{jt}$ equals zero for all districts before 1972 and equals SD INPRES schools per 1,000 children thereafter. With $\mathbf{X}_j' \boldsymbol{\theta}_t$, we flexibly account for differential trends by interacting year fixed effects with (i) the INPRES targeting variables (i.e., the district's 1971 child population, school enrollment) and a concurrent governmental water and sanitation program (as in Duflo, 2001), and (ii) the prevalence in 1959 of Islamic elementary, junior secondary, senior secondary, and boarding schools, each separately. Standard errors are clustered at the district level.

We estimate equation (1) using a standard difference-in-differences (DID) as well as the new synthetic differences-in-differences (SDID) approach from Arkhangelsky et al. (2021). In the standard DID, we construct $INPRES_{jt}$ as the interaction between the number of INPRES schools built per 1,000 children in district j between 1973–78 and a dummy variable for panel years from 1973 onwards. The synthetic DID approach reweights and matches pre-INPRES trends in Islamic school construction across high- and low-INPRES exposure districts. This delivers estimates that are more robust than standard DID to violations of parallel trends. For implementation, SDID requires a binary regressor; we set $INPRES_{jt}$ equal to 1 for districts above the 51st percentile in INPRES school construction (in years$\geq$1973).[12]

Table 2 shows greater entry of Islamic schools in high-INPRES districts: formal *madrasa* at the elementary (column 1), junior secondary (column 2), and senior secondary level (column 3), the informal *pesantren* (column 4) and *diniyah* (column 5), and the total number of Islamic schools of all types (column 6). In the standard DID (panel a), a one standard deviation increase in INPRES schools leads to 0.013 more Islamic schools per district-year and per 1,000 children, i.e, 1.4 additional Islamic school entries in the average district relative to a mean entry of 1.9 Islamic schools per district in 1972. The SDID specification delivers positive and slightly larger estimates (panel b). This suggests that the increased supply of Islamic schools in high-INPRES districts is not an artifact of diverging pre-trends. Rather, the point estimates in panels (a) and (b) are consistent with a break in trend around the mid-1970s as religious leaders and organizations mobilized in locations with greater public primary school entry.

We provide further evidence of this trend break in Figures 2 and 3, which plot event studies showing the dynamic response to the state's primary school expansion. Figure 2 allows β in equation (1) to vary by semi-decade in the standard DID, and Figure 3 reports an analogous visualization for SDID. The latter tracks the annual variation in the high-INPRES (in red) and low-INPRES districts (in blue), and the straight lines and black arrow indicate the magnitude of the entry differential in the mid-1980s. Across both approaches, high-INPRES districts experience more secondary *madrasa* and *pesantren* entry after 1973. A similar pattern holds for elementary *madrasa*, and the village-based results below offer a clearer, more granular window into the entry response at this grade level.

[12] We use the 51st percentile rather than the median because the estimator requires the number of control units to be larger than the number of treated units. While SDID uses less INPRES variation, by necessity of this discretization, it offers more compelling "local" comparisons across districts and time periods in which parallel trends are more likely to hold.

Robustness. Several robustness checks point to a causal interpretation of the Islamic sector response. First, in addition to the SDID results being robust to violations of parallel trends, the formal procedure in Roth and Rambachan (2022) further validates the visual impression from Figure 2 of a lack of pre-trends in the standard DID (see Appendix Figure A.1).[13] Second, the patterns are unlikely to be an artifact of survivor bias in the 2019 registry of Islamic schools. Appendix Table A.2 shows that the increase in Islamic school entry after the 1970s can be seen in historical administrative data (from *Podes* 1980, 1983, 1990, 1993) that is not subject to the attrition biases inherent to contemporary school registries. Third, we show robustness to interacting year FE with predetermined factors associated with religious schooling historically, including the *waqf* endowments in 1960, the Muslim population share in 1972, Islamic party support in the 1955-57 elections, historical Arab immigration, and Islamist insurgency activities in the 1950s.[14] In this set of controls we also include an indicator for districts involved in an experimental compulsory schooling program after 1957 (see Section 5.1). Some of these factors shaped the Islamic sector response to SD INPRES as we show later, but Appendix Table A.1 shows that the core results in Table 2 are robust to allowing for differential trends with respect to these controls.

Village Level. The district-level estimates capture Islamic sector entry effects averaged across several local education markets. We now use a village-level specification to identify more local entry dynamics:

$$y_{vt} = \theta_v + \theta_t + \sum_{\tau=-5}^{10} \gamma_\tau \text{INPRES}_{v,t-\tau} + (\mathbf{X}_v' \boldsymbol{\theta}_t)\boldsymbol{\eta} + \varepsilon_{vt}, \tag{2}$$

where y_{vt} denotes Islamic schools built in village v in year t with corresponding FE, θ_v and θ_t. $INPRES_{v,t-\tau}$ is a binary indicator for each year until/after the first SD INPRES is built from 1973–78 (entry is normalized to $\tau = 0$). The $\mathbf{X}_v'\boldsymbol{\theta}_t$ vector includes the numbers of public and Islamic schools in village v in 1959, each interacted with year FE. Standard errors are clustered at the village level.

We estimate equation (2) on a balanced panel from 1960 to 1999 using the Borusyak et al. (2021) estimator.[15] In robustness checks, we use a shorter panel from 1968–83. By allowing for arbitrary effect heterogeneity, this estimator addresses potential biases in staggered entry DID designs, which might arise here if, for example, the Islamic sector responded more effectively later in the 1970s once the government's secularization push through SD INPRES became more widely understood.

[13] This new approach departs from the usual visual inspection and testing for the significance of pre-trends. Roth and Rambachan (2022) propose a novel method that formalizes the motivation behind pre-trends tests, namely that the counterfactual post-intervention trends cannot depart too much from the pre-trends. Their method circumvents the need for pre-trends testing, instead allowing for uncertainty over the magnitude of the true trends in the pre-period. In Appendix Figure A.1, we report confidence sets that answer how much the post-INPRES trends in Islamic school entry would need to differ from the pre-trends in order to nullify the findings. We compute these confidence sets allowing this "how much" factor $\overline{m}$ to vary from 0 to 1.5 and find that for most outcomes the results break down at rather large values of $\overline{m}$, suggesting that our findings are unlikely to be driven by non-parallel trends. To invalidate the aggregate Islamic school entry results, we would need to allow for a post-INPRES violation of parallel trends that is more than 1.5 times larger than the maximal pre-treatment violation.

[14] In the Indonesian context, support for Islamic parties correlates strongly with support for greater religious influence in various public domains including education (see Pepinsky et al., 2018). We draw on data compiled by Bazzi et al. (2020) to measure (i) Islamic political party support in the 1955 and 1957 legislative elections, (ii) ethnic Arab populations in the colonial era, and (ii) the presence of the Darul Islam movement, an insurgency aimed at establishing an Islamic state in Indonesia.

[15] This procedure (i) estimates fixed effects using untreated observations (i.e., villages with no SD INPRES entry from 1973 to 1978), then (ii) imputes untreated outcomes for treated observations, and finally (iii) computes estimates of γ_τ parameters as weighted averages over the differences between actual and imputed outcomes.

This specification provides more granular evidence of strategic Islamic school entry, but does so by eschewing the policy variation across districts and instead relying on differences in the timing of SD INPRES entry. While much of the timing variation is driven by idiosyncratic factors such as local administrative frictions and availability of funds, some of it may be endogenous with respect to potential religious schooling. Reassuringly, the Borusyak et al. (2021) estimator shows no evidence of pre-trends for Islamic (Figure 4) or non-Islamic private schools (Appendix Figure A.4). In Appendix Table A.3, we show that the timing of SD INPRES entry at the village level between 1973–78 is uncorrelated with the presence of Islamic schools in 1972, as well as predetermined agricultural productivity (potential crop yields) and natural advantages (e.g., elevation, distance to the coast).

The results in Figure 4 provide further evidence of a dynamic Islamic sector response that varies across types and levels of schooling. The construction of an INPRES school is followed by a jump in Islamic school entry (panel a), which is driven in the short run by primary *madrasa* (MI) entering at twice the baseline annual rate (panel b). The latter persists for six years, after which MI entry rates revert back to baseline. This suggests that Islamic providers are competing head-on with new state providers of primary education in their communities.[16] Meanwhile, Islamic junior secondary school (MTs) entry peaks around year 6–9 after SD INPRES construction (panel b). As SD INPRES students graduate (alongside those from newly built MI), MTs entered in order to capture some of their demand for continued education. In panel (c), we find smaller responses at the senior secondary (MA) level, perhaps in part because these schools tend to serve multiple villages.

In addition to greater entry of formal *madrasa*, SD INPRES construction is also associated with greater entry of informal Islamic schools. The effects are stronger for Qur'anic study schools (panel e) than for Islamic boarding schools (panel d). Entry of the former ratchets upwards around the time when SD INPRES students would have acquired sufficient reading skills to engage with the Qur'an (2nd or 3rd grade). This is consistent with the common practice of attending SD INPRES in the morning and Qur'anic study school, *madrasa diniyah* (MD), in the afternoon. Moreover, at the local level, formal elementary MI and informal MD appear to be substitutes: the post-INPRES entry dynamics are mirror images across panels (a) and (e), and 86% of the MD entering from 1973–78 were built in villages without any MI construction, while 91% of the entering MI were built in villages without any MD construction.

Panels (c) and (d) of Table 2 summarize the graphical evidence in a single DID estimate consistent with the district-level results in panels (a) and (b). These village-level results hold using the standard DID (panel c) and Borusyak et al. (2021) estimators (panel d), which suggests limited bias due to time-varying heterogeneity (see also Appendix Figure A.3).[17] Overall, these results suggest that SD INPRES did not displace Islamic schools but instead increased options for both secular and religious education.

Islamic and Other School Entry. While other types of schools entered in response to SD INPRES, the Islamic sector's response appears distinctive and confrontational. In Appendix Figure A.2, we consider the district-level entry of private non-Islamic schools, of which there are 41,969 as of 2019. Although

[16] The immediate Islamic elementary response, within a year of SD INPRES being built, is consistent with the very short time required to establish an Islamic school at that level through the use of informal financing (see Appendix C for examples).

[17] Appendix Table A.4 shows that the Borusyak et al. (2021) estimates are robust to removing time-varying controls, using a shorter panel window spanning 1968–83 (as in panel b of Table 3), and clustering standard errors by district.

some of these secular schools enter in response to SD INPRES, their entry responses appears relatively muted at each instruction level.[18] Appendix Figure A.4 provides further, village-level evidence of distinctive entry by primary *madrasa* when compared to private non-Islamic primary schools.

Alongside these dynamics at the primary level, more secular junior secondary schools entered markets with greater SD INPRES construction (Appendix Figure A.5). Combined with our earlier findings, these results suggest efforts by the three sectors—Islamic, private non-Islamic, and state—to meet the rising demand for secondary education. Yet, these efforts largely took place in distinct markets, avoiding the local confrontation seen at the primary level: among villages with any SD INPRES construction, the correlation between subsequent construction of Islamic and public (private) junior secondary schools is 0.04 (0.05). Put simply, there was enough excess demand for junior secondary education that the Islamic sector could avoid head-on competition with the state while still growing its aggregate market share.

4.2 Financing New Islamic Schools

How did the Islamic education sector finance its expansion in the aftermath of SD INPRES? For decades, private Muslim actors, both individuals and organizations, funded schools through *waqf* endowments (Bazzi et al., 2020). In addition to endowing as *waqf* the land on which Islamic schools are built, Muslims in rural areas also endow agricultural land and regularly offer harvest revenue to support religious infrastructure (see Section 2.1). Given this common practice, large swings in commodity prices might affect charitable giving. Fortuitously for Islamic leaders, the initial year of SD INPRES coincided with a large spike in the price of rice, Indonesia's main agricultural commodity.[19]

Using granular village-level data, we show that these informal financing mechanisms fueled the Islamic sector response to SD INPRES. In Table 3, we examine the role of *waqf* endowments as well as exposure to the 1970s rice price boom in supporting Islamic school construction. We estimate these heterogeneous effects using the following balanced panel specification:

$$y_{vt} = \theta_v + \theta_t + \beta_0 \text{INPRES}_{vt} + \beta_1(\text{INPRES}_{vt} \times \text{rice yield}_{v0}) + \beta_2(\text{INPRES}_{vt} \times \text{waqf}_{v0}) + (\mathbf{X}_v' \boldsymbol{\theta}_t)\boldsymbol{\eta} + \varepsilon_{vt}, \quad (3)$$

where *rice yield* is a standardized measure of potential yield from the FAO-GAEZ based on predetermined agroclimatic characteristics, and *waqf* is a binary indicator equal to one if the village has any *waqf* endowments before the initial year of the panel. The fixed effects, differential trends controls, and inference are otherwise similar to the DID analogue of equation (2).

Table 3 reveals stronger entry responses in villages with greater capacity to fund new Islamic schools. Panel (a) reports results for 1960–99 as in Table 2, and panel (b) restricts to 1968–83. Villages with pre-

[18] Moreover, the downward pre-trend in panel (a) might suggest that SD INPRES did crowd out non-Islamic primary schools built before the program. This stands in stark contrast with the corresponding estimates in Figure 2: unlike their secular counterparts, Islamic schools proved resilient against the mass entry of public elementary schools.

[19] Prices increased by 280% from 1972 to 1973 and remained unprecedentedly high for the remaining years of the 1970s (see Appendix Figure A.6). Although many rice farmers are net consumers, larger, net producers are those most likely to contribute large sums to fund local religious infrastructure and to endow *waqf* properties. Even small net consumers may have contributed to such infrastructure: we encountered several Islamic school founders describe a so-called "cash *waqf*" wherein villagers offer very small contributions out of agricultural income to support local Islamic schools (see Appendix C).

existing *waqf* endowments and a one-standard-deviation higher potential rice yield exhibit, respectively, a ten- and four-fold greater likelihood of building an Islamic school after the construction of SD INPRES (column 6). Overall, these results point to a mobilization mechanism whereby local institutions and resources enabled the Islamic sector to compete with the rapidly expanding state sector.

Robustness and Validation Checks. Several robustness checks corroborate our interpretation of these results. First, the heterogeneous response to public primary school entry does not arise in other periods (1960–68 or 1990–98, Appendix Table A.6) when the relationship between Islamic leaders and the regime was less conflictual *and* when rice prices were much lower. Second, we find less heterogeneity with respect to the potential yield for maize, which, although also subject to a large price shock, dwarfs in importance relative to rice (Appendix Table A.7).[20] Third, during the SD INPRES period, entry of non-Islamic private schools did not vary systematically with the prevalence of *waqf* (Appendix Table A.8).

In further support of a financing channel, we find that informal private contributions may have sustained the Islamic sector response to SD INPRES. Appendix Table A.9 reports higher rates of informal taxation to finance educational infrastructure in villages with Islamic schools built during the SD INPRES era. Such rates do not vary and may, in fact, be lower in villages with public schools built at that time. These associations, based on survey data from 2007–13 (see Olken and Singhal, 2011), are consistent with religious schools relying more heavily on private funding and faith-based charitable giving.

Finally, we find suggestive evidence of resource constraints as informally-financed religious schools crowd out other local public goods. Appendix Table A.9 reveals crowd-out of non-religious goods: in villages with Islamic schools, informal taxation to finance schools (and houses of worship) crowds out informal financing of roads and bridges. Appendix Table A.10 reveals crowd-out of other religious goods: in districts with greater SD INPRES construction, Islamic schools comprise a larger share of total *waqf*-endowed land as of 2019, and this comes at the expense of mosques.[21] In sum, SD INPRES induced greater mobilization of *waqf* resources to support an expansion of religious schooling, and, in prioritizing education, the Muslim community partially crowded out other *waqf*-based religious public goods.

4.3 Curriculum Differentiation and Formalization

This section shows how the Islamic education sector adjusted to SD INPRES along other margins. We first study curriculum changes using an online registry of schools, called *Sistem Informasi Aplikasi Pendidikan* (SIAP), which provides hour-by-hour curriculum timetables for *madrasa* during the 2018–19 school year. While the data cover nearly 20% of *madrasa*, secular schools do not report to SIAP, in large part because those schools offer much more standardized curricula, leaving little scope for marketable differentiation.[22] The timetables provide a unique window into the learning environment at Islamic

[20] The rice-price-shock mechanism is also broadly consistent with rice-growing areas having a more collectivistic culture that enables faster community-based mobilization in response to shocks (Geertz, 1963; Talhelm et al., 2014).

[21] These results are based on administrative data from the Indonesian *Waqf* Board, which provides detailed breakdown of the type of infrastructure but does not provide reliable measures of the time at which the *waqf* was founded.

[22] These data provide a long-run snapshot of curriculum for schools entering in different years. A school's curriculum is closely attached to its ideology, which arguably has persistent features tied to the identity of founders. Given the legacy of conservative schools' opposition to state oversight, we suspect that the *madrasa* included in SIAP are those with less Islamic content.

schools. Our main interest lies in time allocated to (i) Islamic subjects, including Arabic language and literature, (ii) *Pancasila* and civic education, and (iii) Indonesian language and literature.

Curriculum Responses. We estimate an unbalanced panel analogue to equation (1) where each outcome is a mean curriculum subject share over all *madrasa* entering in a district-grade-year. The estimates identify differences in long-run curriculum between *madrasa* built before and after SD INPRES, across markets with varying INPRES intensity. Table 4 shows that Islamic schools created in high-INPRES districts after 1972 provide more religious content. Each additional SD INPRES is associated with a 1.2 percentage point (p.p.) increase in the share of classroom time devoted to religious content among newly created Islamic schools (panel a, column 1), with increases of 1.3 p.p. and 2.3 p.p. at the primary and junior secondary levels, respectively (panel a, columns 2–3). These are sizable effects relative to curriculum among schools built before 1972, e.g., the 2.3 p.p. increase equals 9% of the mean and 82% of the standard deviation. We find similar effect sizes for Arabic instruction (panel b). Although noisy, the estimates in panels (c) and (d) suggest that some of the increase in religious content comes at the expense of *Pancasila*/civic education and national language (*Bahasa Indonesia*) instruction.[23]

These findings are consistent with Islamic schools introducing more religious curricula in order to attract students from more conservative families as options for secular education become more pervasive locally. Appendix Table A.13 supports this interpretation by showing, especially at the secondary level, a stronger curriculum differentiation response in markets with greater historical support for conservative Islam (proxied by Islamic political party vote shares in the 1950s).

Ultimately, students in these new religious schools would devote less time to civic education and study of the national language—two important inputs to the homogenizing function of mass schooling. This crowding out of secular subjects may also have broader implications for human capital formation (see Appendix A.3 for evidence on the link between curriculum and standardized test scores).

Formalization of the Islamic Sector. The above analysis focuses on *madrasa*, the main type of Islamic schools in operation today. However, *pesantren* also played a major role within the Islamic school system historically. After SD INPRES, these informal schools continued to enter systematically (see Section 4.1), while the newly built *madrasa diniyah* offered extracurricular religious instruction in communities where young children were now spending most of their day in secular school.

While informal religious education expanded in high-INPRES markets, formal religious education expanded even faster. Figure 5 shows that these markets saw growing influence of *madrasa* at the expense of the more informal *pesantren* and *diniyah*. Among entrants, the share of *madrasa* was relatively lower in high-INPRES districts during the height of the program in the late 1970s. By the early 1980s, however,

This could work against our findings if such selective reporting varies with INPRES intensity. Yet, we find no evidence of differential reporting: *madrasa* created after 1972 in high-INPRES districts are no more or less likely to report to SIAP.

[23] Despite greater religious instruction at the primary and junior secondary level, we find different patterns at the senior secondary level where SD INPRES is associated with a reduction, albeit statistically insignificant, in Islamic content and an increase in Arabic and *Pancasila* instruction (panels a–c, column 4). This goes against some of the findings elsewhere but may be an artifact of the small number of senior secondary schools in SIAP. It also hints at a possible secularization of senior secondary Islamic schools aimed at capturing junior secondary graduates intent on going on to non-Islamic universities. Appendix Table A.12 shows that most patterns in Table 4 hold for total instruction hours, which is reassuring insomuch as some Islamic schools may have increased classroom time to accommodate other non-religious subjects.

formal *madrasa* entry outpaced non-Islamic school entry. The reverse is true for informal Islamic schools. Appendix Table A.5 corroborates this set of results: *madrasa* entry increased as a share of all new school entry (column 1), while the entry of informal Islamic schools (*pesantren* and *diniyah*) declined as a share of all new schools (column 2) and all new Islamic schools (column 3).

Unlike *pesantren*, the formal *madrasa* are organized along the same primary-to-secondary trajectory as state schools. This ensures progression across grade levels and allows for switching between public and religious schools, providing option value to moderate but still religious parents.[24] The ability of the newly entering *madrasa* to introduce more religious curriculum than incumbent *madrasa* ensured that the gradual formalization of the Islamic sector did not come at the expense of religious instruction.

5 Religious School Choice

Having identified the Islamic sector response to SD INPRES, we now explore demand-side dynamics. We begin with evidence on Islamic school choice mirroring the supply-side patterns. Next, we characterize heterogeneous responses across genders and across regions with varying religious ideology.[25]

5.1 Religious Schooling Response to SD INPRES

Survey Data on Schooling. We measure Islamic school attendance and other information on education status using six rounds of the National Socioeconomic Survey (*Susenas*) from 2012–18. These surveys report breakdowns of *madrasa* and secular education as well as information on birthplace, which is needed to identify childhood exposure to SD INPRES. *Susenas* does not record informal (*pesantren*) Islamic education, and it only identifies school type for the final level of attainment and hence misses switching across Islamic and secular schools. We revisit this in robustness checks below, where we also use the Indonesia Family Life Survey (IFLS) for validation. The IFLS is a longitudinal survey spanning 1993 to 2014, which, unlike *Susenas*, records schooling type for each year of education. However, the IFLS has limited geographic scope, which complicates analyses of policies with spatial variation like SD INPRES.

Estimating Exposure Effects. We identify effects of SD INPRES on religious school choice as follows:

$$y_{ijt} = \theta_j + \theta_t + \beta(\text{INPRES}_j \times young_{it}) + (\mathbf{X}_j'\boldsymbol{\theta}_t)'\boldsymbol{\eta} + \varepsilon_{ijt}, \tag{4}$$

where y_{ijt} is some schooling outcome for individual i born in district j in year t; $INPRES_j$ is measured as either (i) elementary public schools constructed per 1,000 children from 1973–1978, in the DID estimation, or (ii) an indicator for districts above the 51st percentile in SD INPRES intensity, in the SDID estimation; $young_{it} = 1$ for individuals aged 2–6 in 1974 and zero otherwise; θ_j and θ_t are district and cohort FE, respectively; and $\mathbf{X}_j'\boldsymbol{\theta}_t$ includes cohort FE interacted with the same set of variables as in equation (1) with baseline Islamic schools measured as of 1957, the birth year of the oldest comparison cohort.

[24] Hefner (2009) provides examples of *pesantren* leaders that built formal *madrasa* on *pesantren* grounds in order to attract families who were averse to the informal, religion-centric *pesantren* curriculum but open to the *madrasa* alternative to state schools.

[25] Appendix A.5 additionally shows that in markets where elementary *madrasa* also entered, the two types of schools acted as substitutes in increasing total years of education.

Like Duflo (2001), we compare individuals aged 2–6 with those already of school age, but no older than 17 when the program began. Exposed cohorts were born between 1968–72. In a second specification, we add 15 cohorts to the exposure group, covering one generation of students born between 1968–87. This captures medium-run dynamics, inclusive of the supply response to SD INPRES. In the DID estimation, we exclude partially exposed cohorts, aged 7–11 in 1974, as in Duflo (2001). In the SDID estimation, these cohorts are used in the construction of the synthetic control group.[26]

Table 5 reports the effects of SD INPRES on *madrasa* attendance. Panels (a) and (b) report DID and SDID estimates, respectively. The outcomes equal one if the respondent's highest level of education is Islamic primary (columns 1–2), junior secondary (columns 3–4), senior secondary (columns 5–6), or any Islamic (columns 7–8). SD INPRES pulled students away from primary *madrasa* and pushed them towards non-Islamic schools. Among cohorts aged 2–6 in 1974, one additional SD INPRES reduces the likelihood of Islamic primary by 7% (column 1). At the secondary level, Islamic schools absorbed some of the increased demand for post-primary education (columns 3 and 5). Together, these effects combine to a net increase in exposure to Islamic education: each additional SD INPRES increased the likelihood of attending an Islamic school by roughly 5% (column 7).[27] These patterns persist among later cohorts, for whom we find relatively larger effects on secondary and overall Islamic education (even-numbered columns), which aligns well with the supply-side results in Section 4.

Time-Varying Effects. These exposure effects are even clearer when looking across cohorts. Figure 6 reports cohort-specific Islamic school completion rates separately for high- and low-INPRES districts, and Figure 7 reports cohort-specific β from equation (4). In both cases, we see SD INPRES leading to a shift away from Islamic primary schools and towards Islamic secondary schools, both in the short (panels a, c, and e) and medium run (panels b, d, and f). The effects grow steadily for younger cohorts who would have had more opportunities to attend newly built Islamic schools. The corresponding graphical evidence for the SDID estimates can be found in Appendix Figure A.8 (panels a, c, and e).

Islamic School Graduation Shares. One concern with the outcomes in Table 5 is that the likelihood of completing an Islamic education could be increasing simply because SD INPRES increases overall education. Thus, in Table 6, we look at Islamic schooling conditional on graduating with a degree at the given level of education (primary, junior secondary, and senior secondary). These measures capture the share of Islamic graduation at each level and help clarify that the results in Table 5 are not driven solely by the INPRES-induced increase in overall education. Table 6 shows that the same patterns hold in this conditional specification: students shift out of Islamic schools at the elementary level (columns 1–2) and into Islamic schools at the secondary level (columns 3–6) with the net effect being an increase in the likelihood of graduating from Islamic school (columns 7–8). Here, too, the effects are generally larger when considering all cohorts exposed to the Islamic sector supply response (compare even to odd columns), and the standard DID (panel a) and synthetic DID (panel b) agree, with few exceptions.

[26] Our core sample comprises 275 districts based on boundaries at the time of SD INPRES in the 1970s. Duflo (2001) reports 283 districts based on boundaries in 1995, by which time four districts from the 1970s had split in two.

[27] These results are driven in part by those moving from public elementary to Islamic junior secondary. *Susenas* allows us to observe a subset of these transitions, namely for those that attend but do not graduate from Islamic junior secondary. Appendix Table A.15 shows that indeed SD INPRES increased the likelihood of such transitions.

Accounting for Selection. SD INPRES increased total years of education *and* Islamic schooling.[28] Tables 5 and 6 suggest that these outcomes are jointly determined: greater schooling brings more opportunities for exposure to Islamic schools. Framed as a selection issue, only those continuing to secondary education have the potential to attend Islamic secondary schools. And if those continuing on are more religious, this could introduce bias. Panels (c) and (d) of Table 6 adjust our previous estimates of Islamic school choice for this type of selection bias.

We consider parametric (Heckman, 1976) and semiparametric (Newey, 2009) two-step procedures. First, we estimate the likelihood of completing a given level of education. Second, we estimate the likelihood of completing Islamic education for those reaching that level. The second-step includes selection-correction terms. In the Heckman (1976) case, this is the inverse Mills ratio. In the Newey (2009) case, this is a series approximation to the true correction term; in practice, we use a cubic polynomial in first-step probabilities based on flexible covariates (specified by taking quintiles in each continuous regressor, interacted with cohort FE).[29] Key to both strategies is the exclusion from the second stage of at least one variable correlated with grade completion but otherwise unrelated to Islamic school choice. For this purpose, we rely on measures of exposure to a pilot compulsory schooling program in the 1960s.[30] This program shifted demand for education just prior to SD INPRES and was not systematically related to predetermined Islamic schooling or correlates thereof (see Appendix Table A.18).

The selection-adjusted estimates in panels (c) and (d) of Table 6 are in line with the unadjusted estimates in panel (a). Some of the estimates are larger (and noisier), but overall the magnitudes and signs are consistent, especially at the elementary and junior secondary level. Together, the selection-adjusted estimates approximately identify a local average treatment effect of INPRES exposure on Islamic schooling among compliers, namely children who received additional education as a result of the policy. For those induced to reach elementary school, this meant less exposure to Islamic education (columns 1–2), but for those induced to go beyond elementary, SD INPRES increased the likelihood of attending Islamic junior secondary (columns 3–4). This is again intuitive and in line with the newly built Islamic secondary schools absorbing excess demand for continued education among new primary graduates.

Robustness Checks. We further address remaining identification concerns. First, we account for district-specific factors correlated with SD INPRES intensity and latent potential for Islamic schooling. Recall that cohort FE interacted with Islamic schools in 1957 are already in our baseline specification. In Appendix Table A.17, we also include interactions of cohort FE with proxies for the potential strength of the Islamic sector prior to SD INPRES (see the earlier discussion of Appendix Table A.1). With a few minor exceptions, the key finding of increased Islamic school choice in high-INPRES regions remains.

[28] Column 1 of Table A.20 shows that each SD INPRES increased years of schooling by 0.14 years. The male-specific estimate of 0.17 in panel (b) of Table 7 lies between the range of estimates in Duflo (2001)—0.12 to 0.19—based on the 1995 *Supas* data.

[29] We select the polynomial order based on consistency results in Newey (2009), which imply an upper bound of 3 on the order of the approximating power series in a sample with effective size of 275 (i.e., the level of policy variation). We conduct inference with a percentile-t bootstrap shown to work well with two-step selection estimators (Yamagata, 2006).

[30] This compulsory primary education (*Wajib belajar*) pilot program, which applied to children aged 8 to 14, was rolled out in 35 pilot districts in the late 1950s and early 1960s (Sarumpaet, 1963). We identified in government reports from 1958–1960 the 35 affected districts. In the first step of the selection-correction procedure, we include interactions of cohort FE with the extensive and intensive margin (total teachers and schools allocated) of the program in respondents' district of birth. Appendix Tables A.1 and A.17 show that our results on Islamic school entry and choice, respectively, are robust to these controls as well.

Second, we show that SD INPRES was not systematically allocated towards districts with differential trends in Islamic schooling. Figure 7, described above, shows little indication of systematic pre-trends in Islamic school attainment and, moreover, exhibits an intuitive S-shaped exposure curve across cohorts. Thus, although the state built more SD INPRES in districts with more Islamic schools, they did not target areas where Islamic school choice was growing faster.

Finally, we address measurement error in Islamic school choice reported in *Susenas*. Appendix Table A.14 shows that exposure to Islamic schooling is considerably higher in other sources.[31] There are three reasons why the *Susenas* data may lead to underestimates of SD INPRES effects on Islamic education. First, *Susenas* indicates whether the highest graduation level and/or the final year of education took place in a *madrasa*, thus missing Islamic school attendance earlier in one's educational life. Second, *Susenas* does not allow respondents to indicate *pesantren* education. Third, many students attend state schools in the morning and *madrasa* in the afternoon while, for enumeration purposes, only the former is official. Given that informal Islamic schools also entered to compete with SD INPRES (see Section 4.1), our estimates likely provide a lower bound on the total effect of SD INPRES on Islamic school choice.[32]

As a validation exercise, in Appendix Table A.16, we estimate the effects of SD INPRES in the IFLS. Unlike *Susenas*, the IFLS reports the type of education completed at every level. SD INPRES decreased the likelihood and total years of Islamic elementary (columns 1–2 and 5–6, respectively) and increased the likelihood and total years of Islamic junior secondary (columns 3–4 and 7–8, respectively). Although noisy given the coverage limitations of IFLS, these results mirror those in *Susenas*. Moreover, the point estimates are roughly 10 times larger, which is what one would expect given the ten-fold difference in mean Islamic schooling rates across the two surveys.

5.2 Heterogeneity: Gender and Ideology

Heterogeneous preferences may play an important role in shaping religious school entry and individual school choice. We characterize here two important sources of heterogeneity in gender norms and religious ideology, both of which speak to salient cultural divides in many societies.

The Gender Dimension. Table 7 shows that SD INPRES led to smaller gains in total years of education for women than for men (column 1). Yet, for women, INPRES induced a relatively smaller decline in Islamic elementary attendance (columns 3–4), and its effect on overall Islamic school choice is roughly 50% larger than for men (columns 9–10). One explanation for these patterns is that some parents were reluctant to send their daughters to secular INPRES schools but viewed Islamic schools, which adopt more conservative approaches to gender relations at school, as an acceptable alternative.[33]

[31] In the IFLS, Islamic education rates range from 11% in primary to 23% in junior secondary (20% overall). Administrative enrollment records for 2019 show rates ranging from 13% in primary to 23% in junior secondary (21% overall).

[32] The strong *pesantren* entry results in Section 4.1 make it unlikely that the growth in *madrasa* enrollment arose through an absolute decline in *pesantren*. Although individual-level *pesantren* attendance data does not exist, we can show, using registry data, that *pesantren* entering in response to SD INPRES enroll more students in the long run (see Appendix Figure A.9).

[33] An early insight into this possibility comes from Oey-Gardiner (1991), who reports strongly female-biased sex ratios in religious schools and male-based ratios in public schools, especially at the primary level, in administrative data from 1984–5. She interprets this difference as evidence of more conservative parental preferences for schooling girls than boys. We find a similar sex ratio differential among exposed cohorts in our *Susenas* data.

These gender norms became especially salient in the early 1980s when the Suharto regime banned the Islamic veil (*hijab*) in public schools. A 1982 decree standardized the use of school uniforms, which amounted to a crackdown on veiling (Jo, 2020; Shofia, 2020). Women who veiled thus faced a choice between transferring to a *madrasa* or dropping out of school. In Appendix Table A.19, we explore how this policy shaped the effects of SD INPRES on Islamic school choice for girls. We interact equation (4) with exposure to the ban, effectively comparing INPRES-exposed girls who were too young to complete their primary education before the ban to those that already completed primary school by 1982 (with boys as an additional control group).[34] Among cohorts exposed to SD INPRES, women also exposed to the ban were more likely to complete Islamic elementary. Thus, Islamic schools helped to address Indonesia's diverse religious preferences and associated gender norms.

The Ideological Dimension. Although 90% Muslim, Indonesia has long been home to diverse views on the role of religion in public life. Beyond gender norms, elections offer another lens on this diversity as we show here, again using the 1950s vote share for Islamic parties to proxy for conservative ideology.

In Table 7, we find a stronger Islamic school choice response to SD INPRES in districts with deeper historical support for Islamic politics. In districts with one standard deviation higher support for Islamic parties, exposed cohorts are nearly 50% more likely to attend Islamic schools (columns 9–10). Moreover, such heterogeneity materializes at the secondary level (columns 5–8), which is where we identified the strongest average responses. While Islamic school choice is more affected in these conservative areas, total years of schooling is not (column 1). This is consistent with our conceptual framework: Islamic school construction and curriculum differentiation ensured that religiously conservative parents would have greater scope to educate their children in religious schools as mass public schooling expanded.

6 Mass Schooling and Nation Building

Like most mass schooling reforms, Indonesia's entailed ideological objectives. This section shows that many of these objectives were not fully realized. First, greater SD INPRES construction was associated with a reduction in electoral support for the Suharto regime in the short run, and this persisted as younger cohorts entered voting age. Second, these market-level electoral shifts went hand-in-hand with deeper individual-level shifts in religiosity and ideology, among exposed cohorts and their children. Together, these results suggest that supply-side responses (Section 4) and families' schooling decisions (Section 5) may have ultimately worked against the secular nation-building aims of the regime.

6.1 Electoral Impacts of SD INPRES

We explore the political impact of SD INPRES using legislative election results during Suharto's reign (1971, 1977, 1982, 1987, 1992) and after his demise (1999, 2004, 2009).[35] Only three parties were allowed to compete in elections after 1971: Suharto's *Golkar* party, the Muslim umbrella United Development

[34] Appendix Table A.19 interacts INPRES intensity and the exposed cohort indicator (aged 2–6 in 1974) with a gender dummy and a dummy for age less than 12 in 1982. All relevant two- and three-way interactions are included.

[35] The final election of the Suharto era was in 1997, but we could not obtain district-level records from this round.

Party (PPP),[36] and the nationalist Indonesian Democratic Party (PDI). *Golkar* obtained 70% of the vote on average across all elections from 1977–92, while the PPP was the main opposition with 21% of the vote. After 1999, both parties waned in influence as others entered across the ideological spectrum.

We estimate the time-varying relationship between SD INPRES intensity and the *Golkar* vote share in a district×election panel. The 1971 round was the only Suharto-era election before school construction ensued and the first with *Golkar* candidates. As such, we cannot fully account for possible pre-trends in *Golkar* support. However, we can allow for differential trends based on vote shares for key party blocs in 1955 and 1957, the last pre-Suharto elections. Note that INRPES could have indirectly affected elections in 1977 and 1982 (e.g., through the increased presence of public schools in one's community), while exposed cohorts aged less than 6 in 1974 would have first voted in 1987.

Figure 8 shows that SD INPRES did not increase electoral support for the regime. Panel (a) shows a marked decline in *Golkar* vote shares from 1971 to 1977 in high-INPRES districts: each additional INPRES school per 1,000 children is associated with a 2.5 percentage point (p.p.) decline in the *Golkar* vote share (relative to the mean of 65% in 1971). This effect persists thereafter and is unchanged when including interactions of election-year FE with the vote share for Communist and Islamic parties in the 1950s elections (panel b). This provides suggestive evidence against pre-trends insomuch as support for *Golkar* in 1971 is correlated with later school construction and with voting behavior in the 1950s.

The Islamic opposition captured some of the declining support for *Golkar*. We see this for the PPP vote share in absolute terms (panels c and d) and relative to *Golkar* (panels e and f). One explanation is that the Islamic education sector, and its political backers in the PPP, pushed back against secularization, which was most salient in districts with greater SD INPRES construction. The decline in *Golkar* support as early as 1977 is consistent with this pushback. If instead these electoral shifts had been slower to materialize, it would have been difficult to rule out the alternative explanation that INPRES created a more educated and politically conscious citizenry that was simply opposed to the regime.

6.2 National and Religious Identity

The electoral impacts of SD INPRES were accompanied by deeper cultural changes. Table 8 reports cohort-level exposure effects on dimensions of secular national (panel a) and religious (panel b) identity.

We first examine a standard marker of attachment to the national identity in multilingual countries: the use of the national language at home. This is distinct from speaking ability. In the 2010 Census, nearly 90% of Indonesians can speak *Bahasa* Indonesia. Only 20% use it as the main language at home, which reflects greater attachment to national as opposed to ethnic or religious identity (see Bazzi et al., 2019, for validation). Column 1 reports null effects of SD INPRES using the exposed–control cohort design (equation 4). Behind this null lies a religious divide: 15% of Muslims prefer using Indonesian at home compared to 28% of non-Muslims.[37] Among Muslims, exposed cohorts report slightly less home

[36] In the 1971 election, we capture the Islamic vote share by combining all four Islamic parties that were subsumed in 1973 by regime decree under the PPP: *Nahdatul Ulama* (NU), the Muslim Party of Indonesia (Parmusi), the Islamic Association Party of Indonesia (PSII) and the Islamic Education Movement (Perti). NU was the second-highest ranked party in that election (after *Golkar*) with 18% of the vote.

[37] Using this same data, we find a precise zero effect of SD INPRES on the likelihood of being Muslim: -0.0003(0.0011).

use of *Bahasa* Indonesia (column 2), while non-Muslims exhibit a smaller response (column 3). These weak effects are striking given that INPRES schools aimed to promote a single Indonesian identity built around one language. Although SD INPRES increased Indonesian proficiency (Appendix Table A.21, columns 1–3), it did not increase vernacular attachment to the national language.

For those exposed to Islamic education, immersion in *Bahasa* Indonesia may have been crowded out by Arabic study. Table 4 showed that schools created in high-INPRES districts after 1972 devote more classroom time to Arabic and less to Indonesian. Table 8 shows that SD INPRES increased Arabic knowledge among exposed cohorts (column 4). This effect is driven by those with some Islamic education (two-thirds of whom report Arabic literacy, compared to one-third with secular education).[38] While SD INPRES increased literacy in the Latin alphabet on which Indonesian is based, it did not do so for other languages besides Arabic (Appendix Table A.21, columns 4–9). This is consistent with the unique role of Arabic among Muslims and the importance of Islamic education in transmitting such knowledge (see Appendix Table A.22 on the strong association of Islamic education with Arabic literacy).

These language shifts align closely with broader changes in piety. In Table 8 (panel b), we look at Islamic practices using a nationally-representative survey conducted in 2008 by Pepinsky et al. (2018). These include praying 5 times a day (column 1), fasting during Ramadan (column 2), reading the Qur'an (column 3), attending Friday prayer (column 4), performing *Sunna* prayers (column 5), joining prayer groups known as *pengajian* (column 6), and paying *zakat* (column 7). Respondents' practices vary widely, e.g., 62% report praying 5 times daily, while only 25% always regularly read the Qur'an. We find positive exposure effects across most measures, and each additional INPRES school is associated with a sizable 19% increase in a mean index across all practices (column 8).

Together, the results in Table 8 suggest that SD INPRES bolstered religious identity, which may have come at the expense of secular national identity. For those attending Islamic schools, this could have occurred through learning Arabic and Islamic thought. For those attending state schools, this could have occurred through greater exposure to Islamic-educated peers in one's community or engagement with the Islamic sector outside formal schooling (e.g., through parental inputs or attendance of *madrasa diniyah* or mosque-based youth groups). We explore some of these mechanisms in Section 6.4.

6.3 Political Attitudes and Ideology

Table 9 explores downstream effects of SD INPRES on political attitudes among citizens (panel a) and politicians (panel b). First, we find that SD INPRES had a null effect on support for *Pancasila* (column 1, panel a), the secular national ideology advanced through state schools. According to the Pepinsky et al. (2018) survey, 85% of Indonesians agree that *Pancasila* is the most suitable ideology for the nation.

Although exposure to mass schooling did not deepen support for *Pancasila*, nor did it increase support for conservative Islamist ideology as an alternative. We use several measures of support for Islamist ideology from Pepinsky et al. (2018). Columns 2 and 3 indicate whether individuals report strong or very strong support for Islamic principles to govern public life. The index in column 4 combines these two

[38] We switch between sample splitting on religion and on religious schooling across outcomes in panel (a) because *Susenas* does not record religion, and the 2010 Population Census does not report type of schooling.

questions with two others about subjective support for *sharia* law. Column 5 averages across six objective dimensions of *sharia*: corporal punishment for crime, prohibition of interest, mandatory *hijab*, legalized polygamy, stoning for adultery, and death for apostates (see Appendix Table A.23 for sub-component analysis). Across measures, we find null effects of SD INPRES on exposed cohorts of Muslim citizens.

The bottom panel (b) of Table 9 provides analogous evidence among legislative candidates in the 2019 election. INPRES-exposed cohorts are significantly less likely to run with *Golkar* and more likely to run with the Islamic PPP (columns 1 and 2); no other party affiliations admit significant effects. In other words, the short-run electoral backlash against *Golkar* and support for the PPP (see Section 6.1) persisted over the long run among exposed cohorts running for legislative office later in life. This is despite both parties being much less popular than in the repressive era of New Order politics. Hence, SD INPRES may have played a role in sustaining Suharto-era political cleavages over the long run.

Furthermore, INPRES-exposed candidates, across all parties, are less likely to campaign on *Pancasila* and related nation-building themes (column 3) and yet are no more likely to campaign on Islamist themes (column 4), net of their co-occurence with nation-building themes (column 5). We construct these binary outcomes using text from online campaign documents, identifying appeals to the faith (e.g., Islam, Muslim, *umma*, *sharia*) and references to Indonesian nation-building concepts.[39] Putting together the results in Table 9, we conclude that political candidates look broadly similar to the citizens they represent in terms of the long-term effects of exposure to SD INPRES during their childhood.

6.4 Intergenerational Transmission of Religious Values

In this final section, we highlight the role of intergenerational cultural transmission in shaping the legacy of mass schooling. Two generations after Indonesia's landmark policy, one in five students remained enrolled in *madrasa* or *pesantren*. This suggests that the shifts in religious values set in motion by SD INPRES were likely passed on to future generations.

Table 10 examines household-based mechanisms for such transmission, focusing on whether those directly exposed to SD INPRES changed their familial investments in religion as adults. For example, parents might engage in greater religious socialization at home for fear that children would lose religious values in a fast-secularizing society. We explore here two main pathways for vertical religious transmission, which, in theory, could either complement or substitute for religious school choice.

First, men exposed to SD INPRES as kids were more likely to marry women with Islamic schooling (column 1). This could be explained by assortative matching among the religiously educated. It could also be a consequence of the larger effect of SD INPRES on *madrasa* education for girls (Section 5.2). The effects are null for women's marital choice (column 2), perhaps because they face greater constraints (see Rubio, 2014, on arranged marriage). Regardless, the greater presence of religiously educated people in the marriage market could have increased religious transmission to children.

In the remaining columns of Table 10, we show how such transmission flowed within the household. We proxy for engagement with Islam using the Arabic literacy of parents and children measured in

[39] Nation-building appeals include, e.g., "[defending] the just nation according to *Pancasila* and the 1945 constitution," and "defending and maintaining *Pancasila* ideology and the existence of the unity of the Republic of Indonesia". See Appendix D.

Susenas. We saw in Section 6.2 that SD INPRES increased Arabic literacy. In columns 3–4, our dependent variable is a dummy for a father, a mother, and their child all being literate in Arabic. Both paternal and maternal exposure to SD INPRES increase the likelihood that the entire household is literate in Arabic, which is consistent with assortative mating and greater religious cultural transmission.

Finally, we examine the child's Arabic literacy among parental respondents who are literate in Arabic and whose child has received no Islamic schooling (columns 5–6). Among Arabic-literate parents, children formally educated in non-Islamic schools are more likely to be literate in Arabic when the parents were directly exposed to SD INPRES. While such a sample split is endogenous to INPRES exposure, this provides further suggestive evidence of religious transmission outside the Islamic school system. Such transmission could be due to instruction inside the home, extracurricular education at the local mosque or *madrasa diniyah*, or both. Overall, parents exposed to mass public schooling ensured that their children maintain a strong religious identity through socialization choices at home.

7 Conclusion

One of the most ambitious educational interventions ever implemented, SD INPRES pursued developmental as well as ideological objectives. A large literature documents the policy's effects on human capital. In contrast, we provide the first comprehensive investigation of its impacts on education markets. As much as the policy itself, competitive responses from the Islamic school system shaped education markets for years to come and also plausibly counteracted the advance of secular nation building.

Our findings point to some surprising consequences of mass public schooling. The policy failed to crowd out religious schools, as the Muslim community raised funds to build new schools in response to the state's investments. These Islamic schools, in turn, adapted to state competition by increasing the religious content of their curriculum, and by prioritizing formal pedagogy that allowed students to transition between the two systems. In this way, children raised in the Muslim faith could continue to gain exposure to formal Islamic teachings. These shifts were especially beneficial to more conservative families and to their daughters, whose education levels increased due in large part to the presence of Islamic schools as a substitute to secular public schools. This allowed many Indonesian families to reconcile the challenges of "modernization" with a strong continued adherence to religious values.

Our paper raises important questions for countries striving to find the optimal mix between centralizing and outsourcing public goods provision and its corollary, the legitimacy to tax service recipients. On the one hand, Islamic schools helped the central state cater to heterogeneous preferences for different types of schooling and to meet the excess demand for secondary schooling coming from universal primary education. This is reminiscent of the "division of responsibility for education" in diverse societies conceptualized by James (1987a,b). At the same time, the robust response by local Muslim communities illustrates the persistent challenges of designing and implementing centralized policy in settings with limited state capacity. These challenges were already salient during our period of interest in Indonesia: as a leading education expert noted, "the existence of two parallel and relatively independent [school] systems . . . poses very real problems for the reform and modernization of education" (Beeby, 1979, pp.

34-35). Similar challenges abound in the uneasy coexistence between the state and informal authorities in many developing countries where dual systems of governance persist.

The challenges associated with such dual systems are especially pronounced in conservative societies where religion provides a strong alternative source of political legitimacy to that of the state. Religious institutions are often perceived as more compatible with local preferences than institutions bequeathed by colonization or Western influence. Organizations that derive legitimacy from strict adherence to religious faith actively compete with central authorities by providing alternative forms of justice, taxation, and service provision mechanisms. Our paper offers a new perspective on how these competitive frictions unfold, and what they imply for state- and nation-building efforts in diverse societies.

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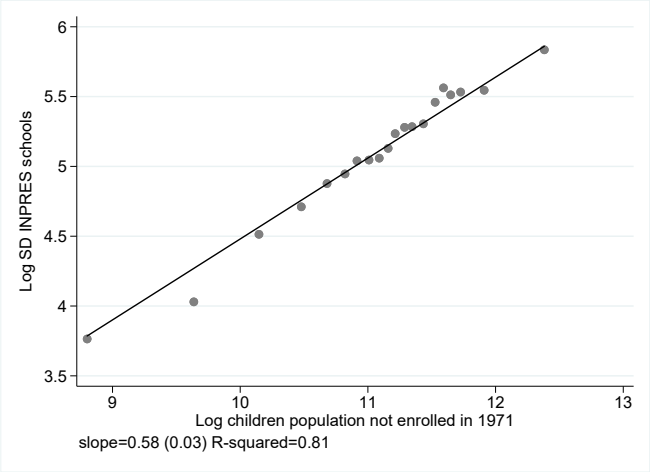
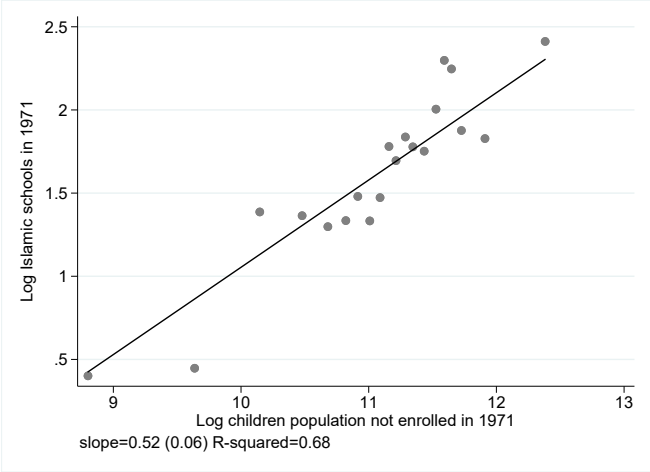
Figures

Figure 1: Targeting of INPRES School Construction

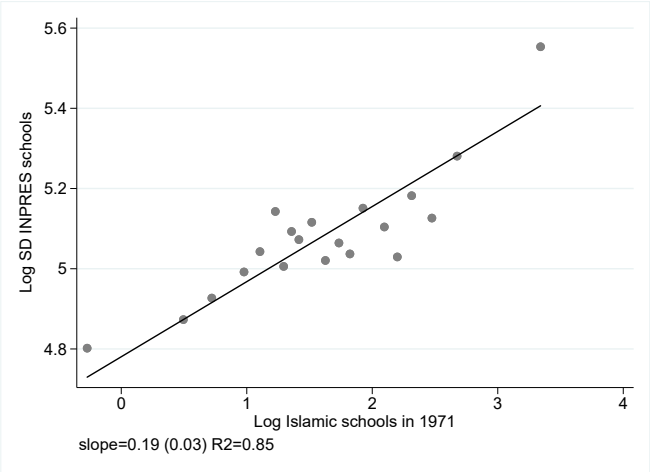
(a) Policy Rule



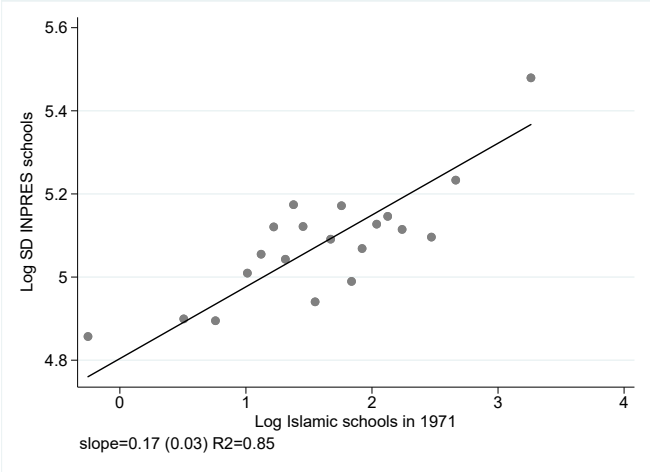
(b) Prevalence of Islamic Schools in Target Areas



(c) SD INPRES and Islamic School Presence



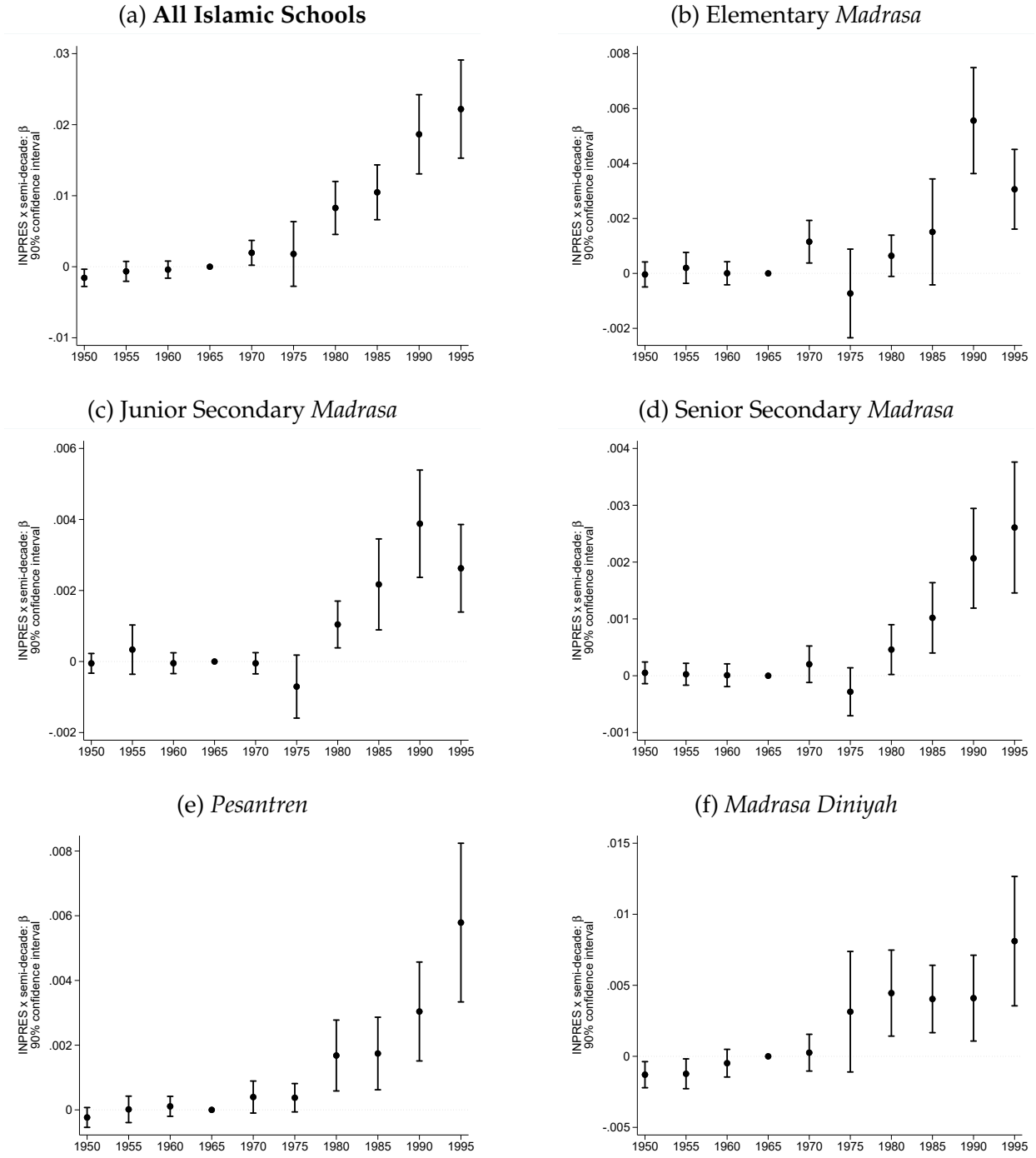
(d) SD INPRES and Islamic School Presence Controlling for Religious Preferences



Notes: This figure displays district-level binscatter plots between SD INPRES school construction, the population of children not enrolled in school in 1971, and the baseline presence of Islamic schools (elementary *madrasa* and *pesantren*) measured in 1971. Panel (a) illustrates the government's policy rule: SD INPRES school construction is proportional to the population of children not enrolled in 1971. In Panel (b), we regress the log of Islamic schools in 1971 on the log population of children not enrolled in 1971. In Panel (c), we regress log SD INPRES school construction on the log of Islamic schools in 1971, controlling for the population of children not enrolled and province dummies. In Panel (d), we estimate the same regression controlling for the vote share of Islamic parties in the 1955 and 1957 legislative elections, the last before the Suharto era.

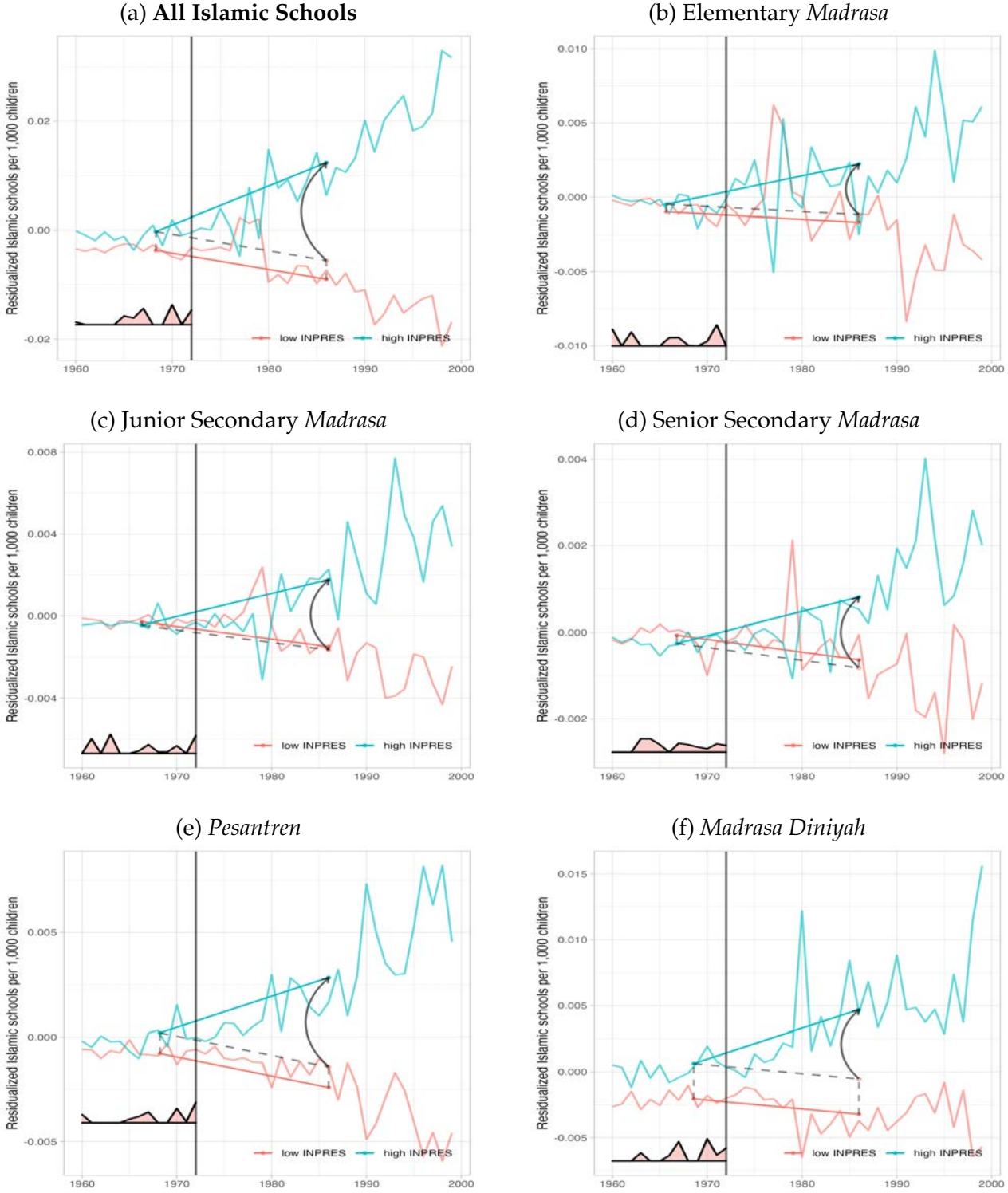
Figure 2: INPRES Intensity and Entry of Islamic Schools

New schools per 1,000 children



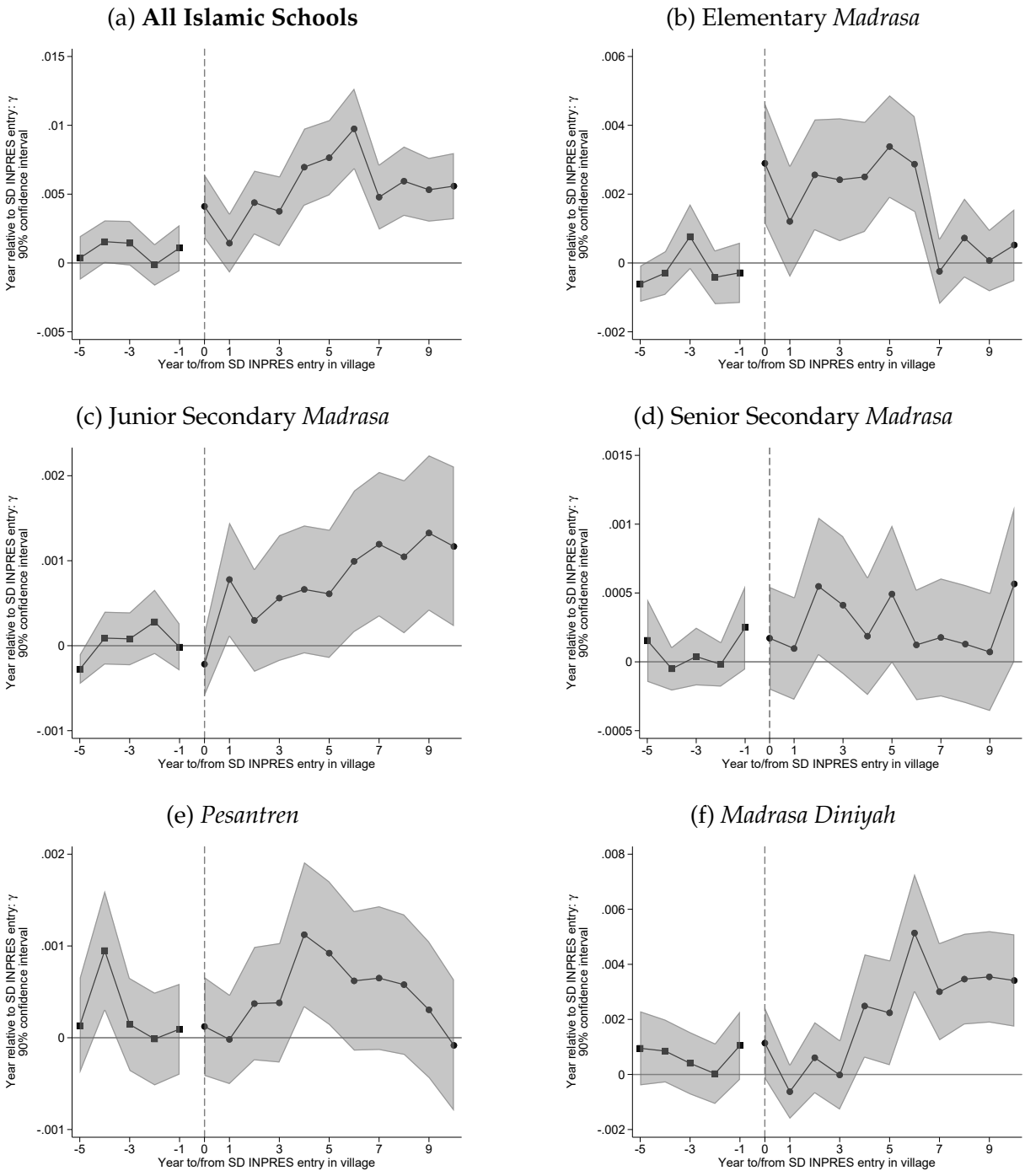
Notes: This figure reports semi-decade-specific estimates of β in equation (1) on a balanced district–year panel. INPRES intensity is defined as the number of SD INPRES schools constructed from 1973–78 per 1,000 children in 1971. The dependent variable measures the total number of Islamic schools (panel a), elementary *madrasa* (b), junior secondary *madrasa* (c), senior secondary *madrasa* (d), *pesantren* (Islamic boarding schools across all levels) (e), and *madrasa diniyah* (Qur'anic afternoon schools) (f) established by semi-decade and by district per 1,000 children in 1971. The 1965–69 period is the reference period given district fixed effects. The dots correspond to the period-specific β, and the bars to 90% confidence intervals with standard errors clustered by district, of which there are 275. All specifications include district fixed effects and year fixed effects interacted with the 1971 children population, the 1971 enrollment rate, district-level exposure to the water and sanitation program, the number of elementary, junior secondary, senior secondary *madrasa* in 1949, and the number of *pesantren* in 1949.

Figure 3: Islamic School Entry: Synthetic Difference-in-Differences



Notes: This figure reports synthetic difference-in-differences (SDID) estimates of the effect of SD INPRES on Islamic school entry at the district–year level from 1960–99. Each figure shows trends in entry of Islamic schools over time for districts above the 51st percentile of SD INPRES intensity ("high INPRES" in blue) and the relevant weighted average of comparison districts below the 51st percentile ("low INPRES" in red), with the weights used to average pre-INPRES time periods at the bottom of each panel (in red). The dashed diagonal line indicates the counterfactual parallel trend, and the arrow indicates the estimated effect. Following Arkhangelsky et al. (2021), we apply the SDID estimator to the residuals from equation (1): $y_{jt}^{res} = y_{jt} - (\mathbf{X}_j'\boldsymbol{\theta}_t)'\widehat{\boldsymbol{\eta}} - \widehat{\theta}_j - \widehat{\theta}_t$, where y_{it} is the total number of Islamic schools (panel a), elementary *madrasa* (b), junior secondary *madrasa* (c), senior secondary *madrasa* (d), *pesantren* (e), and *madrasa diniyah* (f) built per district–year and per 1,000 children in 1971; $\mathbf{X}_j'\boldsymbol{\theta}_t$ includes year fixed effects interacted with the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program, the number of elementary, junior secondary, senior secondary *madrasa*, and the number of *pesantren* in 1959.

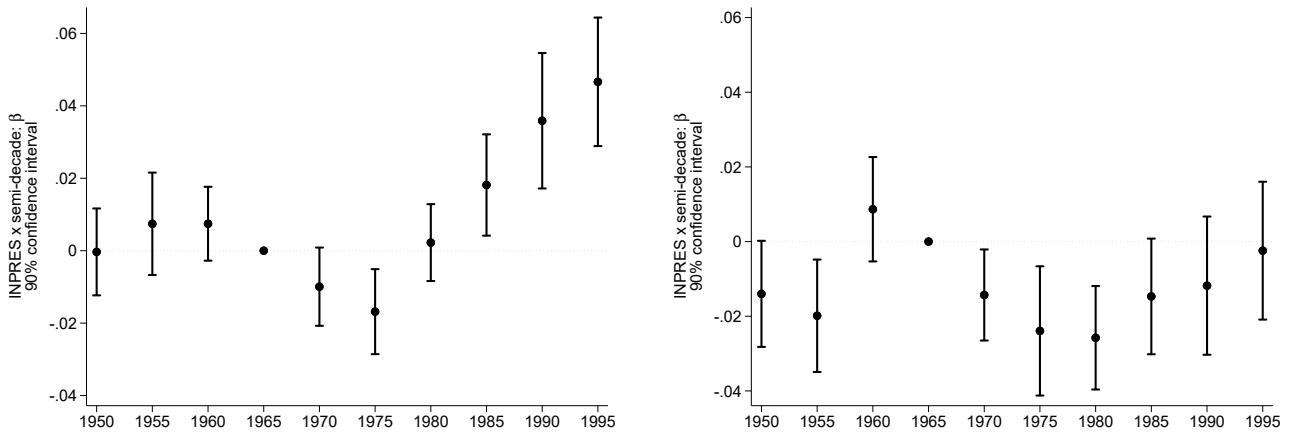
Figure 4: Islamic School Entry at the Village Level



Notes: This figure reports estimates of γ in equation (2) using the robust and efficient estimator from Borusyak et al. (2021) and a balanced panel of villages spanning 1960–99. The dependent variable measures the total number of Islamic schools (panel a), elementary *madrasa* (b), junior secondary *madrasa* (c), senior secondary *madrasa* (d), *pesantren* (e), and *madrasa diniyah* (f) established per village–year. All specifications include village fixed effects and year fixed effects interacted with the number of secular elementary schools and Islamic schools in the village as of 1959. The gray shading corresponds to 90% confidence intervals with standard errors clustered by village.

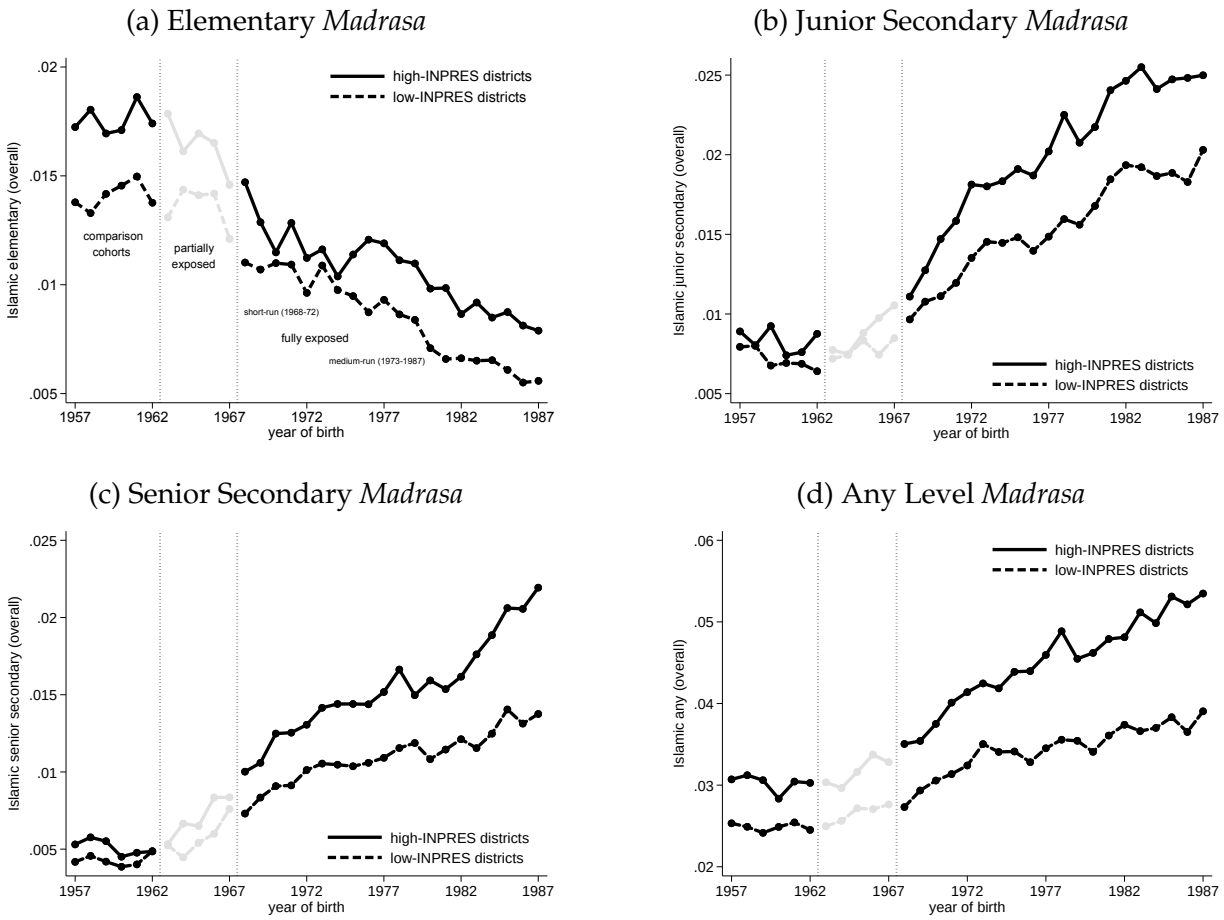
Figure 5: Entry of Formal and Informal Islamic Schools
As a Share of All School Entry

(a) Formal Schools (*Madrasa*) (b) Informal Schools (*Pesantren* and *Diniyah*)



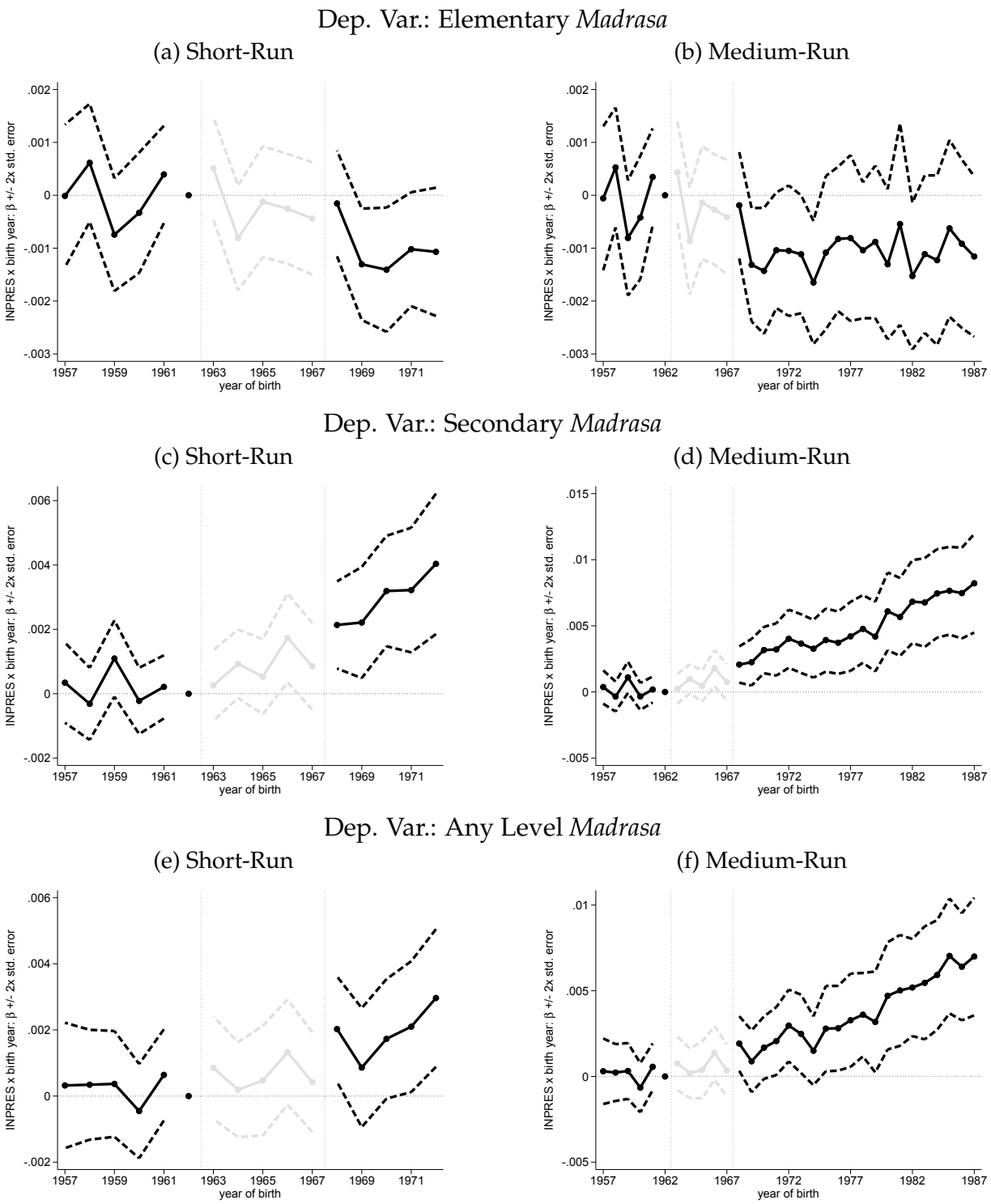
Notes: This figure reports semi-decade-specific estimates of β in equation (1). The dependent variable measures: (a) *madrasa* at all instruction levels built per district–year as a fraction fo all formal schools (including secular public, private, and Islamic schools), and (b) *pesantren* and *madrasa diniyah* built per district–year as a fraction of all schools (including formal and informal schools). As in Figure 2, the 1965–69 period is the reference period given district fixed effects. The dots correspond to the period-specific β, and the bars to 90% confidence intervals with standard errors clustered by district. All specifications include district fixed effects and year fixed effects interacted with the 1971 children population, the 1971 enrollment rate, district-level exposure to the water and sanitation program, the number of elementary, junior secondary, senior secondary *madrasa* in 1949, and the number of *pesantren* in 1949.

Figure 6: INPRES Exposure and Islamic Schooling – Raw Summary



Notes: This figure reports mean Islamic school completion rates over time for districts with above-median (high) and below-median (low) INPRES intensity from 1973–78. INPRES intensity is defined as the number of SD INPRES schools constructed from 1973–78 per 1,000 children in 1971. The rates are computed for cohorts from 1957 to 1987, pooling across annual *Susenas* data from 2012 to 2018, and they indicate whether the final level of education is (a) elementary *madrasa*, (b) junior secondary *madrasa*, (c) senior secondary *madrasa*, and (d) any level *madrasa*. The outcomes are the same as those in Table 5. The cohorts born before 1963 would have fully completed primary schooling before SD INPRES was rolled out in 1973. The cohorts born from 1968 onwards would have been fully exposed to SD INPRES given that they would have been no more than 6 years old just prior to school construction ensuing. The cohorts born from 1963 to 1967 (greyed out) correspond to the partially-exposed cohorts. See Section 5 for further discussion of these distinctions across cohorts.

Figure 7: INPRES Exposure and Islamic Schooling – Estimated Effects by Cohort

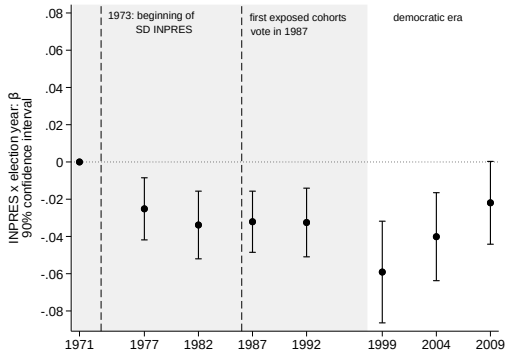


Notes: This figure reports age-specific estimates of β in equation (4). INPRES intensity is defined as the number of SD INPRES schools constructed from 1973-78 per 1,000 children in 1971. The dependent variable in panels (a) and (b) is an indicator equal to one if the individual's final year of schooling was completed in an Islamic elementary school. Panels (c) and (d) are for an Islamic secondary school, and panels (e) and (f) for any Islamic school. Panels (a), (c), and (e) correspond to the original cohort specification: fully-exposed born 1968–1972 (black), partially-exposed born 1963–1967 (gray), and unexposed born 1957–1962 (black). Panels (b), (d), and (f) expand exposed cohorts to 1987. The 1962 cohort serves as the reference age, given age fixed effects, in both the short- and long-run specifications. All specifications include survey year $\times$ district of birth dummies and year of birth with the 1971 children population, the 1971 enrollment rate, district-level exposure to the water and sanitation program, the number of elementary, junior secondary, senior secondary *madrasa* in 1957, and the number of *pesantren* in 1957. The dashed lines correspond to 90% confidence intervals with standard errors clustered by district of birth.

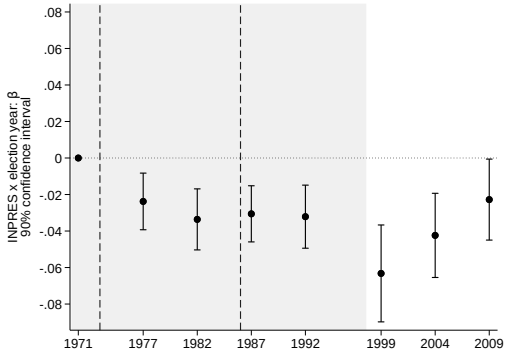
Figure 8: Electoral Impacts of SD INPRES

State Regime (*Golkar*, Suharto's Party)

(a) Baseline

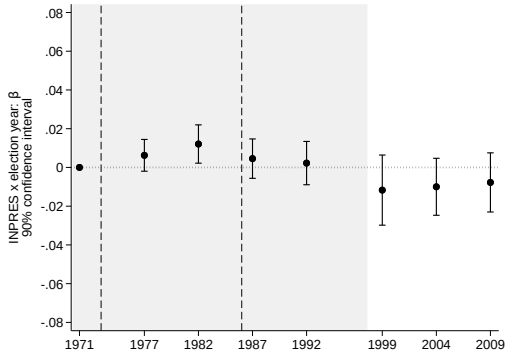


(b) . . . + 1950s Voting Trends

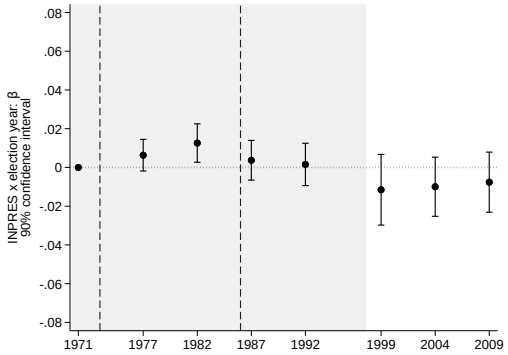


Islamic Opposition (United Development Party, PPP)

(c) Baseline

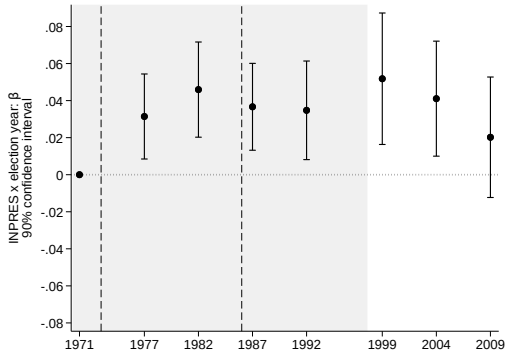


(d) . . . + 1950s Voting Trends

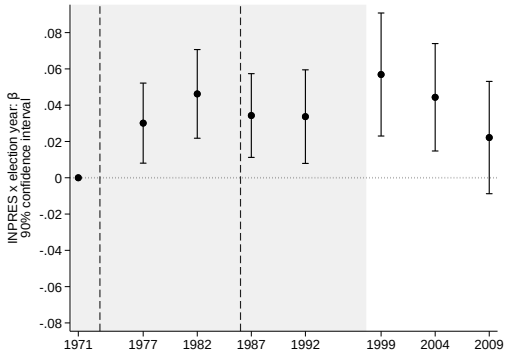


Islam vs. State (PPP minus *Golkar*)

(e) Baseline



(f) . . . + 1950s Voting Trends



Notes: This figure reports legislative-election-year-specific estimates and 90% confidence intervals around β in equation (1) on a balanced district–election-year panel. INPRES intensity is defined as the number of SD INPRES schools constructed from 1973–78 per 1,000 children in 1971. The dependent variable measures vote shares for *Golkar*, the party of Suharto and the New Order regime (panels a–b), the Islamic opposition party/ies (panels c–d), and the difference in vote shares between the two (panel d–e). All specifications include district fixed effects and election-year fixed effects interacted with the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program, the number of elementary, junior secondary, senior secondary *madrasa*, and the number of *pesantren* in 1972. The specifications in panels b, d, and f additionally controls for election-year fixed effects interacted with the respective vote shares for Islamic and Communist parties in the 1950s legislative elections. In 1971, there were four Islamic parties that we group together, but from 1973 onward, the regime only allowed a single umbrella Islamic party, the United Development Party or PPP. The 1971 election was the last just prior to SD INPRES and serves as the reference election given district fixed effects. The gray area captures elections conducted under the New Order regime. The elections in 1987 and 1992 are the first in which INPRES-exposed cohorts would have been eligible to vote. The elections from 1999 onward took place after the fall of Suharto when the country democratized and both secular and Islamic parties proliferated.

Tables

Table 1: Correlates of INPRES Elementary School Allocation

	Dependent Variable:				
	log SD INPRES in district				SD INPRES in village
District Level	(1)	(2)	(3)	(4)	(5)
% Islamic primary enrollment, 1967–72	0.039***	0.028***		0.011	
	(0.009)	(0.009)		(0.008)	
log school-aged children not enrolled, 1971	0.684***		0.622***	0.628***	
	(0.076)		(0.080)	(0.072)	
% Non-Islamic primary enrollment, 1967–72		-0.016***		-0.014***	
		(0.005)		(0.005)	
log Islamic primary schools, 1971			0.130***	0.079***	
			(0.030)	(0.025)	
Islamic parties vote share, 1950s				0.004***	
				(0.001)	
Village Level					
any public elementary in village, 1971					-0.028**
					(0.012)
any private non-Islamic elementary in village, 1971					-0.046***
					(0.015)
any private Islamic elementary in village, 1971					0.052***
					(0.019)
Number of Districts or Villages	275	275	275	275	75,208
Targeting Policy Controls	✓	✓	✓	✓	✓
R^2	0.872	0.812	0.872	0.893	0.030

Notes: This table reports correlates of SD INPRES school construction at the district and village levels. The dependent variable is the log number of INPRES elementary schools constructed at the district level between 1973–78 (columns 1–4) and an indicator for any SD INPRES built in the village during that same period (column 5). All regressions control for the variables that informed the policy rule for INPRES school allocations: province fixed effects, the 1971 children population, the 1971 enrollment rate, and exposure to the water and sanitation program.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses, clustered by district in column 5.

Table 2: SD INPRES Intensity and Islamic School Entry

	Formal *Madrasa*			Informal		All
	Elementary	Junior Sec.	Senior Sec.	*Pesantren*	*Diniyah*	Islamic
	(1)	(2)	(3)	(4)	(5)	(6)
	(a) Difference-in-Differences, District Level					
INPRES × post-1972	0.0017***	0.0016***	0.0009***	0.0021***	0.0041**	0.0105***
	(0.0005)	(0.0004)	(0.0002)	(0.0005)	(0.0016)	(0.0023)
	(b) Synthetic Difference-in-Differences, District Level					
INPRES × post-1972	0.0034***	0.0034***	0.0016***	0.0043***	0.0052*	0.0179***
	(0.0013)	(0.0009)	(0.0004)	(0.0010)	(0.0027)	(0.0039)
1959 Islamic Schools × Year FE	✓	✓	✓	✓	✓	✓
District FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Number of District–Years	11,000	11,000	11,000	11,000	11,000	11,000
Dep. Var. Mean	0.007	0.005	0.002	0.007	0.018	0.039
R^2 (panel a)	0.179	0.169	0.169	0.313	0.564	0.463
	(c) Difference-in-Differences, Village Level					
SD INPRES Entry	0.0021***	0.0018***	0.0007***	0.0017***	0.0043***	0.0105***
	(0.0004)	(0.0002)	(0.0001)	(0.0003)	(0.0007)	(0.0012)
	(d) Robust Difference-in-Differences Estimator, Village Level					
SD INPRES Entry	0.0022***	0.0017***	0.0008***	0.0013***	0.0035***	0.0094***
	(0.0002)	(0.0001)	(0.0001)	(0.0002)	(0.0003)	(0.0005)
1959 Islamic Schools × Year FE	✓	✓	✓	✓	✓	✓
Village FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Number of Village–Years	3,334,560	3,334,560	3,334,560	3,334,560	3,334,560	3,334,560
Dep. Var. Mean	0.0009	0.0001	0.0001	0.0005	0.0025	0.0011
R^2 (panel c)	0.035	0.029	0.028	0.068	0.063	0.045

Notes: The dependent variables are measured as new schools of a given type created per district–year and per 1,000 children in 1971 in panels (a) and (b) and per village–year in panels (c) and (d). Panel (a) reports difference-in-differences estimates of β in equation (1). INPRES refers to SD INPRES schools constructed from 1973–78 per 1,000 children in 1971. Panel (b) reports synthetic DID estimates computed using Arkhangelsky et al. (2021); see the notes to Figure 3 for details on the implementation. In panels (a) and (b), all specifications include district fixed effects and year fixed effects interacted separately with the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program, the number of elementary, junior secondary, senior secondary *madrasa* in 1959, and the number of *pesantren* in 1959. Both (a) and (b) are estimated on a panel at the district–year level spanning 1960–99. Panels (c) and (d) report estimates of the average of post-SD-INPRES-entry coefficients τ in equation (2). Panel (c) reports standard difference-in-differences estimates and panel (d) reports estimates computed using the robust imputation method from Borusyak et al. (2021). SD INPRES Entry is a binary indicator equal to one in the first year of public primary school construction from 1973–78 and remains one in all years thereafter. All specifications include village fixed effects and year fixed effects interacted separately with the number of secular elementary schools and Islamic schools in the village as of 1959.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors are clustered by district in panel (a), and using the cluster bootstrap described in Algorithm 2 of Arkhangelsky et al. (2021) in panel (b). Robust standard errors are clustered by village in panels (c) and (d).

Table 3: SD INPRES Intensity and Heterogeneous Entry of Islamic Schools, Village Level

	Formal *Madrasa*			Informal		All
	Elementary	Junior Sec.	Senior Sec.	*Pesantren*	*Diniyah*	Islamic
	(1)	(2)	(3)	(4)	(5)	(6)
	(a) 1960–1999					
SD INPRES Entry	0.0011***	0.0011***	0.0004***	0.0009***	0.0025***	0.0059***
	(0.0003)	(0.0002)	(0.0001)	(0.0003)	(0.0006)	(0.0011)
SD × potential rice yield	0.0015***	0.0013***	0.0004***	0.0009**	0.0033***	0.0074***
	(0.0004)	(0.0003)	(0.0001)	(0.0004)	(0.0008)	(0.0013)
SD × any *waqf*, predetermined	0.0041***	0.0027***	0.0013***	0.0049***	0.0073***	0.0202***
	(0.0007)	(0.0004)	(0.0003)	(0.0011)	(0.0018)	(0.0023)
1959 Islamic Schools × Year FE	✓	✓	✓	✓	✓	✓
Village FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Number of Village–Years	3,007,920	3,007,920	3,007,920	3,007,920	3,007,920	3,007,920
Dep. Var. Mean	0.0013	0.0001	0.0001	0.0006	0.0026	0.0047
R^2	0.036	0.029	0.029	0.068	0.063	0.075
	(b) 1968–1983					
SD INPRES Entry	0.0001	0.0002	0.0001	0.0001	0.0006	0.0011
	(0.0005)	(0.0001)	(0.0001)	(0.0002)	(0.0005)	(0.0007)
SD × potential rice yield	0.0023***	0.0006***	0.0000	-0.0000	0.0011**	0.0041***
	(0.0007)	(0.0002)	(0.0001)	(0.0001)	(0.0005)	(0.0009)
SD × any *waqf*, predetermined	0.0069***	0.0007	0.0004**	0.0006	0.0023***	0.0109***
	(0.0012)	(0.0005)	(0.0002)	(0.0004)	(0.0009)	(0.0017)
1967 Islamic Schools × Year FE	✓	✓	✓	✓	✓	✓
Village FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Number of Village–Years	1,203,168	1,203,168	1,203,168	1,203,168	1,203,168	1,203,168
Dep. Var. Mean	0.0013	0.0001	0.0001	0.0006	0.0026	0.0047
R^2	0.077	0.068	0.066	0.085	0.107	0.105

Notes: The dependent variables are measured as new schools of a given type created per village-year. We report estimates over the period 1960–99 (panel a) or the period 1968–1983 (panel b). Both panels report estimates of the average of post-SD-INPRES-entry coefficients τ in equation (2) estimated via standard DID. SD INPRES Entry is a binary indicator equal to one in the first year of public primary school construction from 1973–78 and remains one in all years thereafter. "potential rice yield" is a time-invariant measure from FAO-GAEZ and averages over dry and wet rice yields; this measure is standardized prior to interacting with SD INPRES Entry. We do not have reliable measures of potential yield for some villages and districts and hence the slightly smaller sample size relative to panel (c) and (d) in Table 2. "any *waqf*, predetermined" is a binary indicator equal to one if the village had any *waqf* endowments prior to 1960 in panel (a) and prior to 1968 in panel (b). All specifications include village fixed effects and year fixed effects interacted separately with the number of secular elementary schools and Islamic schools in the village as of 1959.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village.

Table 4: SD INPRES Intensity and Curriculum Differentiation in Islamic Schools

	All Levels (1)	Primary (2)	Jun. Sec. (3)	Sen. Sec. (4)
	(a) Islamic Subject Share			
INPRES × post-1972	0.012*	0.013**	0.023***	-0.040
	(0.007)	(0.006)	(0.008)	(0.025)
Dep. Var. Mean	0.246	0.238	0.261	0.242
Dep. Var. Std. Dev.	0.047	0.033	0.028	0.036
	(b) Arabic Share			
INPRES × post-1972	0.002*	0.003**	0.008**	0.017***
	(0.001)	(0.001)	(0.002)	(0.002)
Dep. Var. Mean	0.053	0.050	0.068	0.054
Dep. Var. Std. Dev.	0.013	0.009	0.010	0.007
	(c) *Pancasila*/Civic Share			
INPRES × post-1972	-0.001	n/a	-0.003	0.008***
	(0.001)		(0.003)	(0.002)
Dep. Var. Mean	0.012		0.060	0.039
Dep. Var. Std. Dev.	0.023		0.008	0.004
	(d) *Bahasa* Indonesia Share			
INPRES × post-1972	-0.004**	0.000	-0.005	0.002
	(0.002)	(0.003)	(0.004)	(0.002)
Dep. Var. Mean	0.027	0.001	0.123	0.084
Dep. Var. Std. Dev.	0.047	0.008	0.016	0.008
District FE	✓	✓	✓	✓
Grade-Level FE	✓	✓	✓	✓
Year-of-Entry FE	✓	✓	✓	✓
Number of Observations	4,128	1,404	1,662	1,046
Number of Districts	239	213	213	178

Notes: This table presents estimates from a modified version of equation (1). We use an unbalanced panel at the school–grade (primary, jun. sec., sen. sec.) × district × year level, including only years in which the given district had any school–grades enter. The estimating equation is $y_{sjt} = \beta(INPRES_j \times Post1972_t) + (\mathbf{X}_j \times Post1972_t)'\mathbf{\Theta} + \delta_s + \delta_j + \delta_t + \varepsilon_{sjt}$, where s is a school–grade level and other terms are defined as in equation (1). The dependent variable measures the mean share of weekly instruction time devoted to Islamic subject material in panel (a), Arabic instruction in panel (b), *Pancasila* and civic education in panel (c), and instruction of the national language and literature, *Bahasa* Indonesia in panel (d). The measures come from the SIAP registry for the 2018–19 school year, and we categorize subject material using a procedure detailed in Appendix D. It is not possible to identify *Pancasila* and civic subjects for primary schools as such hours are not recorded in the database and hence the omission of column 2 in panel (b). All specifications include district×grade-level fixed effects, year-of-entry fixed effects, and a post-1972 dummy interacted with the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program, and the baseline number of elementary, junior secondary, senior secondary *madrasa*, and *pesantren*.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district.

Table 5: SD INPRES Exposure and Islamic School Choice

	Highest Education Level: [...] *Madrasa*							
	Elementary		Junior Secondary		Senior Secondary		Any Level	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(a) Difference-in-Differences							
INPRES × young	-0.0010**	-0.0010	0.0018***	0.0031***	0.0010***	0.0018***	0.0017**	0.0037***
	(0.0004)	(0.0006)	(0.0004)	(0.0007)	(0.0003)	(0.0004)	(0.0007)	(0.0012)
	(b) Synthetic Difference-in-Differences							
INPRES × young	-0.0025***	-0.0049***	0.0034***	0.0031**	0.0020***	0.0025**	0.0026*	0.0002
	(0.0008)	(0.0012)	(0.0008)	(0.0015)	(0.0007)	(0.0010)	(0.0014)	(0.0025)
District × Survey Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓
1957 Islamic Schools × Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓
Cohorts born 1968–72 vs. 1957–62	✓		✓		✓		✓	
Cohorts born 1968–87 vs. 1957–62		✓		✓		✓		✓
Number of Individuals	839,026	2,315,949	839,026	2,315,949	839,026	2,315,949	839,026	2,315,949
Number of Districts	275	275	275	275	275	275	275	275
Dep. Var. Mean	0.014	0.011	0.011	0.016	0.008	0.012	0.031	0.038
R^2 (panel a)	0.031	0.024	0.014	0.021	0.009	0.011	0.033	0.037

Notes: This table reports estimates of equation (4) based on annual *Susenas* data from 2012 to 2018. INPRES refers to SD INPRES schools constructed from 1973–78 per 1,000 children in 1971. The dependent variables include an indicator equal to one if the individual's final year of schooling took place in an Islamic elementary (columns 1–2), junior secondary (columns 3–4), senior secondary (columns 5–6), or any level Islamic (columns 7–8). Panel (a) reports standard DID estimates. All specifications include district of birth times survey–year fixed effects and cohort fixed effects interacted separately with the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program in the district of birth, the number of elementary, junior secondary, senior secondary *madrasa* in 1957, and the number of *pesantren* in 1957. In odd-numbered columns, the sample is composed of all individuals aged 2–6 (young) or 12–17 in 1974. In even-numbered columns, the young group additionally includes cohorts born between 1973 and 1987. Robust standard errors are clustered by district of birth. Panel (b) reports synthetic DID estimates. The dependent variables are residualized outcomes obtained using the same set of covariates as in panel (a); see Figure 3 for generic details on SDID implementation. Analogous to Appendix Figure A.8, partially exposed cohorts aged 7–11 in 1974 are used in the construction of the synthetic control group; thus the sample is composed of all individuals aged 2–6 (young) or 7–17 in 1974 in odd-numbered columns, and the young group additionally includes cohorts born between 1973 and 1987 in even-numbered columns.

* p<0.1, ** p<0.05, *** p<0.01. Standard errors are clustered by district of birth in both panels and, in panel (b), are computed using the cluster bootstrap described in Algorithm 2 of Arkhangelsky et al. (2021).

Table 6: SD INPRES Exposure and School Choice, Conditional Estimates

	Highest Education Level: [...] *Madrasa* | Graduating at that Level							
	Elementary		Junior Secondary		Senior Secondary		Any Level	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(a) Difference-in-Differences (DID)							
INPRES × young	-0.0017**	-0.0016*	0.0057***	0.0059***	-0.0001	0.0030**	0.0011*	0.0024***
	(0.0007)	(0.0009)	(0.0020)	(0.0021)	(0.0014)	(0.0014)	(0.0007)	(0.0009)
	(b) Synthetic Difference-in-Differences							
INPRES × young	-0.0043***	-0.0088***	0.0117***	0.0027	-0.0004	0.0020	0.0016	-0.0011
	(0.0016)	(0.0023)	(0.0044)	(0.0060)	(0.0028)	(0.0040)	(0.0017)	(0.0025)
	(c) DID with Selection Correction (Parametric)							
INPRES × young	-0.0029**	-0.0042**	0.0037	0.0055*	0.0017	0.0028	0.0002	0.0022
	(0.0012)	(0.0012)	(0.0027)	(0.0020)	(0.0021)	(0.0017)	(0.0008)	(0.0009)
	[0.049]	[0.020]	[0.347]	[0.068]	[0.481]	[0.202]	[0.731]	[0.222]
Selection Term, p-value	0.245	0.013	0.367	0.592	0.353	0.970	0.134	0.745
	(d) DID with Selection Correction (Semiparametric)							
INPRES × young	-0.0017***	-0.0021***	0.0053***	0.0059***	0.0001	0.0018	0.0004	-0.0001
	(0.0007)	(0.0008)	(0.0020)	(0.0020)	(0.0015)	(0.0013)	(0.0007)	(0.0009)
	[0.001]	[0.001]	[0.001]	[0.001]	[0.986]	[0.249]	[0.479]	[0.575]
Selection Terms, p-value	0.902	0.034	0.002	0.000	0.155	0.000	0.111	0.000
District × Survey Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓
1957 Islamic Schools × Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓
Cohorts born 1968–72 vs. 1957–62	✓		✓		✓		✓	
Cohorts born 1968–87 vs. 1957–62		✓		✓		✓		✓
Number of Individuals	283,359	726,561	100,874	373,064	130,546	471,076	543,748	1,680,217
Number of Districts	275	275	275	275	275	275	275	275
Dep. Var. Mean	0.024	0.024	0.070	0.086	0.044	0.053	0.036	0.044

Notes: This table estimates the specifications in Table 5 on dependent variables defined conditional on graduating from a given level of education. These binary outcomes equal one for *madrasa* among elementary graduates (columns 1–2), among junior secondary graduates (columns 3–4), among senior secondary graduates (columns 5–6), and any level graduates (columns 7–8). The sample only includes individuals at the given graduation level. In panels (a) and (b), specification details for the DID and the SDID estimation are otherwise identical to those in panels (a) and (b) of Table 5, respectively. In panels (c) and (d), we report estimates from the second step of a two-step selection model that adjusts for the non-random sample selection, i.e., conditioning on those that reached the given level. Panel (a) estimates a parametric Heckman (1976) two-step procedure, which includes the inverse Mills Ratio in the second-step. Panel (b) estimates a semiparametric Newey (2009) procedure, which includes a cubic polynomial in flexibly estimated first-step probabilities; the cubic order is based on consistency results in Newey (2009), which imply an upper bound of 3 on the order of the approximating power series in a sample with effective size of 275 (i.e., the level of policy variation). In both cases, we exclude from the second step a set of covariates that capture exposure to a compulsory schooling pilot program in the 1950s and early 1960s: cohort FE times (i) an indicator equal to one if the individual's district of birth was one of 35 pilot sites, (ii) the number of schools allocated to the district as part of the program, and (iii) the number of teachers allocated to the district as part of the program. In panel (d), to better approximate the true selection correction function, we create quintiles of all continuous regressors in the first step estimation, i.e., (ii) and (iii) plus the continuous regressors in the baseline specification.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district of birth in all specifications. Panels (c) and (d) deploy a percentile-*t* cluster bootstrap procedure proposed by Yamagata (2006) and shown to work well with two-step selection estimators. The standard errors in those panels are based on non-bootstrap inference, but the significance levels on the coefficients and p-values reported below the standard errors are based on the asymmetric percentile-*t* confidence intervals derived from 250 cluster bootstrap repetitions.

Table 7: Heterogeneity in the Effects of SD INPRES on Islamic School Choice

	Years of School		Highest Education Level: [. . .] *Madrasa* Elementary		Junior Sec.		Senior Sec.		Any	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(a) Ideological Heterogeneity									
INPRES × young	0.1329***	0.2044***	-0.0007	-0.0004	0.0019***	0.0032***	0.0010***	0.0017***	0.0021***	0.0042***
	(0.0254)	(0.0358)	(0.0005)	(0.0008)	(0.0005)	(0.0008)	(0.0004)	(0.0004)	(0.0008)	(0.0013)
INPRES × young × Islamic vote (1950s)	-0.0112	0.0389	0.0003	0.0006	0.0010*	0.0018**	0.0006*	0.0010**	0.0017*	0.0033**
	(0.0267)	(0.0341)	(0.0007)	(0.0010)	(0.0005)	(0.0009)	(0.0003)	(0.0005)	(0.0010)	(0.0016)
	(b) Gender Heterogeneity									
INPRES × young × male	0.1788***	0.1969***	-0.0012***	-0.0013**	0.0017***	0.0023***	0.0010***	0.0020***	0.0014**	0.0029***
	(0.0306)	(0.0359)	(0.0004)	(0.0005)	(0.0004)	(0.0006)	(0.0003)	(0.0005)	(0.0007)	(0.0010)
INPRES × young × female	0.0984***	0.1921***	-0.0008	-0.0006	0.0020***	0.0038***	0.0010**	0.0016***	0.0021**	0.0045***
	(0.0288)	(0.0419)	(0.0005)	(0.0008)	(0.0005)	(0.0009)	(0.0005)	(0.0005)	(0.0008)	(0.0014)
male=female, p-value	0.007	0.890	0.435	0.239	0.425	0.004	0.902	0.223	0.277	0.032
District × Survey Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1957 Islamic Schools × Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cohorts born 1968–72 vs. 1957–62	✓		✓		✓		✓		✓	
Cohorts born 1968–87 vs. 1957–62		✓		✓		✓		✓		✓
Number of Individuals	839,019	2,315,933	839,026	2,315,949	839,026	2,315,949	839,026	2,315,949	839,026	2,315,949
Dep. Var. Mean (overall)	7.5	8.4	0.014	0.011	0.011	0.016	0.008	0.012	0.031	0.038
Dep. Var. Mean (male)	8.1	8.8	0.011	0.009	0.010	0.014	0.008	0.011	0.027	0.033
Dep. Var. Mean (female)	6.9	8.2	0.016	0.012	0.011	0.018	0.007	0.012	0.034	0.042

Notes: This table reports estimates of a modified version of equation (4). Compared to the baseline DID specification, panel (a) interacts INPRES × young with the standardized vote share of Islamic parties in the 1950s elections, which is also separately interacted with cohort FE, and panel (b) interacts INPRES × young separately with male and female dummies while also interacting all baseline controls (and interactive FE) with a female indicator, i.e., all coefficients and FE are allowed to vary with gender. With the exception of columns 1–2, which looks at total years of education, the specifications in both panels are otherwise identical to those in Table 5 (see the notes therein). Panel (b) also reports the p-value from an F test of coefficient equality between genders.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district of birth.

Table 8: SD INPRES Exposure, Identity, and Religiosity

	(a) Identity, Proxied by Language					
	National Language Use at Home			Arabic Literacy		
	All	Muslims	Non-Muslims	All	Islamic-Educated	Secular-Educated
	(1)	(2)	(3)	(4)	(5)	(6)
INPRES × young	-0.0011	-0.0029*	-0.0018	0.0112***	0.0144***	0.0023
	(0.0015)	(0.0018)	(0.0018)	(0.0026)	(0.0011)	(0.0025)
Number of Individuals	31,680,947	27,811,517	3,869,430	839,026	25,935	813,087
Number of Districts	273	273	273	275	275	275
Dep. Var. Mean	0.166	0.150	0.275	0.343	0.688	0.332

	(b) Islamic Piety and Practice							
	Pray 5x daily	Fast during Ramadan	Reads the Qur'an	Prayer: Friday	Prayer: *Sunna*	Prayer: Group	Pay *Zakat*	**Index**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
INPRES × young	0.1344**	-0.0041	0.0977**	0.1559**	0.0954*	0.0348	0.0370	0.0781***
	(0.0604)	(0.0503)	(0.0470)	(0.0611)	(0.0485)	(0.0466)	(0.0466)	(0.0294)
Number of Individuals	1,282	1,283	1,281	1,276	1,268	1,280	1,281	1,284
Number of Districts	144	144	144	144	144	144	144	144
Dep. Var. Mean	0.623	0.797	0.251	0.187	0.140	0.230	0.834	0.415

Notes: This table reports estimates of equation (4) using data from multiple sources. The dependent variable in columns 1–3 of panel (a) is an indicator for whether the individual speaks the national language, *Bahasa* Indonesia, as his/her main language at home. The data come from the complete-count 2010 Population Census. Columns 4–6 in panel (a) look at an indicator for whether an individual reports literacy in Arabic in the annual *Susenas* data from 2012 to 2018. Panel (a) sample splits across Muslims and non-Muslims in the Population Census (where we do not observe Islamic education) and across Islamic-educated and non-Islamic-educated in *Susenas* (where we do not observe religion). The specifications in panel (a) are restricted to mothers and fathers (husbands and wives) that fall within the original birth cohorts: aged 2–6 (young) or 12–17 in 1974. The dependent variables in panel (b) include indicators for whether an individual reports partaking in a range of Islamic practices as reported in the Pepinsky et al. (2018) survey data from 2008. The final column is a mean index across all 7 prior outcomes. The sample in panel (b) is restricted to Muslim respondents from 1957 to 1987, excluding the partially exposed cohorts born 1963–67. The specification is otherwise identical to panel (a) in Table 5, which includes district of birth (times survey–year) fixed effects and cohort fixed effects interacted separately with the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program in the district of birth, the number of elementary, junior secondary, senior secondary *madrasa* in 1957, and the number of *pesantren* in 1957 (see the notes therein).

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district of birth.

Table 9: SD INPRES Exposure and Ideology

	(1)	(2)	(3)	(4)	(5)
	(a) Citizens				
	Respondent Supports ...				
	Pancasila	Islamic		*Sharia* (Index)	
		Politics	Economics	Subjective	Objective
INPRES × young	0.0194	-0.0005	0.0365	-0.0122	0.0143
	(0.0424)	(0.0875)	(0.0615)	(0.0581)	(0.0288)
Number of Individuals	1,444	1,284	1,297	1,377	1,286
Number of Districts	159	156	157	157	144
Dep. Var. Mean	0.857	0.616	0.732	0.637	0.434
	(b) Candidates				
	Golkar Party	United Development Party (PPP)	Platform Appeals to		
			Nation Building	Islam	Nation Building Excl. Islam
INPRES × young	-0.0109*	0.0103**	-0.0106*	0.0028	-0.0110*
	(0.0061)	(0.0044)	(0.0059)	(0.0023)	(0.0056)
Number of Candidates	17,123	17,123	17,123	17,123	17,123
Number of Districts	273	273	273	273	273
Dep. Var. Mean	0.118	0.045	0.116	0.027	0.110

Notes: This table reports estimates of equation (4) for ideological outcomes. The data in panel (a) come from the Pepinsky et al. (2018) survey data. The dependent variable in column 1 of panel (a) is an indicator for whether the individual supports the national, inclusive secular ideology of *Pancasila*, or thinks some other ideology would be preferable. We next look at measures of support for a greater role of Islamic principles in politics (column 2) or in economic life (column 3). Columns 4 and 5 consider measures of support for application of the *sharia* law. Column 4 is an indicator for whether the Muslim respondent express strong or very strong support for the implementation of *sharia* law. Column 5 is a mean index across several specific components of *sharia* law (e.g., prohibiting interest, mandating *hijab* for women), each of which is elaborated in Appendix Table A.23. The sample in panel (a) is restricted to Muslim respondents from 1957 to 1987, excluding the partially exposed cohorts born 1963–67. The dependent variables in panel (b) are based on legislative candidates in 2019. Columns 1 and 2 are indicators for whether the candidates are running on the party tickets of *Golkar* (former President Suharto's party) and the Islamic United Development Party (PPP), respectively. Columns 3–5 are indicators for whether the candidate's campaign platform mentions concepts that appeal to Indonesian nation building and *Pancasila* (column 3), to Islam and religious themes (column 4), and nation building exclusive of Islam and religious themes (column 5). The specifications in panel (b) are restricted to the original birth cohorts: aged 2–6 (young) or 12–17 in 1974. The specifications in both panels is otherwise identical to panel (a) in Table 5, which includes district of birth (times survey–year) fixed effects and cohort fixed effects interacted separately with the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program in the district of birth, the number of elementary, junior secondary, senior secondary *madrasa* in 1957, and the number of *pesantren* in 1957 (see the notes therein).

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district.

Table 10: SD INPRES Exposure and Religious Cultural Transmission

	Marriage Matching		*Arabic Literacy*			
	Islamic-Educated Partner		Arabic in the Home Parents & Children		Child's Arabic No Islamic Schooling	
	(1)	(2)	(3)	(4)	(5)	(6)
INPRES × young (Father)	0.0020**		0.0044*		0.0073**	
	(0.0009)		(0.0025)		(0.0036)	
INPRES × young (Mother)		-0.0001		0.0049*		0.0054
		(0.0007)		(0.0026)		(0.0046)
Number of Individuals	725,803	544,174	304,048	246,060	95,678	77,068
Number of Districts	275	275	275	275	272	272
Cohorts born 1968–72 vs. 1957–62	✓	✓	✓	✓	✓	✓
Dep. Var. Mean	0.039	0.024	0.213	0.268	0.877	0.887
R^2	0.038	0.026	0.112	0.138	0.048	0.043

Notes: This table reports estimates of a modified version of equation (4) where *young* now denotes the INPRES exposure of a parent (father or mother). INPRES refers to SD INPRES schools constructed from 1973–78 per 1,000 children in 1971. The dependent variable in columns 1–2 is an indicator for whether the spouse has an Islamic education, in columns 3–4 an indicator for all 3 members of the household (father, mother, and child) being literate in Arabic, and in columns 5–6 an indicator equal to 1 if the child is literate in Arabic, conditional on the parent being literate in Arabic and the child having received no Islamic schooling. All specifications are restricted to children with mothers and fathers (or to husbands and wives) that fall within the original birth cohorts: aged 2–6 (young) or 12–17 in 1974. We restrict to co-resident children that are at least 18 years old and hence likely to have completed their secondary schooling. The regressions additionally control for child birth cohort fixed effects. The specification is otherwise identical to panel (a) in Table 5 (see the notes therein).

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by the parent's district of birth.

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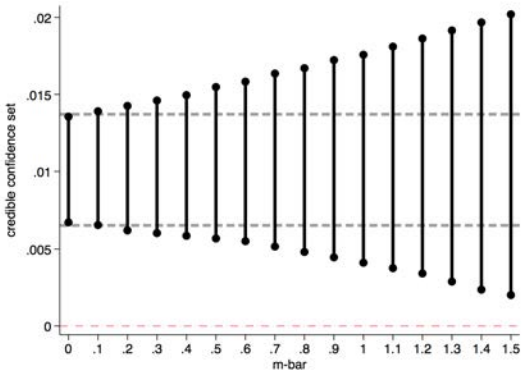
A Additional Empirical Results

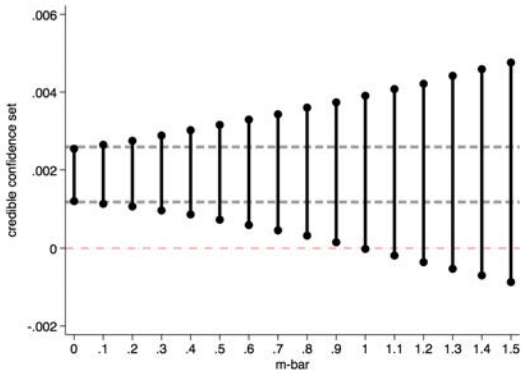
A.1 Additional Results on School Entry

Figure A.1: Credible Confidence Sets under Varying Departure from Parallel Trends Robustness Check on District-Level Supply Results in Figure 2

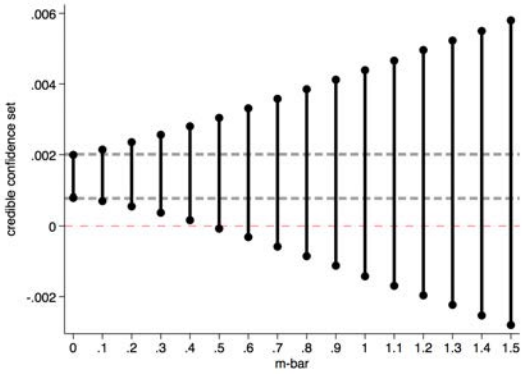
(a) **All Islamic Schools**



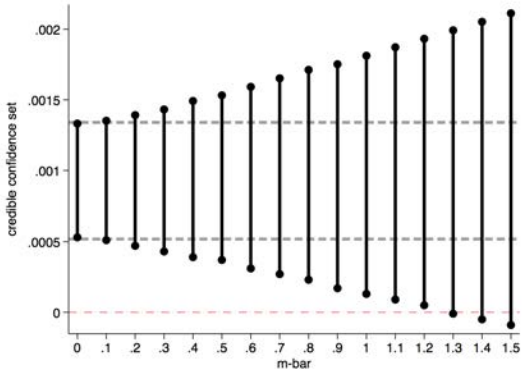
(b) Elementary *Madrasa*



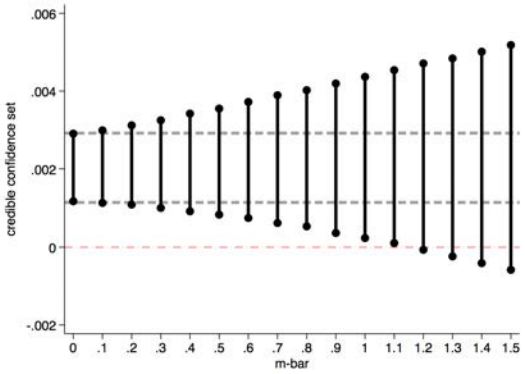
(c) Junior Secondary *Madrasa*



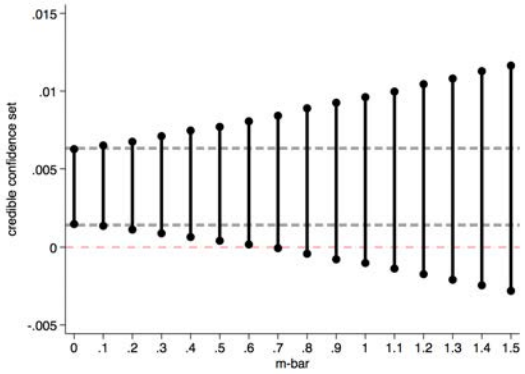
(d) Senior Secondary *Madrasa*



(e) *Pesantren*

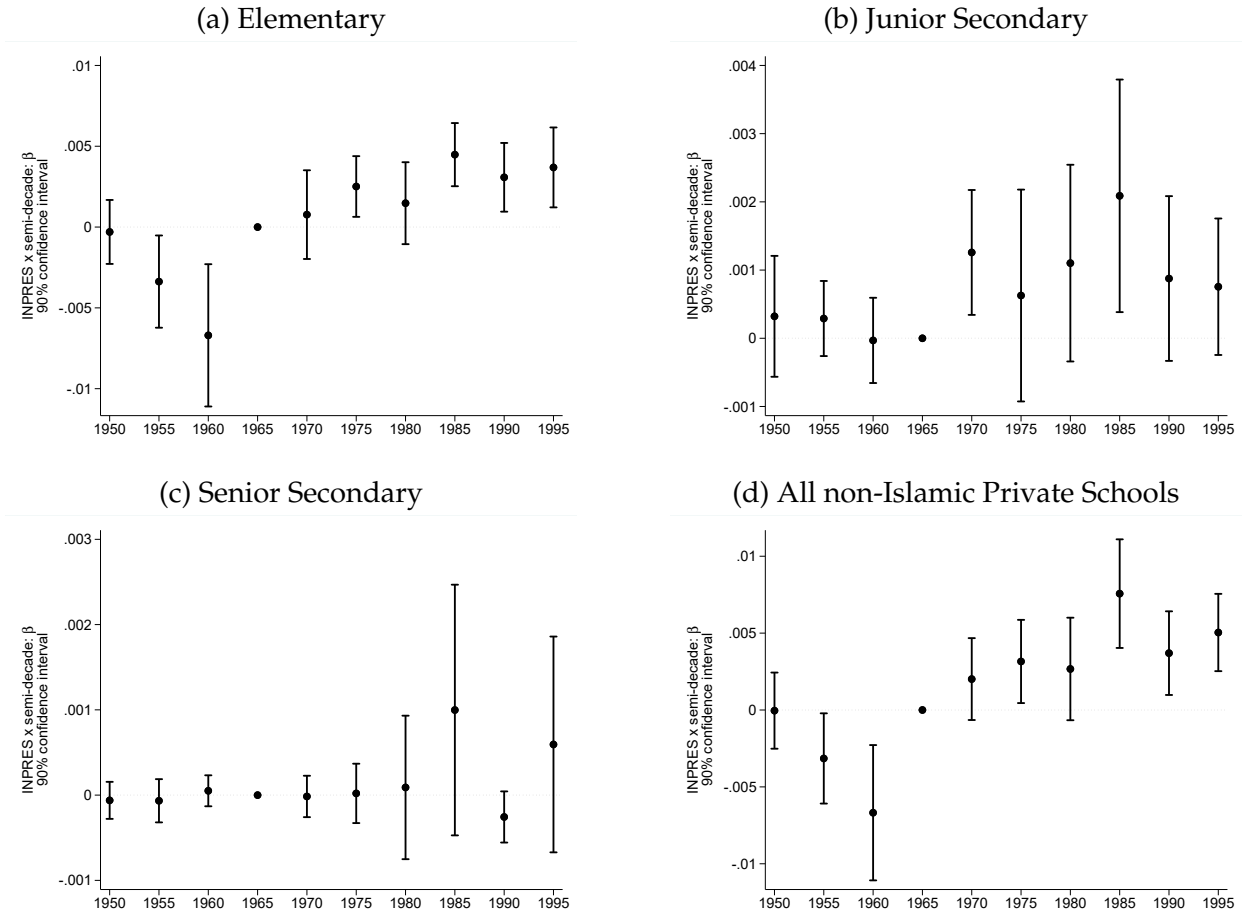


(f) *Madrasa Diniyah*



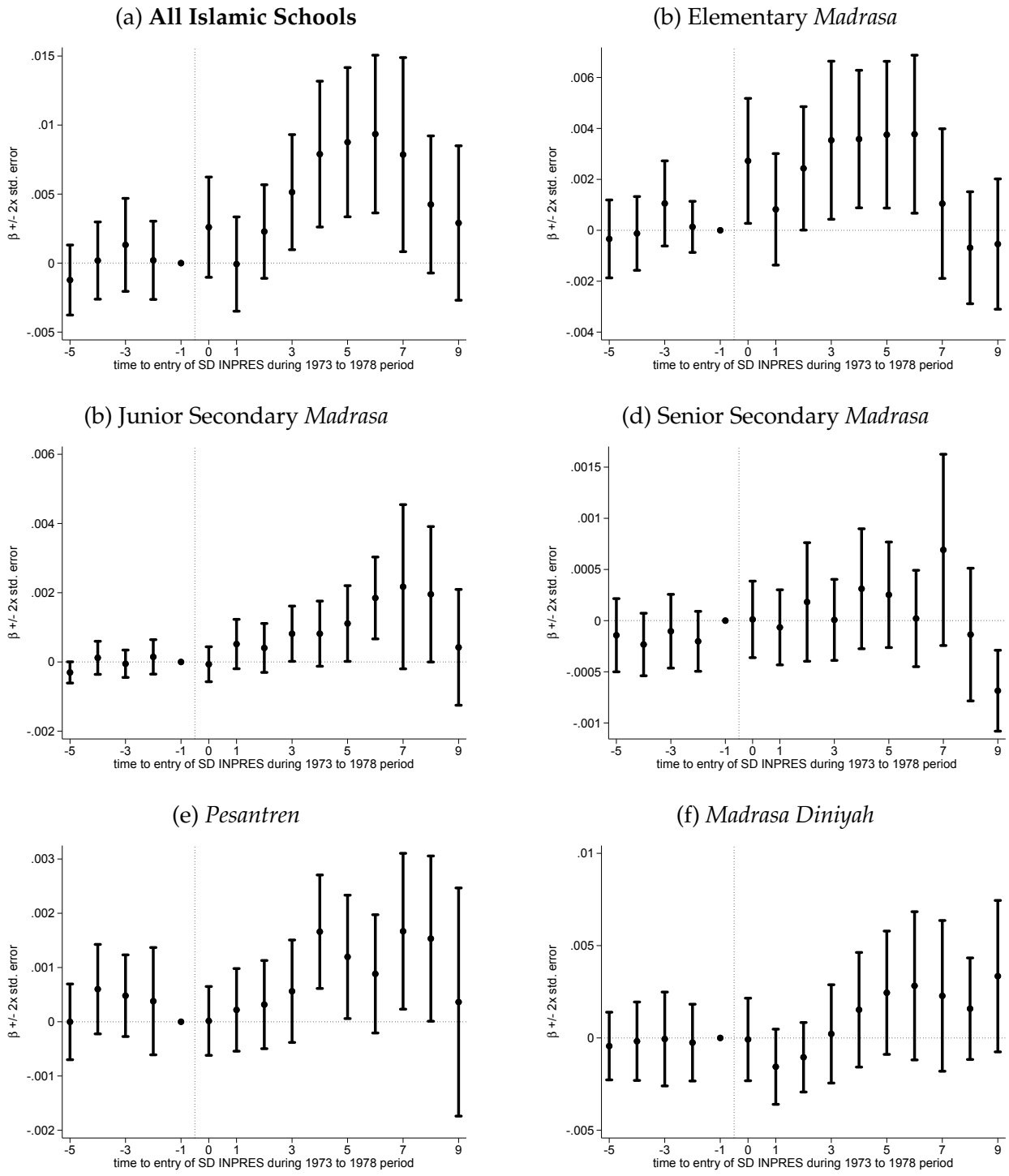
Notes: This figure reports credible 90% confidence sets based on Roth and Rambachan (2022). These sets allow the post-INPRES maximum violations of parallel trends to be up to $\overline{m}$ times larger than the maximum pre-treatment violation for different values of $\overline{m}$ that answer how much the post-INPRES trends in Islamic school entry would need to differ from the pre-trends in order to nullify the findings at zero (horizontal, red dashed line). The horizontal, gray dashed lines, and the credible confidence set at $\bar{m} = 0$, correspond to the baseline 90% confidence intervals from Table 2.

Figure A.2: SD INPRES Intensity and Entry of Private non-Islamic Schools



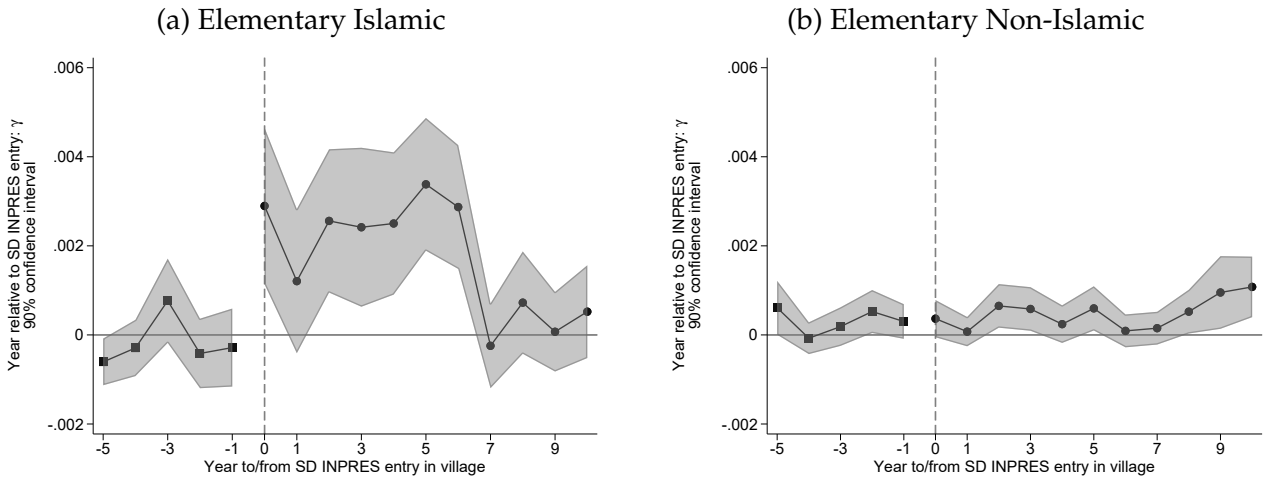
Notes: This figure reports semi-decade-specific estimates of β in equation (1) on a balanced district–year panel. The dependent variable measures: the number of entering private non-Islamic schools at the elementary (a), junior secondary (b), and senior secondary (c) level, or across all levels (d), each normalized per 1,000 children in 1971. All other specification details are as in Figure 2. Appendix D describes how we identify private non-Islamic schools in the MEC registry. The figure reports 90% confidence intervals with standard errors clustered at the district level.

Figure A.3: Islamic School Entry at the Village Level, Standard DID



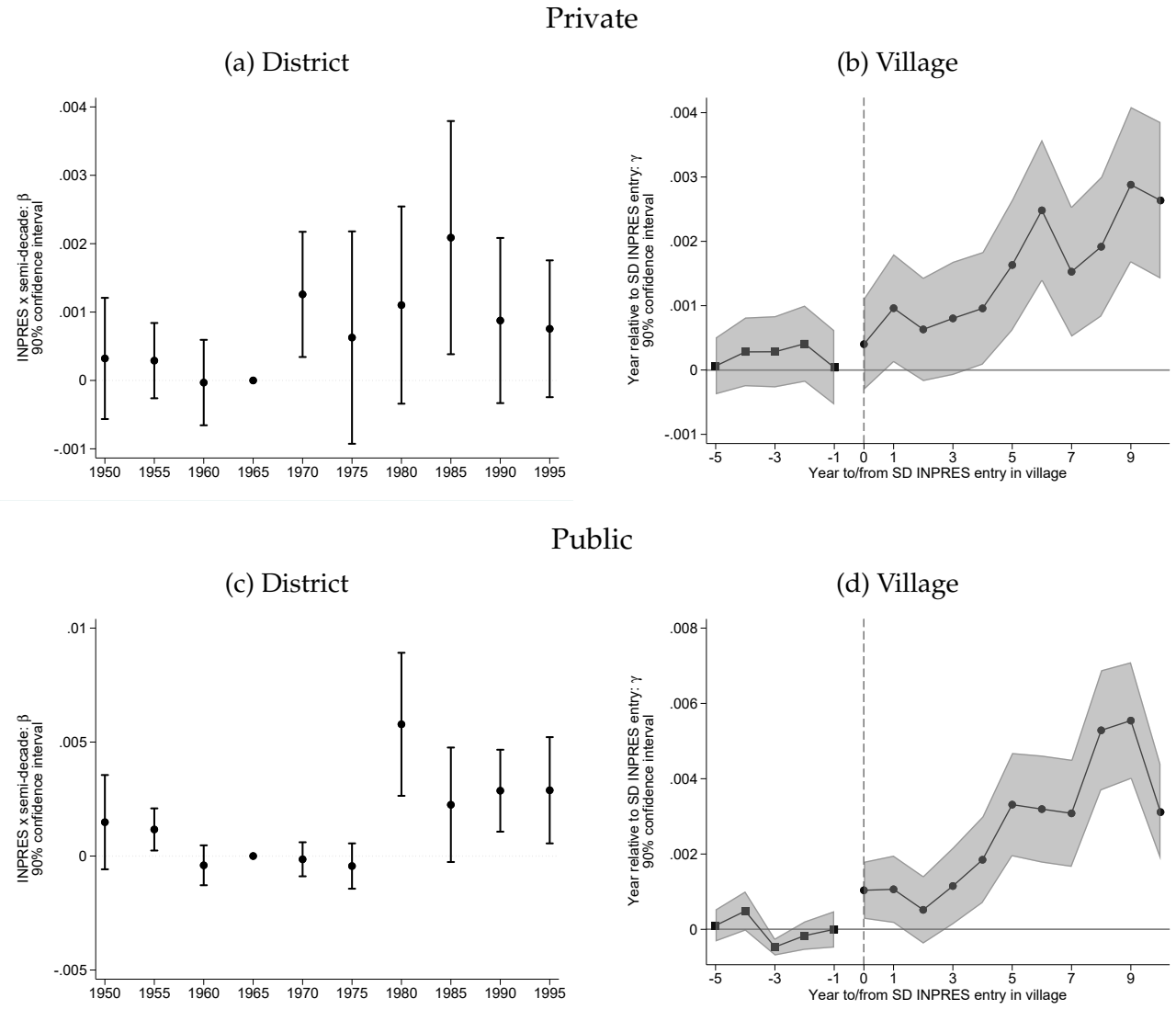
Notes: This figure reports the event-study analogue to the standard DID estimates in panel (c) of Table 2, based on equation (2). The event-study setup and controls are otherwise similar to the one in Figure 4. The figure reports coefficients +/- two times the standard errors, which are clustered at the village level.

Figure A.4: Islamic versus Secular Private School Entry at the Village Level



Notes: This figure reports estimates of γ in equation (2). All the specification and estimation details are as in Figure 4. In panel (a), the dependent variable measures the number of elementary *madrasa* built per village–year, as in panel (a) of Figure 4. In panel (b), the dependent variable measures the number of private non-Islamic elementary schools built per village–year. The gray shading corresponds to 90% confidence intervals with standard errors clustered by village.

Figure A.5: Entry of non-Islamic Junior Secondary Schools



Notes: Panels (a) and (c) report semi-decade-specific estimates of β in equation (1). The dependent variable is the number of junior secondary private (panel a) or public schools (c) built by semi-decade and by district per 1,000 children in 1971. All specification details are as in Figure 2. Panels (b) and (d) report estimates of γ in equation (2). The dependent variable is the number of private (panel b) or public junior secondary school (d) built per village–year. The specification and estimation details are as in Figure 4.

Table A.1: SD INPRES Intensity and Entry of Islamic Schools (Robustness)
Additional Controls: Latent Potential Growth in Islamic Education

	Formal *Madrasa*			Informal		All
	Elementary	Junior Sec.	Senior Sec.	*Pesantren*	*Diniyah*	Islamic
	(1)	(2)	(3)	(4)	(5)	(6)
INPRES × post-1972	0.0016***	0.0016***	0.0008***	0.0022***	0.0041***	0.0103***
	(0.0004)	(0.0003)	(0.0002)	(0.0005)	(0.0016)	(0.0020)
1959 Islamic Schools × Year FE	✓	✓	✓	✓	✓	✓
Additional Controls × Year FE	✓	✓	✓	✓	✓	✓
District FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Number of District–Years	10,920	10,920	10,920	10,920	10,920	10,920
Dep. Var. Mean	0.007	0.005	0.002	0.007	0.018	0.039
R^2	0.232	0.237	0.218	0.343	0.584	0.502

Notes: This table augments the baseline specification from panel (a) of Table 2 with the following predetermined controls interacted with year fixed effects: the prevalence of *waqf* endowments in 1960, the Muslim population share in the 1972 census, Islamic political party support in the 1955 elections, historical Arab minority populations, the occurrence of an Islamist armed insurgency in the 1950s, and an indicator for districts involved in an experimental compulsory schooling program after 1957. The dependent variables are measured as new schools of a given type created per district-year and per 1,000 children in 1971. INPRES refers to SD INPRES schools constructed from 1973–78 per 1,000 children in 1971. All specification details are as in panel (a) of Table 2; in particular, all specifications also include district fixed effects and year fixed effects interacted with the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program, the number of elementary, junior secondary, senior secondary *madrasa* in 1959, and the number of *pesantren* in 1959.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors are clustered by district.

Table A.2: New Islamic Schools Over Time in Historical Administrative Data

	Islamic Schools				Secular Schools		
	Prim.	Jun. Sec.	Sen. Sec.	*pesantren*	Prim.	Jun. Sec.	Sen. Sec.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Effect of No. of INPRES Schools on…							
1980 level	0.258***	–	–	0.044*	0.492***	-0.064***	-0.060***
	(0.063)			(0.023)	(0.088)	(0.020)	(0.015)
Δ 1980 - 1983	0.022	–	–	0.008	-0.077	0.023	-0.006
	(0.019)			(0.006)	(0.056)	(0.016)	(0.008)
Δ 1983 - 1990	0.126***	–	–	0.015	0.282***	0.011	0.005
	(0.032)			(0.012)	(0.086)	(0.030)	(0.021)
Δ 1990 - 1993	0.015	0.009*	0.012***	0.011**	-0.028	0.015	0.011
	(0.022)	(0.005)	(0.004)	(0.004)	(0.047)	(0.017)	(0.013)
Number of Districts	273	273	273	273	273	273	273
Mean 1980 level	93.4	–	–	19.1	424.1	46.9	18.7
Mean Δ1980 - 1983	-0.05	–	–	0.7	47.5	15.2	9.9
Mean Δ1983 - 1990	20.5	–	–	9.1	52.9	8.9	11.6
Mean Δ1990 - 1993	-4.3	1.8	0.9	2.0	0.3	-1.3	-2.3

Notes: This table examines supply-side responses to INPRES using historical administrative data from the 1980, 1983, 1990 and 1993 rounds *Podes*, which asked about the number of schools of different types. Each cell shows the coefficient from a separate district-level cross-sectional regression of the given outcome on the number of SD INPRES primary schools constructed from 1973 to 1978. The first row looks at the number of schools of each level in 1980, and subsequent rows look at the difference in the stock reported between the initial and final year of the difference. The district-level number of *pesantren* are computed by adding up the number of villages that report having any *pesantren*. Secondary Islamic schools were not recorded until the 1990 round of *Podes*. The regressions control for the 1971 children population, the 1971 enrollment rate, and exposure to the water and sanitation program.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors.

Table A.3: Exogeneity of Timing of SD INPRES Entry at the Village Level

	Year of entry 1973-78 (1)	Early entry: 1973-74 (2)	Entry in: 1975-76 (3)	Late entry: 1977-78 (4)
Elementary *madrasa*	-0.0906	0.0051	0.0297	-0.0349
	(0.1079)	(0.0308)	(0.0340)	(0.0328)
Secondary *madrasa*	0.0812	-0.0330	0.1213	-0.0883
	(0.2071)	(0.0581)	(0.0779)	(0.0697)
Pesantren	0.0535	0.0072	-0.0239	0.0167
	(0.0970)	(0.0222)	(0.0219)	(0.0261)
Waqf land	-0.0467	0.0164	0.0011	-0.0175
	(0.0424)	(0.0117)	(0.0131)	(0.0133)
Potential rice yield	-0.0360	0.0260	0.0167	-0.0428
	(0.1961)	(0.0519)	(0.0587)	(0.0616)
Potential palm oil yield	0.0190	0.0020	-0.0168	0.0148
	(0.0514)	(0.0139)	(0.0164)	(0.0167)
Potential cocoa yield	-0.5372	0.0850	0.1217	-0.2067
	(0.4569)	(0.1242)	(0.1437)	(0.1508)
Potential coffee yield	1.1607*	-0.2593	-0.1263	0.3856*
	(0.6183)	(0.1675)	(0.1906)	(0.1999)
Potential maize yield	0.3156	-0.0343	-0.0200	0.0542
	(0.2199)	(0.0588)	(0.0672)	(0.0680)
Coastal location	-0.0214	-0.0013	0.0036	-0.0023
	(0.0677)	(0.0177)	(0.0207)	(0.0209)
Elevation	0.0125	0.0038	-0.0113	0.0075
	(0.0325)	(0.0085)	(0.0099)	(0.0102)
Land area	-0.0000	0.0000	-0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
F statistic: joint significance	0.36	0.41	0.78	0.77
p-value	0.93	0.90	0.60	0.61
R^2	0.082	0.081	0.068	0.074

Notes: This table reports cross-sectional correlations between the timing of SD INPRES entry and observable characteristics at the village level measured as of 1972. The dependent variable is measured as the year of construction of the first SD INPRES school in the village between 1973–78 (column 1) or as a dummy for the first SD INPRES school being built in the village between 1973–74 (column 2), 1975–76 (column 3), or 1977–89 (column 4). Elementary *madrasa* (MI), secondary *madrasa* (MTs and MA), and *waqf* land are measured as of 1972, and *waqf* land is trimmed at the 95th percentile. Crop yields are measured as standardized measures of potential yield from the FAO-GAEZ based on predetermined agroclimatic characteristics. Geographic characteristics (coastal location, elevation, and village land area) are from *Podes*. The bottom panel reports the F-statistic and corresponding p-value from a test of joint significance of all right-hand side regressors. All regressions include district fixed effects.

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

Table A.4: Islamic School Entry at the Village Level

Robustness Checks

	Formal *Madrasa*			Informal		All
	Elementary	Junior Sec.	Senior Sec.	*Pesantren*	*Diniyah*	Islamic
	(1)	(2)	(3)	(4)	(5)	(6)
	(a) Baseline estimates (Table 2, panel d)					
SD INPRES Entry	0.0022***	0.0017***	0.0008***	0.0013***	0.0035***	0.0094***
	(0.0002)	(0.0001)	(0.0001)	(0.0002)	(0.0003)	(0.0005)
	(b) Removing time-varying controls					
SD INPRES Entry	0.0021***	0.0016***	0.0008***	0.0012***	0.0032***	0.0088***
	(0.0002)	(0.0001)	(0.0001)	(0.0002)	(0.0003)	(0.0005)
	(c) Shorter panel 1968-1983					
SD INPRES Entry	0.0026***	0.0005***	0.0002*	0.0004*	0.0015***	0.0052***
	(0.0004)	(0.0002)	(0.0001)	(0.0002)	(0.0004)	(0.0007)
	(d) Clustering by district					
SD INPRES Entry	0.0022***	0.0017***	0.0008***	0.0013***	0.0035***	0.0094***
	(0.0004)	(0.0002)	(0.0001)	(0.0003)	(0.0008)	(0.0012)
Village FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Number of Village–Years	3,334,560	3,334,560	3,334,560	3,334,560	3,334,560	3,334,560
Dep. Var. Mean	0.0009	0.0001	0.0001	0.0005	0.0025	0.0011

Notes: This table reports estimates of the average of post-SD-INPRES-entry coefficients τ in equation (2) computed using the robust imputation method from Borusyak et al. (2021). The dependent variables are measured as new schools of a given type created per village–year. Panel (a) reports the baseline estimates shown in panel (d) of Table 2. The following panels report estimates obtained after: removing the time-varying controls included in the baseline estimation, i.e., public and Islamic schools in the village by 1959 (panel b), using a shorter panel window spanning 1968–1983 (c), and clustering standard errors by district (d). In panel (c), we control for for interactions of year FE with public and Islamic schools in the village as of 1967, and there are 1,333,824 village–year observations.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors are clustered by village in panels (a)–(c) and by district in panel (d).

Table A.5: Formalization of the Islamic Education Sector

	Formal *Madrasa*	Informal schools	
As a share of:	New Formal Schools (1)	All New Schools (2)	New Islamic Schools (3)
INPRES × post-1972	0.0164***	-0.0196***	-0.0605***
	(0.0052)	(0.0075)	(0.0148)
1959 Islamic Schools × Year FE	✓	✓	✓
District FE	✓	✓	✓
Year FE	✓	✓	✓
Number of District–Years	9,951	10,201	6,368
Dep. Var. Mean	0.158	0.203	0.651
R^2	0.422	0.592	0.405

Notes: This table examines the entry of formal of informal Islamic schools as a fraction of all schools built per district–year. The dependent variable measures: formal *madrasa* at all instruction levels built per district–year as a fraction fo all formal schools (including secular public, private, and Islamic schools) in column 1, and the more informal *pesantren* and *madrasa diniyah* built per district–year as a fraction of all schools (column 2) or as a fraction of all Islamic schools (column 3). Differences in the number of observations across columns reflect years with no entry of schools of the given school type. All specification details as in panel (a) of Table 2.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district.

A.2 Further Results on the Financing of the Islamic Education Sector

Rice Price Shock. Appendix Figure A.6 demonstrates the large shock to the world price of rice coincidental with the SD INPRES policy.[1] Maize prices also increased during this period albeit to a lesser extent. Rice is the most important producer commodity across Indonesia; maize is less important in terms of aggregate production and geographic scope.[2]

Appendix Table A.7 shows that the larger supply response to SD INPRES in high-rice-productivity villages is not driven by generally higher agricultural productivity. While we see some differential response in high-maize-productivity villages as well, the effect sizes are much smaller than those for rice. This is consistent with the latter being much more important for more communities and also being subject to a slightly larger price shock during the period of interest.

Placebo Check on Table 3. Appendix Table A.6 shows that the positive Islamic sector supply response to SD INPRES is unique to the period of mass schooling and does not arise for entry of public primary schools in other periods (1960–68 and 1990–98). This is consistent with the much different and more confrontational period of mass public school construction in the 1970s.

Informal Taxation. We estimate the following individual-level regression pooling across four surveys conducted in 4,080 villages:[3]

$$\mathbb{P}(informal\ tax_{ivdt}) = \theta_{dt} + \mathbf{x}_i'\boldsymbol{\beta} + f(Islamic\ school\ entry_v) + \varepsilon_{ivdt}, \tag{A.1}$$

where the dependent variable equals one if the Muslim respondent contributed any informal tax to the given type of public good, θ_{dt} is a set of district×survey-year fixed effects, $\mathbf{x}$ is a vector of controls for age and age squared and gender, and $f(\cdot)$ is a vector of binary indicators for the entry of Islamic schools in the village during different time periods (pre-1973, 1973–78, and post-1978).

The estimates suggest that Islamic school entry in the 1973–78 period is associated over the long run with greater informal taxation to support Islamic infrastructure (schools and houses of worship) and less taxation to support roads and bridges. The same holds when introducing controls for Islamic school entry in other periods before and after the SD INPRES era. Together, these estimates (i) point to a persistent role of informal taxation to support the Islamic education sector, and (ii) provide suggestive evidence that such informal contributions might crowd out support for other non-religious infrastructure.

Waqf Substitution Across Islamic Infrastructure. In Appendix Table A.10, we report estimates from the following cross-sectional, district-level regression

$$\frac{waqf_d^c}{waqf_d} = \alpha + \delta INPRES_d + \mathbf{x}_d'\boldsymbol{\beta} + \varepsilon_d, \tag{A.2}$$

where $\frac{waqf_d^c}{waqf_d}$ captures the share of total *waqf* land in district d allocated to Islamic infrastructure category c, $INPRES$ is the number of SD INPRES schools constructed per 1,000 children from 1973 to 1978, and $\mathbf{x}$ is the usual vector of controls along with, in some specifications, controls for Islamic school construction per 1,000 children from 1973–78. The main categories of *waqf*-endowed institutions include schools, houses of worship, cemeteries, and other, which includes a variety of institutions like local health clinics.

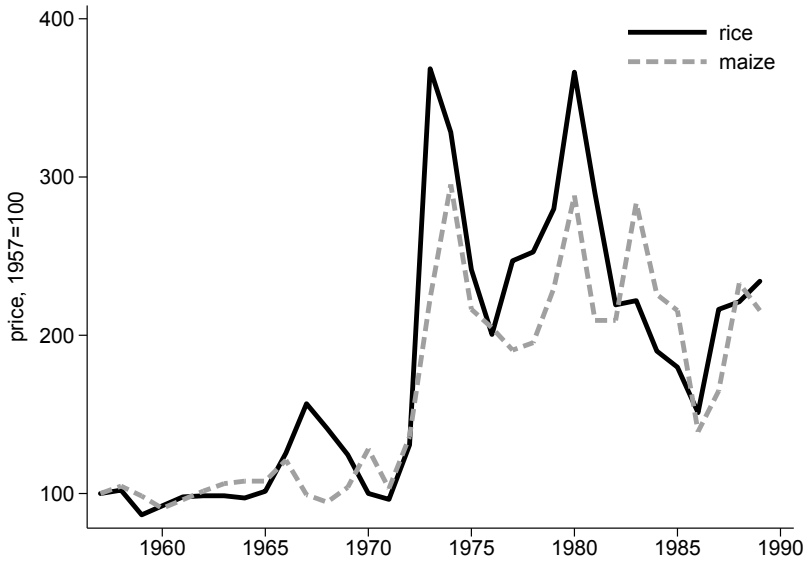
[1] See Bazzi (2017) for general evidence of passthrough from world rice price shocks to domestic producers.

[2] In the early 1970s, the Ministry of Agriculture reported roughly 3 million tons of maize and 22.4 million tons of rice. In 1983, rice was produced in 73% of villages compared to 56% for maize (according to the 1983 Agricultural Census jointly conducted as part of the triennial *Podes* survey of village officials).

[3] The data were used by Olken and Singhal (2011) and come from a series of Health and Education Surveys as part of a larger evaluation study reported in Olken et al. (2014).

In districts with greater SD INPRES intensity in the 1970s, more *waqf* land is allocated to Islamic schools over the long run (columns 1–2), and this comes at the expense of allocations to mosques (columns 3–4). Each additional SD INPRES per 1,000 children is associated with 1.7 p.p. more *waqf* land allocated to Islamic schools (relative to a mean of 16%) and 2.4 p.p. less *waqf* land allocated to Muslim houses of worship (relative to a mean of 42%). Reassuringly, we see that districts with greater Islamic school construction in the 1970s also have a significantly higher share of *waqf* land held in religious schools today. This is consistent with the role of *waqf* endowments in support the local Islamic sector response to SD INPRES, as we saw in earlier results.

Figure A.6: Agricultural Commodity Price Shocks



Notes: This figure plots the evolution of the world price of rice and maize from 1957 (=100) to 1990. Data come from the Bazzi and Blattman (2014) commodity price database.

Table A.6: Placebo: Islamic School and Public Primary (SD) Entry in Other Periods

	Formal *Madrasa*			Informal		All
	Elementary	Junior Sec.	Senior Sec.	*Pesantren*	*Diniyah*	Islamic
	(1)	(2)	(3)	(4)	(5)	(6)
	(a) 1960–1968					
SD Entry	0.0007	0.0001	-0.0000	-0.0002	-0.0007	-0.0002
	(0.0005)	(0.0001)	(0.0000)	(0.0002)	(0.0009)	(0.0011)
SD × potential rice yield	-0.0013**	-0.0002	-0.0000	0.0003	-0.0001	-0.0012
	(0.0006)	(0.0002)	(0.0000)	(0.0002)	(0.0007)	(0.0011)
SD × any *waqf*, predetermined	-0.0016	0.0018	-0.0000	-0.0008	0.0020	0.0013
	(0.0029)	(0.0014)	(0.0000)	(0.0013)	(0.0027)	(0.0049)
1959 Islamic Schools × Year FE	✓	✓	✓	✓	✓	✓
Village FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Number of Village–Years	676,782	676,782	676,782	676,782	676,782	676,782
Dep. Var. Mean	0.0027	0.0000	0.0000	0.0009	0.0038	0.0072
R^2	0.115	0.112	0.111	0.128	0.142	0.138
	(b) 1990–1998					
SD Entry	-0.0035	-0.0015	0.0012*	-0.0007	0.0018	-0.0027
	(0.0033)	(0.0016)	(0.0007)	(0.0016)	(0.0019)	(0.0048)
SD × potential rice yield	-0.0065	-0.0014	0.0008	-0.0025	-0.0018	-0.0114*
	(0.0041)	(0.0018)	(0.0008)	(0.0021)	(0.0022)	(0.0058)
SD × any *waqf*, predetermined	0.0041	0.0019	-0.0038	0.0053	0.0186*	0.0262*
	(0.0049)	(0.0042)	(0.0024)	(0.0100)	(0.0103)	(0.0134)
1989 Islamic Schools × Year FE	✓	✓	✓	✓	✓	✓
Village FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Number of Village–Years	676,782	676,782	676,782	676,782	676,782	676,782
Dep. Var. Mean	0.0045	0.0031	0.0011	0.0066	0.0134	0.0287
R^2	0.122	0.116	0.116	0.223	0.157	0.189

Notes: This table re-estimates the exact same specifications in Table 3 (see the notes therein) but restricts the analysis to the periods (a) 1960–68 and (b) 1990–98, i.e., before and after SD INPRES. The SD Entry variable turns on the first year of an public elementary school (SD) entering in the given period and then stays on thereafter. In addition to the controls listed in the table, all specifications include interactions of year FE and the stock of public elementary schools in the village in the year prior to the panel beginning.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village.

Table A.7: Other Commodity Exposure

	Formal *Madrasa*			Informal		All
	Elementary	Junior Sec.	Senior Sec.	*Pesantren*	*Diniyah*	Islamic
	(1)	(2)	(3)	(4)	(5)	(6)
SD INPRES Entry	0.0001	0.0002	0.0001	0.0001	0.0006	0.0011
	(0.0005)	(0.0001)	(0.0001)	(0.0002)	(0.0005)	(0.0007)
SD × any *waqf*, predetermined	0.0069***	0.0007	0.0004**	0.0006	0.0023**	0.0109***
	(0.0012)	(0.0005)	(0.0002)	(0.0004)	(0.0009)	(0.0017)
SD × potential rice yield	0.0025***	0.0004**	0.0000	-0.0001	0.0009	0.0037***
	(0.0008)	(0.0002)	(0.0001)	(0.0002)	(0.0006)	(0.0010)
SD × potential maize yield	-0.0004	0.0004**	0.0000	0.0002	0.0004	0.0006
	(0.0006)	(0.0002)	(0.0001)	(0.0001)	(0.0003)	(0.0007)
1967 Islamic Schools × Year FE	✓	✓	✓	✓	✓	✓
Village FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Number of Village–Years	1,203,168	1,203,168	1,203,168	1,203,168	1,203,168	1,203,168
Dep. Var. Mean	0.0013	0.0001	0.0001	0.0006	0.0026	0.0047
R^2	0.077	0.068	0.066	0.085	0.107	0.105

Notes: This table re-estimates the exact same village-level panel specifications in Table 3 (see the notes therein), adding an additional interaction of SD INPRES Entry with potential maize yields, also drawn from the FAO-GAEZ database.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village.

Table A.8: Placebo: Private Non-Islamic Elementary School and SD INPRES Entry

	1973-78		1968-83	
	(1)	(2)	(3)	(4)
SD INPRES Entry	-0.0001	-0.0001	0.0002	0.0001
	(0.0003)	(0.0003)	(0.0002)	(0.0002)
SD × any *waqf*, predetermined		-0.0002		0.0002
		(0.0005)		(0.0004)
Initial Islamic Schools × Year FE	✓	✓	✓	✓
Village FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Number of Village-Years	451,188	451,188	1,203,168	1,203,168
Dep. Var. Mean	0.0006	0.0006	0.0014	0.0014
R^2	0.177	0.177	0.072	0.072

Notes: This table re-estimates the village-level panel specification in Table 3 (see the notes therein) looking at how SD INPRES and its interaction with predetermined *waqf* endowments affect entry of non-Islamic private elementary schools from (a) 1973–78 and (b) 1968–83.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by village.

Table A.9: School Entry in the 1970s and the Legacy of Informal Taxation

	Dep. Var.: Any Informal Taxation for ...				
	Roads Bridges	Water Sanit.	Irrigation	Schools	Houses Worship
	(1)	(2)	(3)	(4)	(5)
	(a) Regressors for School Entry, 1973-78				
SD INPRES Entry, 1973-78	-0.005	-0.004	-0.002	-0.001	-0.007
	(0.008)	(0.004)	(0.002)	(0.002)	(0.007)
Islamic School Entry, 1973-78	-0.040***	-0.004	0.002	0.008**	0.022**
	(0.014)	(0.005)	(0.003)	(0.004)	(0.009)
	(b) Regressors for School Entry, All Periods				
SD INPRES entry, pre-1973	0.016*	0.001	-0.002	-0.002	0.002
	(0.009)	(0.003)	(0.002)	(0.002)	(0.005)
SD INPRES entry, 1973-78	-0.003	-0.004	-0.002	-0.002	-0.007
	(0.008)	(0.004)	(0.002)	(0.002)	(0.007)
SD INPRES entry, post-1978	0.003	-0.005	-0.002	-0.001	-0.003
	(0.007)	(0.003)	(0.002)	(0.002)	(0.005)
Islamic School Entry, pre-1973	-0.034***	-0.014***	-0.002	0.003	0.031***
	(0.013)	(0.005)	(0.002)	(0.005)	(0.010)
Islamic School Entry, 1973-78	-0.039***	-0.004	0.002	0.007*	0.021**
	(0.014)	(0.005)	(0.003)	(0.004)	(0.009)
Islamic School Entry, post-1978	-0.013	0.004	-0.000	0.005**	0.007
	(0.008)	(0.005)	(0.002)	(0.002)	(0.007)
Number of Individuals	61,486	61,486	61,486	61,486	61,486
Number of Villages	4,080	4,080	4,080	4,080	4,080
Number of Districts	64	64	64	64	64
Dep. Var. Mean	0.604	0.075	0.022	0.018	0.206

Notes: This table reports estimates of equation (A.1) relating village-level school entry in different periods to the likelihood of Muslim survey respondents in 2007–14 reporting informal taxation to support different types of public goods listed at the top of each column. The regressions control for district × survey–year fixed effects, individual age and age squared, and gender. The school entry variables are indicators equal to one if the given type of school entered in a given period. Islamic schools include all *madrasa* and *pesantren*.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district.

Table A.10: INPRES and *Waqf* Endowment Substitution across Islamic Infrastructure

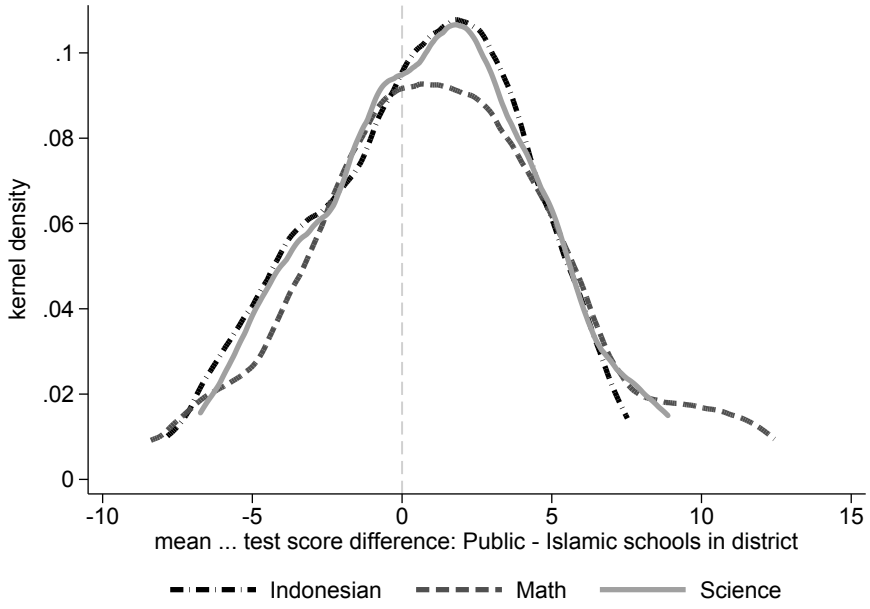
	Share of Total *Waqf* Endowed Land in ...							
	Schools		Houses of Worship		Cemetery		Other	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SD INPRES, 1973-78	0.0167*	0.0166*	-0.0236**	-0.0238**	0.0094	0.0096	-0.0024	-0.0024
	(0.0097)	(0.0096)	(0.0114)	(0.0116)	(0.0094)	(0.0093)	(0.0083)	(0.0084)
Islamic Schools, 1973-78		0.0781**		0.1390***		-0.2143***		-0.0028
		(0.0373)		(0.0490)		(0.0515)		(0.0353)
Number of Districts	275	275	275	275	275	275	275	275
Dep. Var. Mean	0.159	0.159	0.421	0.421	0.121	0.121	0.114	0.114
R^2	0.270	0.278	0.551	0.559	0.161	0.211	0.127	0.127

Notes: This table reports estimates of equation (A.2) relating district-level school construction intensity in in the SD INPRES era to the share of total *waqf* land allocated to different types of Islamic infrastructure listed at the top of each pair of columns. The regressions control for the usual INPRES policy targeting variables. The school entry variables capture the total number of schools constructed from 1973–78 normalized by 1,000 children in 1971. Islamic schools include all *madrasa* and *pesantren*.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district.

A.3 Further Background and Results on Religious Curriculum

Figure A.7: Test Score Differentials Between Islamic and Non-Islamic Schools



Notes: This figure plots the average test score gap between state and Islamic schools across districts. The significantly greater mass to the right of zero implies that students in state schools perform better on average on standardized tests than do students in Islamic schools.

Table A.11: Correlations of Curriculum and Test Scores

	Math (1)	Science (2)
Islamic curriculum share	-0.0539**	-0.0398*
	(0.0217)	(0.0221)
Pancasila and Civics curriculum share	0.0550	0.0553
	(0.0758)	(0.0833)
Number of Observations	1,371	1,371
Dep. Var. Mean	0.0	0.0

Notes: This table reports correlations of standardized mean school-level test scores in math and science and the share of weekly instruction time devoted to Islamic and *Pancasila*/civics curriculum (the dependent variables in panels a and c of Table 4). There are only 1,371 junior secondary schools for which we can link test scores and curriculum registries. The regressions include district and year-of-school-entry fixed effects.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district.

Table A.12: Curriculum Differentiation in Islamic Schools (Total Hours)

	All Levels (1)	Primary (2)	Jun. Sec. (3)	Sen. Sec. (4)
	(a) Islamic Subject Hours			
INPRES × post-1972	0.256	0.263*	0.179	-1.736***
	(0.162)	(0.147)	(0.380)	(0.571)
Dep. Var. Mean	6.144	5.412	7.819	8.484
Dep. Var. Std. Dev.	1.729	0.815	0.919	1.491
	(b) Arabic Hours			
INPRES × post-1972	0.051*	0.062**	0.085	0.434***
	(0.026)	(0.031)	(0.082)	(0.060)
Dep. Var. Mean	1.332	1.119	2.020	1.886
Dep. Var. Std. Dev.	0.431	0.187	0.284	0.257
	(c) *Pancasila*/Civic Hours			
INPRES × post-1972	-0.033	n/a	-0.228*	0.215***
	(0.025)		(0.133)	(0.054)
Dep. Var. Mean	0.384	0.000	1.813	1.390
Dep. Var. Std. Dev.	0.707	0.000	0.315	0.185
	(d) *Bahasa* Indonesia Hours			
INPRES × post-1972	-0.109**	0.001	-0.431***	0.056
	(0.054)	(0.061)	(0.156)	(0.091)
Dep. Var. Mean	0.820	0.035	3.686	2.946
Dep. Var. Std. Dev.	1.437	0.183	0.525	0.137
District FE	✓	✓	✓	✓
Grade-Level FE	✓	✓	✓	✓
Year-of-Entry FE	✓	✓	✓	✓
Number of Observations	4,128	1,404	1,662	1,046
Number of Districts	239	213	213	178

Notes: This table reports analogous specifications to those in Table 4 with the dependent variable measured in total hours of instruction time per subject rather than subject-specific shares of total instruction time. The specification is otherwise identical to Table 4 (see the notes therein).

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district.

Table A.13: Heterogeneous Curriculum Differentiation in Islamic Schools

	Dep. Var.: Islamic Subject Share			
	All Levels	Primary	Jun. Sec.	Sen. Sec.
	(1)	(2)	(3)	(4)
INPRES × post-1972	0.011*	0.014**	0.036***	0.012*
	(0.006)	(0.006)	(0.006)	(0.007)
INPRES × Islamic vote share (1950s) × post-1972	-0.006	-0.005	0.034***	0.090***
	(0.006)	(0.005)	(0.009)	(0.007)
District FE	✓	✓	✓	✓
Grade-Level FE	✓	✓	✓	✓
Year-of-Entry FE	✓	✓	✓	✓
Number of Observations	4,243	1,404	1,662	1,046
Number of Districts	258	213	213	178
Dep. Var. Mean	0.246	0.238	0.261	0.242
Dep. Var. Std. Dev.	0.047	0.033	0.028	0.036

Notes: This table presents reports estimates of a heterogeneous effects specification of Table 4 allowing the effect of INPRES intensity to vary with the vote for Islamic parties in the 1950s legislative elections. The specification is otherwise identical to Table 4 (see the notes therein).

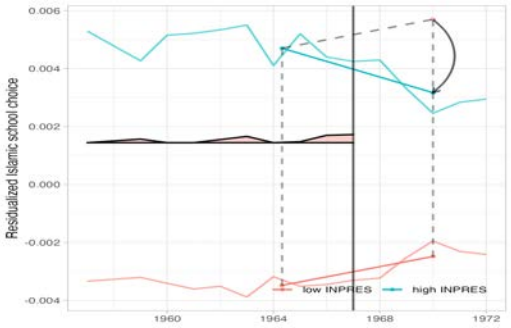
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district.

A.4 Further Results on Islamic School Choice

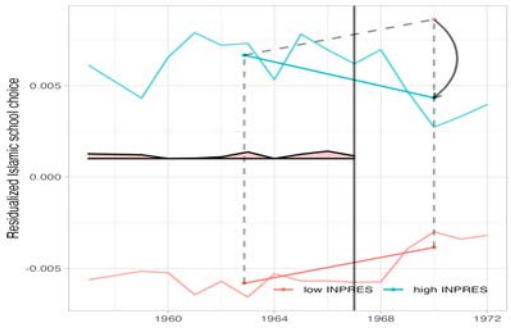
Figure A.8: Islamic School Choice, Synthetic DID Estimates

Elementary *Madrasa*

(a) Unconditional

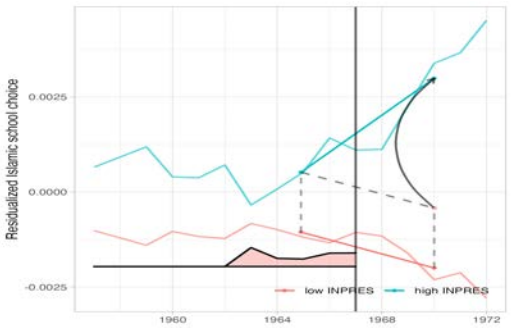


(b) Conditional

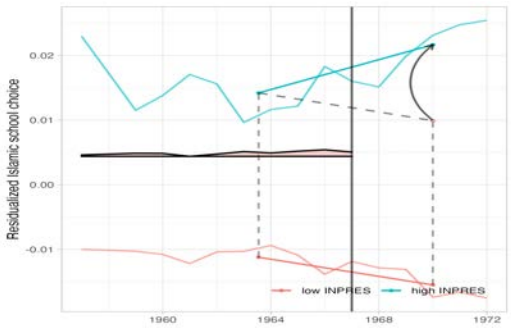


Junior Secondary *Madrasa*

(c) Unconditional

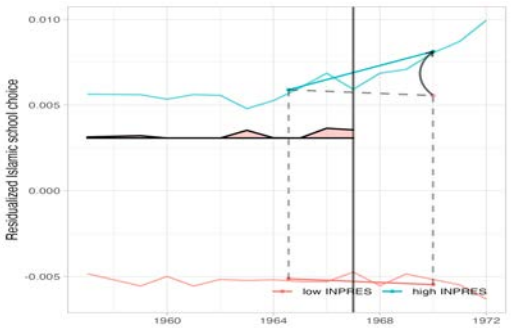


(d) Conditional

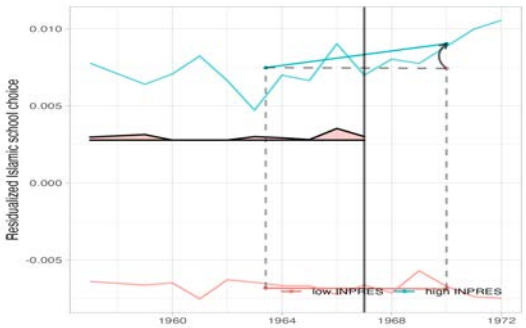


Any *Madrasa*

(e) Unconditional

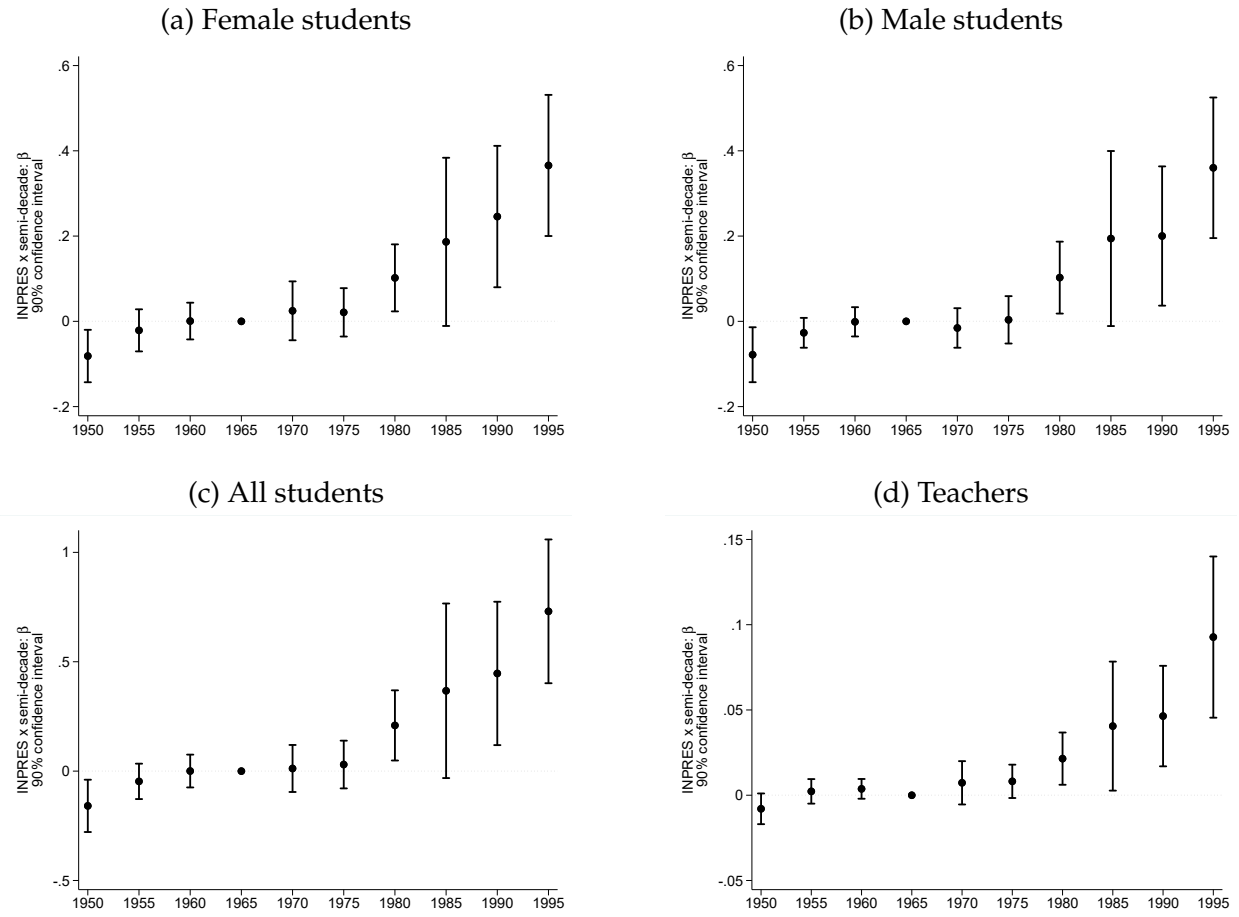


(f) Conditional



Notes: This figure reports synthetic difference-in-differences (SDID) estimates of the effect of SD INPRES on Islamic school completion based on annual *Susenas* data from 2012 to 2018. Each figure shows trends in enrollment in elementary *madrasa* (panels a-b), junior secondary *madrasa* (c-d), or *madrasa* at any level (e-f) for districts above the 51st percentile of SD INPRES intensity ("high INPRES" in blue) and the relevant weighted average of comparison districts below the 51st percentile ("low INPRES" in red), with the weights used to average pre-INPRES time periods at the bottom of each panel (in red). The unconditional outcomes in panels a, c, and e correspond to the outcomes in Table 5, and the conditional outcomes in panels b, d, and f correspond to the outcomes in Table 6. The dashed diagonal line indicates the counterfactual parallel trend, and the arrow indicates the estimated effect. The SDID estimation procedure is otherwise similar to that used in Figure 3 (see the notes therein).

Figure A.9: Informal (*pesantren*) Islamic School Enrollment



Notes: This figure reports semi-decade-specific estimates of β in equation (1) on a balanced district–year panel. The dependent variable measures: the number of female students (panel a), male students (b), students of both genders (c), and teachers (d) registered with informal Islamic boarding schools (*pesantren*) established in any given year normalized per 1,000 children in 1971. The data come the MORA registry of *pesantren*, which record 2019 enrollment by gender as well as total teaching staff. All other specification details are as in Figure 2. The figure reports 90% confidence intervals with standard errors clustered at the district level.

Table A.14: Islamic Education Rates

Source	IFLS, 1993–2014		*Susenas*, 2012–18		Admin., 2019
Exposure Definition	at given level		at final level		enrolled
Cohort	all	in school	all	in school	in school
	(1)	(2)	(3)	(4)	(5)
Education Level					
All	20%	25%	7%	10%	21%
	N=64,141	N=10,573	N=5,240,958	N=1,652,990	N=59,387,784
Primary	11%	16%	4%	6%	13%
	N=55,912	N=10,572	N=3,187,724	N=1,263,12	N=29,309,849
Junior Secondary	23%	28%	12%	14%	23%
	N=32,221	N=4,282	N=1,394,572	N=629,061	N=13,708,973
Senior Secondary	20%	24%	6%	7%	11%
	N=21,522	N=2,587	N=1,476,917	N=389,880	N=12,412,256

Notes: This table summarizes Islamic education rates across multiple levels of schooling using three different sources. The 'All' row includes *madrasa* enrollment as well as (where possible) *pesantren* enrollment which cannot be assigned to specific grade levels. Hence Islamic education includes only *madrasa* in the Primary, Junior Secondary and Senior Secondary rows. The sample sizes reflect the total number of observations over which the percent exposed to Islamic education is computed. Columns 1 and 2 used the Indonesian Family Life Survey (IFLS) longitudinal records from 1993, 1997, 2000, 2007 and 2014. This data is representative of 83% of the Indonesian population and does not cover many districts. This survey records the complete educational history of respondents. Column 1 reports the exposure across all individuals spanning the five survey rounds. Column 2 restricts to the 2014 round and looks only at currently enrolled students. The 'All' row includes any *pesantren* enrollment. Columns 3 and 4 use the nationally-representative annual *Susenas* data from 2012–2018, which covers all districts and which we deploy in our main empirical analysis. Unlike the IFLS, this data only captures the type of the final year of schooling completed by respondents and only allows respondents to indicate *madrasa* but not *pesantren*. Column 3 reports the exposure across all individuals spanning the six *Susenas* rounds. The Primary, Junior Secondary, and Senior rows are restricted to individuals that completed exactly 6, 9, and 12 years of education, respectively. Column 4 restricts to individuals currently enrolled in school in each round of the survey. These estimates are computed using the sampling weights to obtain national representativeness. Column 5 uses administrative data for the 2019 school year from the Ministry of Education (MEC) and Ministry of Religion (MORA). The former records *madrasa* attendance while the latter records *pesantren* attendance. The 'All' row includes *pesantren* enrollment.

Table A.15: Transitions Between Public and Islamic Schools

	Graduated Secular Elementary and Transitioned into [...]				Graduated Islamic Elementary and Transitioned into [...]			
	Secular Jun. Sec.		Islamic Jun. Sec.		Secular Jun. Sec.		Islamic Jun. Sec.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
INPRES × young	0.0019***	0.0015**	0.0003**	0.0004***	-0.0000	0.0000	0.0001	0.0001***
	(0.0006)	(0.0006)	(0.0001)	(0.0001)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
District × Survey Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓
1957 Islamic Schools × Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓
Cohorts born 1968–72 vs. 1957–62	✓		✓		✓		✓	
Cohorts born 1968–87 vs. 1957–62		✓		✓		✓		✓
Number of Individuals	839,026	2,315,949	839,026	2,315,949	839,026	2,315,949	839,026	2,315,949
Number of Districts	275	275	275	275	275	275	275	275
Dep. Var. Mean	0.022	0.024	0.002	0.002	0.000	0.000	0.000	0.000

Notes: This table reports estimates of equation (4) based on annual *Susenas* data from 2012 to 2018. INPRES refers to SD INPRES schools constructed from 1973-78 per 1,000 children in 1971. The dependent variables capture transitions across grade levels for those who graduated from one level and transitioned to but did not graduate from the next level. These are the only transitions that we can observe in *Susenas*, which records the type of schooling for the final year of education and, separately, the type of schooling for the final year of completed level of education. Columns 1–2 consider an indicator equal to one if the individual graduated from secular elementary (SD) and transitioned to but did not graduate from secular junior secondary (SMP), columns 3–4 an indicator for graduated from secular elementary (SD) and transitioned to but did not graduate from Islamic junior secondary (MTs), columns 5–6 an indicator for graduated from Islamic elementary (MI) and transitioned to but did not graduate from secular junior secondary (SMP), and columns 7–8 an indicator for graduated from Islamic elementary (MI) and transitioned to but did not graduate from Islamic junior secondary (MTs). The specifications are otherwise identical to those in Table 5 (see the notes therein).

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district of birth.

Table A.16: INPRES Exposure and Islamic Schooling in the IFLS

	Highest Education Level: [...] Islamic				Years of Islamic Education			
	Elementary		Jun. Secondary		Elementary		Jun. Secondary	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
INPRES × young	-0.0118	-0.0192**	0.0396*	0.0311	-0.0398	-0.0786	0.1261*	0.0896
	(0.0108)	(0.0094)	(0.0238)	(0.0214)	(0.0602)	(0.0521)	(0.0720)	(0.0649)
District FE	✓	✓	✓	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓
1957 Islamic Schools × Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓
Cohorts born 1968–72 vs. 1957–62	✓		✓		✓		✓	
Cohorts born 1968–87 vs. 1957–62		✓		✓		✓		✓
Number of Individuals	6,124	21,459	3,164	14,090	6,124	21,459	3,164	14,090
Number of Districts	205	242	197	238	205	242	197	238
Dep. Var. Mean	0.110	0.106	0.217	0.259	0.589	0.598	0.623	0.731
R^2	0.141	0.144	0.152	0.119	0.138	0.143	0.144	0.112

Notes: This table reports estimates of equation (4) based on Muslim respondents in the IFLS (1993–2015). The binary outcome variables in columns 1–4 are akin to those in panel (a) of Table 6, and the outcomes in columns 5–8 are continuous years of Islamic education at the elementary or junior secondary level. All specifications include district of birth dummies and year of birth dummies interacted with the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program in the district of birth, and the number of Islamic schools in the district (elementary *madrasa*, secondary *madrasa*, and *pesantren*) as of 1957. In odd-numbered columns, the sample is composed of all individuals aged 2–6 (young) or 12–17 in 1974. In even-numbered columns, we expand the exposure group to all cohorts born between 1968 and 1987, as in Table 5.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district of birth.

Table A.17: SD INPRES Exposure and Islamic School Choice (Robustness)

Additional Controls: Latent Potential Growth in Islamic Education

	Highest Education Level: [...] *Madrasa*							
	Elementary		Junior Secondary		Senior Secondary		Any Level	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(a) Unconditional Estimates (Table 5)							
INPRES × young	-0.0008	-0.0006	0.0015***	0.0024***	0.0006**	0.0012***	0.0013*	0.0028**
	(0.0005)	(0.0006)	(0.0004)	(0.0007)	(0.0003)	(0.0004)	(0.0007)	(0.0011)
Number of Individuals	839,026	2,315,949	839,026	2,315,949	839,026	2,315,949	839,026	2,315,949
Dep. Var. Mean	0.014	0.011	0.011	0.016	0.008	0.012	0.031	0.038
	(b) Conditional Estimates (Table 6)							
INPRES × young	-0.0014**	-0.0012	0.0057***	0.0056**	0.0006	0.0031*	0.0010	0.0018**
	(0.0007)	(0.0009)	(0.0021)	(0.0023)	(0.0017)	(0.0017)	(0.0007)	(0.0009)
Number of Individuals	283,359	726,560	100,874	373,064	130,546	471,076	543,748	1,680,217
Dep. Var. Mean	0.024	0.024	0.070	0.086	0.044	0.053	0.036	0.044
1957 Islamic Schools × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Additional Controls × Year FE	✓	✓	✓	✓	✓	✓	✓	✓
District FE	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓

Notes: This table augments the baseline specification from panel (a) of Tables 5 and 6 with the following predetermined controls interacted with year fixed effects: the prevalence of *waqf* endowments in 1960, the Muslim population share in the 1972 census, Islamic political party support in the 1955 elections, historical Arab minority populations from the 1930 Dutch colonial Census, the occurrence of an Islamist armed insurgency in the 1950s, and an indicator for districts involved in an experimental compulsory schooling program after 1957. The dependent variables include an indicator equal to one if the individual's final year of schooling took place an Islamic elementary (columns 1–2), junior secondary (columns 3–4), and senior secondary (columns 5–6). Panel (a) reports standard difference-in-differences estimates. All specifications include district of birth dummies and year of birth dummies interacted with survey year dummies, the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program in the district of birth, the number of elementary, junior secondary, senior secondary *madrasa* in 1960, and the number of *pesantren* in 1960.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors are clustered by district of birth.

Table A.18: Exogeneity of the Compulsory Schooling Pilot Program

	Program Indicator (1)	Δ Schools ('1000s) (2)	Δ Teachers ('1000s) (3)
Elementary *madrasa*	-0.0019	-0.0002	0.0469
	(0.0119)	(0.0007)	(0.0405)
Secondary *madrasa*	-0.0491	-0.0048*	-0.0517
	(0.0449)	(0.0027)	(0.0534)
Pesantren	0.0098*	0.0002	0.0426
	(0.0053)	(0.0004)	(0.0370)
Islamic elementary enrollment	-2.2357	-0.0118	-3.2261
	(1.9258)	(0.1542)	(2.9479)
Waqf land	0.1163	0.0632	-1.0995
	(0.4001)	(0.0507)	(1.4419)
Arab ethnic share in 1930	-1.8969	0.0897	-1.5918
	(1.8810)	(0.1243)	(3.0300)
Historical Islamist insurgency	-0.0339	-0.0133**	-0.1324
	(0.0869)	(0.0061)	(0.1000)
Islamic party vote shares 1955-57	0.1579	0.0003	0.0153
	(0.1670)	(0.0084)	(0.1547)
Muslim share	0.1094	-0.0020	-0.0258
	(0.1099)	(0.0053)	(0.0716)
Number of Districts	273	273	273
Dep Var. Mean	0.121	0.005	0.064
R^2	0.161	0.148	0.255

Notes: This table reports district-level cross-sectional correlations between the introduction of the compulsory schooling pilot program (*Wajib belajar*) discussed in Section 5.1 and predetermined measures of Islamic schooling and presence in the late 1950s. The program applied to children aged 8 to 14 and was rolled out in 35 pilot districts starting in 1957 (Sarumpaet, 1963). The dependent variable is: in column 1, an indicator equal to 1 if the district was involved in the program; in column 2, the increase in the number of schools induced by the program; in column 3, the increase in the number of teachers induced by the program. The district-level stocks of Islamic schools (*madrasa* and *pesantren*) are measured as of 1957. Islamic enrollment rates are computed among cohorts born before 1957 based on *Susenas*. *Waqf* land is measured as of 1960. Other controls are defined as in Appendix Tables A.1 and A.17.

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

Table A.19: SD INPRES Exposure, Islamic Schooling and the 1982 Headscarf Ban

	Highest Education Level: Elementary Islamic		Highest Level is Islamic | Elementary Graduates	
	(1)	(2)	(3)	(4)
INPRES × young × woman × (≤12 in 1982)	0.0008*	0.0009**	0.0015	0.0012
	(0.0004)	(0.0004)	(0.0010)	(0.0008)
INPRES × young	-0.0005	-0.0004	-0.0001	-0.0001
	(0.0004)	(0.0004)	(0.0009)	(0.0009)
INPRES × young × woman	-0.0006	-0.0005	-0.0017*	-0.0017*
	(0.0004)	(0.0004)	(0.0009)	(0.0009)
INPRES × young × (≤12 in 1982)	-0.0008**	-0.0007*	-0.0022**	-0.0014
	(0.0003)	(0.0004)	(0.0010)	(0.0010)
Observations	839,026	2,315,949	283,359	726,561
Number of Districts	275	275	275	275
Cohorts born 1968-72 vs. 1957-62	✓		✓	
Cohorts born 1968-87 vs. 1957-62		✓		✓
Dependent Variable Mean	0.014	0.011	0.024	0.024
R^2	0.028	0.023	0.044	0.039

Notes: This table reports estimates of equation (4) fully interacted with a gender dummy and a dummy for cohorts aged 12 or less in 1982, based on annual *Susenas* data from 2012 to 2018. INPRES refers to SD INPRES schools constructed from 1973–78 per 1,000 children in 1971. The headscarf ban in public schools was adopted in 1982. Women aged 12 or less in 1982 would have been too young to complete their primary education before the ban came into force. The dependent variable is an indicator equal to one if the individual's final year of schooling was completed in an Islamic elementary. Columns 1 and 2 include all individuals regardless of their years of schooling. Columns 3 and 4 include only elementary graduates across the two systems (Islamic and non-Islamic). The regression includes all two-way and three-way interactions between the $INPRES$ and the $young$ terms in equation (4), a dummy for women, and a dummy for cohorts aged 12 or less in 1982. All specifications also include survey year dummies, district of birth dummies and year of birth dummies interacted with the 1971 children population, the 1971 enrollment rate, exposure to the water and sanitation program in the district of birth, the number of elementary, junior secondary, senior secondary *madrasa*, and the number of *pesantren* in 1959. In odd-numbered columns, the sample is composed of all individuals aged 2–6 (young) or 12–17 in 1974. In even-numbered columns, the exposure group additionally includes cohorts born between 1973 and 1987.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district of birth.

A.5 Further Results on the Substitutability of Public and Islamic Primary Schools

Although Islamic and public schools may cater to different groups, it is important to understand whether schools from the two sectors are substitutes or complements in raising overall education. We show in the main text that Islamic secondary schools generated some cross-grade complementarities as they absorbed excess demand for continued education among INPRES graduates that could not be met by the public sector. At the primary level, however, the two types of schools may act as substitutes or complements in raising overall education.

We explore this in Appendix Table A.20 by augmenting equation (4) to allow for entry of Islamic primary schools alongside and interacted with SD INPRES entry ($\times$ exposed cohorts). A negative interaction term implies that the two types of schools are substitutes. We estimate OLS and 2SLS specifications instrumenting for Islamic school entry with the mobilization mechanisms uncovered in Section 4.2, i.e., Islamic elementary school construction ($\times$ exposed cohort and $INPRES$) instrumented by the *waqf* endowment base, potential rice yields, and the Muslim population share ($\times$ exposed cohort and $INPRES$). These instruments are collectively strong; see the weak-IV diagnostics.

The estimates in Appendix Table A.20 point to substitutability between public and Islamic elementary schools entering 1973–78. Although each type of school is associated with more education for exposed cohorts (columns 2 and 5), there are counteracting effects when the two enter simultaneously (columns 3 and 5). Taking the IV estimates in column 5 at the mean Islamic and INPRES school entry (0.08 and 2.1 per 1,000 children, respectively), we find similar effect sizes of around 0.35 additional years of education when each school enters on its own. These gains are reduced by 0.25 years of education when the two types enter jointly. This suggests that the baseline estimate of around 0.13 additional years of education (column 1) might have been larger if not for competition from new elementary *madrasa*.

Across specifications, the IV estimates are significantly larger than the OLS (p-value$<$0.01). This may admit a LATE interpretation: elementary Islamic entry has the greatest impact on Islamic school choice in places where resource constraints in the Islamic sector were binding. The instruments capture, in part, supply shifts due to resource availability for Islamic organizations and leaders. In places where those entry decisions materialized, the latent demand for religious schooling would have been realized more quickly, giving rise to the larger own and substitution effects seen in the IV estimates.

Overall, these results provide further evidence of contestation between the Islamic sector and the secular state. We saw in Section 4.1 that Islamic elementary schools entered markets right after the state built SD INPRES. The estimates in Appendix Table A.20 suggest that these sequential entry decisions were partially redundant in generating additional years of schooling. However, because the learning environments were so different across the two sectors, a given year of education in public and religious schools would likely have been less substitutable in terms of impacts on identity and ideology, as suggested by our results in Section 6 of the paper.

Table A.20: Substitution between SD INPRES and Islamic Elementary Schools

	Dep. Var.: Years of Education ($mean = 7.5$)				
	OLS			IV	
	(1)	(2)	(3)	(4)	(5)
INPRES × young	0.133***	0.131***	0.154***	0.107***	0.176***
	(0.029)	(0.029)	(0.032)	(0.031)	(0.043)
Islamic elementary × young		0.137	1.264**	1.687***	4.167***
		(0.163)	(0.504)	(0.577)	(1.413)
INPRES × Islamic elementary × young			-0.567***		-1.485**
			(0.206)		(0.685)
District × Survey Year FE	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓
1957 Islamic Schools × Cohort FE	✓	✓	✓	✓	✓
Number of Individuals	839,019	839,019	839,019	839,019	839,019
KP 1st stage Wald statistic				23.0	10.9
KP 1st stage LM test, p-value				< 0.01	< 0.01

Notes: This table reports estimates of equation (4) with years of schooling as the dependent variable and the regressors augmented with Islamic elementary school entry in the same period as SD INPRES entry 1973–78. Like the latter, Islamic elementary equals the total new Islamic school constructions during that period normalized by the district's child population in 1971. Columns 1–3 are estimated by OLS and column 4–5 by IV. The instruments in column 4 include the exposed cohort indicator, young, times the district-level Muslim population share in 1972, the *waqf* endowment in 1972, and the predetermined potential rice yield from the FAO-GAEZ. The instruments in column 5 expand that set to include the triple interactions with INPRES. The OLS and IV specifications are otherwise identical to the baseline specification in the odd-numbered columns of Table 5 (see the notes therein). The KP 1st stage Wald statistic in column 4 is just the standard cluster-robust F statistic and column 5 is the Kleibergen and Paap (2006) multivariate Wald analogue. Sanderson and Windmeijer (2016) tests on the separate first stages in column 5 reject the null of weak instruments with p-values<0.01. The KP 1st stage LM (Lagrange Multiplier) tests the null of underidentification. A Hausman GMM test strongly rejects the null (p-value<0.01) that the OLS and IV are identical (i.e., that the regressors are endogenous).

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district.

A.6 Probing Linguistic Ability and Identity

Table A.21: INPRES Exposure and Linguistic Ability

	Able to Speak Indonesian			Latin Alphabet Literacy			Other Literacy		
	All	Muslims	Non-Muslims	All	Islamic-Educ.	Secular-Educ.	All	Islamic-Educ.	Secular-Educ.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
INPRES × young	0.0163***	0.0224***	0.0056	0.0323***	0.0103***	0.0192***	0.0039	-0.0014	0.0034
	(0.0011)	(0.0052)	(0.0068)	(0.0039)	(0.0037)	(0.0040)	(0.0023)	(0.0055)	(0.0024)
Number of Individuals	31,680,947	31,680,947	27,811,517	839,026	25,935	813,087	839,026	25,935	813,087
Number of Districts	273	273	273	275	268	275	275	268	275
Dep. Var. Mean	0.931	0.933	0.918	0.914	0.985	0.912	0.060	0.045	0.061

Notes: This table reports estimates of equation (4) using data from the 2010 Population Census (columns 1–3) and *Susenas* 2012–18 (columns 4–9). The specification in columns 1–3 is the same as in columns 1–3 of panel (a) in Table 8 with the outcome here being whether the respondent is able to speak Indonesian. The specification in columns 4–9 is the same as in columns 4–6 of panel (a) in Table 8 with the other literacy outcomes here.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district of birth.

Table A.22: Correlations of Islamic Education and Literacy Conditional on Years-of-Schooling Fixed Effects

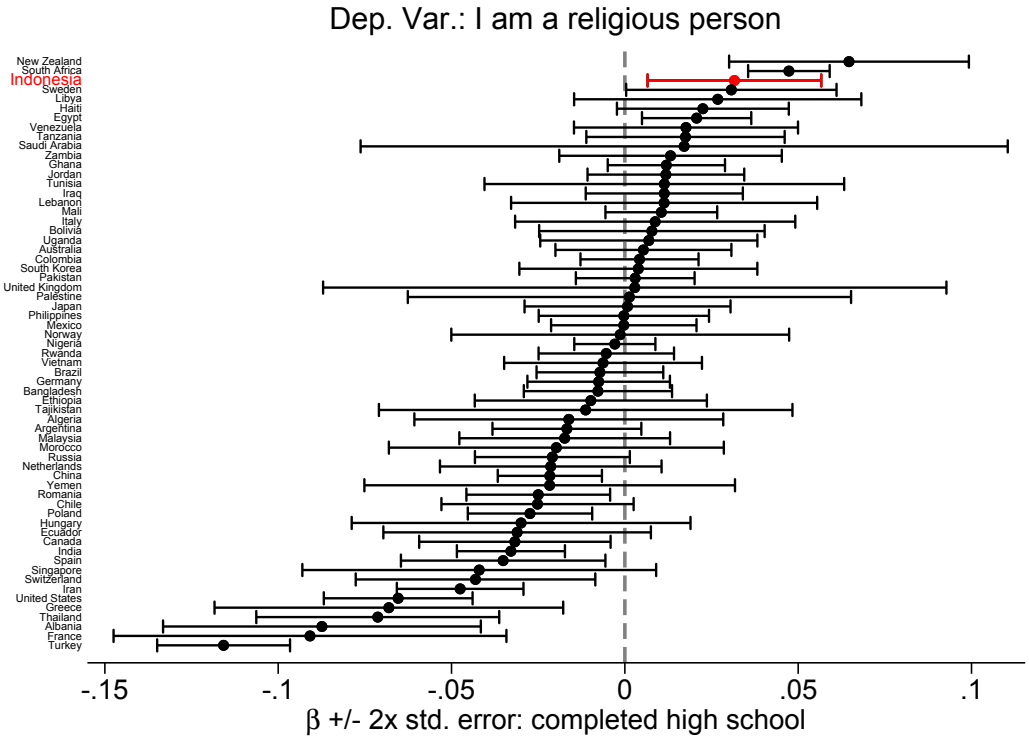
	Literacy in . . . Alphabet		
	Arabic	Latin	Other
	(1)	(2)	(3)
Islamic primary	0.1992***	0.0144***	-0.0109***
	(0.0118)	(0.0020)	(0.0025)
Islamic junior secondary	0.2627***	0.0003	-0.0021
	(0.0093)	(0.0013)	(0.0030)
Islamic senior secondary	0.2842***	-0.0004	-0.0012
	(0.0085)	(0.0012)	(0.0053)
Number of Individuals	839,019	839,019	839,019
Number of Districts	275	275	275
Dependent Variable Mean	0.343	0.914	0.060

Notes: This table regresses indicators for literacy in different languages/alphabets on indicators for whether the respondent's final level of schooling was Islamic primary, junior secondary or senior secondary. The data come from our baseline *Susenas* data from 2012 to 2018, and the sample is restricted to our baseline cohort specification used throughout the paper. The regressions are conditional on total years-of-schooling fixed effects such that the coefficients identify the differential literacy rates for those completing Islamic versus non-Islamic school with the same total years of schooling. The specification omits the interaction of INPRES and the exposure dummy but is otherwise identical to that used in column 4 of panel (a) in Table 8.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district of birth.

A.7 Additional Figures and Tables

Figure A.10: Education and Religiosity Across Countries



Notes: This figure reports the cross-sectional regression-based correlation between education and religiosity in the World Values Survey data spanning 1981 to 2020 with specific years of enumeration varying across countries. Education is an indicator for high school completion. Religiosity is measured based on the question, "How religious are you as a person?", with answers being "religious", "not religious", and "convinced atheist". Our outcome is a binary indicator for whether the respondent answers "religious". Each point estimate and 95% confidence interval is based on a country-specific regression pooling across all survey waves for the given country. The regression controls for age, gender, religious denomination and survey year fixed effects, and standard errors are robust.

Table A.23: INPRES Exposure and Religious Political Preferences

	Corporal Punishments (1)	Prohibit Interest (2)	Hijab Mandatory (3)	Support Polygamy (4)	Punish Adultery (5)	Punish Apostasy (6)	**Index** Objective (7)
INPRES × young	0.0057	0.0389	0.0430	-0.0343	0.0343	0.0240	0.0143
	(0.0675)	(0.0633)	(0.0602)	(0.0866)	(0.0589)	(0.0381)	(0.0288)
Number of Individuals	1,241	1,181	1,250	1,277	1,257	1,238	1,286
Number of Districts	142	140	142	144	144	143	144
Dep. Var. Mean	0.313	0.463	0.822	0.376	0.449	0.175	0.434

Notes: This table reports estimates of equation (4) using data from Pepinsky et al. (2018). The outcomes in columns 1–6 correspond to the sub-components of the objective index of support for *sharia* law used in Table 9 and reproduced here in column 7. The specification is otherwise identical to that in Table 9 (see the notes therein).

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by district of birth.

B Conceptual Framework: Full Discussion and Derivations

This appendix provides full details, proofs, and extensions of the model introduced in Section 3.

B.1 Setup

The model features N markets each home to a unit mass of students with heterogeneous preferences for religious schooling. The state and religious sectors each aim to maximize total student enrollment, and they compete through market entry and curriculum choices. Each market can support a state school s and/or a religious school r. Preferences are uniformly distributed over $[0, J]$, and J varies across markets. Schools compete on a line à la Hotelling (1929) with students ordered from most secular to most religious. Student i has preferences $\rho_i \in [0, J]$ and receives fixed utility $u_{i(k)}$ from school k:

$$u_{i(k)} = v_k - (x_k - \rho_i)^2$$

where x_k denotes school curriculum and v_k school quality. We assume that state schools have higher quality than religious schools but that this quality differential is not large enough to enable the state to capture all demand, i.e., $v_r < v_s < 2v_r$.[1] Student i attends school k if $u_{i(k)} > 0$, and otherwise chooses the school that maximizes u_i. Students with $u_{i(k)} < 0 \; \forall k$ remain unenrolled or attend an informal school.

State and religious schools offer different curricula. At one end of the spectrum, s must provide a secular curriculum, $x_s = 0$. This captures the state's objective to standardize and secularize education. Religious schools endogenously choose their curriculum, $x_r > 0$.

To enter any market, a school must pay a fixed cost of 1. The state initially has budget $S < N$, preventing it from entering all markets. The budget of the religious sector is a constant fraction of the state's budget, $R = \alpha S$, $\alpha \in (0, 1)$. Intuitively, the state and the religious sector raise revenue from the same tax base, but the religious sector has inferior tax capacity. We also use α as a reduced form representation of the strength of Islamic institutions in terms of their capacity to mobilize resources. More generally, this parametrization reflects the idea that income shocks that enable the state to fund mass schooling reforms may also trickle down to other segments of society, including non-state providers of education.

Timing. The timing of the game is as follows:

1. The state decides which markets to enter.
2. The religious sector decides which markets to enter.
3. Each religious school r sets curriculum x_r in the market where it entered.
4. Students in each market decide which school to attend, if any.

In what follows, we solve the model by backward induction. Then, we consider the effects of an exogenous windfall in the state's education budget. In Appendix B.4.1, we provide all proofs. In Appendix B.4.2, we extend the model to allow religious schools to also provide secondary education.

B.2 Equilibrium

Stage 4 (student choice). In the final stage, each market may be served by a state school s, a religious school r, both schools, or no school. In markets with only s, all students who satisfy $\rho_i \leq \sqrt{v_s}$ will attend s, and the total mass of these students is $\sqrt{v_s}$. In markets with only r, all students who satisfy

[1] We further assume $J > 2\sqrt{v_r}$ to focus on the case where markets are large enough to accommodate at least one school, be it s or r. Evidence on test-score differentials support the assumption about average quality differences (see Appendix A.3).

$\rho_i \in [x_r - \sqrt{v_r}, x_r + \sqrt{v_r}]$ will attend r. Given $J > 2\sqrt{v_r}$, in stage 3 school r will choose x_r such that its enrollment equals $2\sqrt{v_r}$ in these markets. In markets with both s and r, any student satisfying both $\rho_i \leq \sqrt{v_s}$ and $\rho_i \in [x_r - \sqrt{v_r}, x_r + \sqrt{v_r}]$ will choose to attend s over r if and only if:

$$(v_s - v_r) \geq x_r(2\rho_i - x_r)$$

Intuitively, students compare the benefit of higher schooling quality inside s with the benefit of more religious education inside r. Note that this constraint matters if and only if $x_r < \sqrt{v_s} + \sqrt{v_r}$.

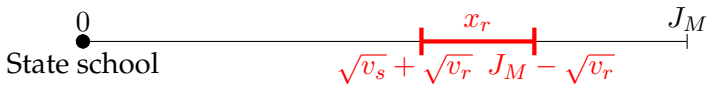
Stage 3 (curriculum choice). In markets where it operates alone, r can pick from a range of x_r that yield a payoff of $2\sqrt{v_r}$. The range of optimal curricula is given by $x_r \in [\sqrt{v_r}, J - \sqrt{v_r}]$. In markets served by both s and r, two cases arise. In the more religious markets (satisfying $J \geq 2\sqrt{v_r} + \sqrt{v_s} \equiv \mathcal{M}$), which we call *major* markets, r is not constrained by competition from s and can choose any x_r that yields a payoff of $2\sqrt{v_r}$, e.g., $x_r = J - \sqrt{v_r}$. In the less religious markets (satisfying $J < \mathcal{M}$), which we call *minor* markets, r has a unique optimal choice of $x_r = J - \sqrt{v_r}$. In both cases, focusing on the most religious students by setting $x_r = J - \sqrt{v_r}$ is always a best response for the religious school.

Stage 2 (religious school entry). From the perspective of school r, markets can be split into three groups: (i) major markets, (ii) minor markets with no school s, and (iii) minor markets with school s. The first two types of markets have value $2\sqrt{v_r}$ to school r. The third market has value less than $2\sqrt{v_r}$, which is also increasing in the market's J. Thus, the religious sector will prioritize the first two types of markets, namely the more religious markets (higher J) and less religious markets where the state has not entered. Only then, if it has any budget left over, will it enter remaining markets in descending order of J.

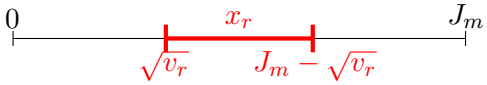
Stage 1 (state school entry). The state can enter up to $S < N$ markets and anticipates that religious schools will be present in $\lfloor R \rfloor$ markets. From the state's perspective, there are two cases to consider. Let m be the number of major markets satisfying $J \geq \mathcal{M}$. If the combined budget of both sectors is small enough (i.e., if $S + R \leq N + m$), then the two sectors split markets in such a way as to never compete for the same students. That is, there is no minor market where both schools enter—the schools might enter the same major market but would split minor markets without overlap.

If $S + R > N + m$, then there are multiple equilibria where both schools enter *all* major markets and $S + R - N - m$ of the largest minor markets, and split the remaining minor markets in a non-overlapping way. Multiple equilibria come from rearranging how the schools split the smaller minor markets, but all equilibria have them jointly enter every major market and a few of the largest minor markets. The figure below illustrates the equilibrium prevailing in each market where a religious school has entered, with the range of optimal curricula for the religious school highlighted in red:[2]

1. Major markets with a state school:

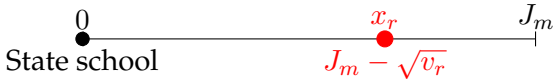


2. Minor markets with no state school:



3. Minor markets with a state school:

[2] If $S + R \leq N + m$, then there may also be major markets with no state school, in which case school r sets x_r as in case 2. If $S + R < N$, then there are some markets where neither school s nor school r enters.



Overall, this setup sheds light on the market segmentation that characterizes the education sector before the introduction of mass public schooling. State schools and religious schools target segments of the population with different underlying preferences, with the latter prioritizing either the more religious markets or less religious markets that are underserved by the state. Curriculum differentiation allows religious schools to maximize student attendance in crowded markets, but the absence of state schools in some markets implies that curriculum may be set at a lower (less religious) level in those markets.

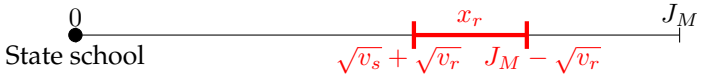
B.3 Budget Windfall

We now consider an exogenous increase in the state's budget to N. This allows the state to build schools in markets where it had not previously entered. In this case, there is an equilibrium in which the state enters all markets, whereas the religious sector enters $\lfloor \alpha N \rfloor$ markets. If there are many major markets, where $m \geq \lfloor \alpha N \rfloor$, then the religious sector simply enters as many of them as it can afford. If $m < \lfloor \alpha N \rfloor$, then the religious sector enters all major markets and $\lfloor \alpha N \rfloor - m$ of the largest minor markets, and this is a unique equilibrium. Regardless of the exact equilibrium outcome, the increase in the state's budget leads to a corresponding increase of $\lfloor \alpha N \rfloor - \lfloor \alpha S \rfloor$ in the number of markets that religious schools enter, where S is the initial state budget before the windfall.

Religious Curriculum. The state's budget windfall affects the choice of curriculum for religious school r. Recall that in the baseline case, the optimal curriculum x_r depends on the type of market. In any market without s, any $x_r \in [\sqrt{v_r}, J - \sqrt{v_r}]$ is optimal. In major markets with s, any $x_r \in [\sqrt{v_s} + \sqrt{v_r}, J - \sqrt{v_r}]$ is optimal. In minor markets with s, the unique optimal choice is $x_r = J - \sqrt{v_r}$.

Mass public schooling affects curriculum choice in all markets where r previously was and s was not. In major markets where the state could not previously afford to enter, the set of optimal curricula shifts upward from $[\sqrt{v_r}, J - \sqrt{v_r}]$ to $[\sqrt{v_s} + \sqrt{v_r}, J - \sqrt{v_r}]$, i.e., some of the less religious curricula are eliminated. In minor markets, the change is even more pronounced. All less religious curricula are eliminated, and the only optimal choice is the previous upper bound $x_r = J - \sqrt{v_r}$. As a result, mass public schooling increases incentives to further differentiate curriculum inside religious schools. The figure below illustrates the new equilibrium prevailing across major and minor markets.

1. Major markets:



2. Minor markets:

Taking Stock. The results above guide our analysis of the effects of SD INPRES on Islamic school entry, curriculum differentiation, and students' school choice. There are four main implications to consider.

First, SD INPRES increases the number of markets where both types of schools compete and coexist. That is, we expect a to see a larger number of markets supporting both types of schools, rather than state schools crowding out religious schools in districts with higher SD INPRES intensity. In order to

maximize enrollment, the religious sector continues to prioritize major markets, which are the same markets prioritized by the state in the process of educational expansion. If there were previously markets served by neither sector, then mass schooling may lead to both sectors jointly entering these markets. Regardless of the exact baseline situation, mass schooling increases religious school entry.

Second, a higher fundraising capacity of the religious education sector (higher α) allows the latter to compete in more markets. If we allow α to vary across markets (e.g., if the funds raised for Islamic school construction are not fully fungible across markets), then the markets with higher taxation capacity should see relatively more religious school entry.

Third, the entry of state schools in new markets induces religious schools to differentiate towards more religious curriculum in those same markets. In the model, such differentiation is needed for the religious sector to minimize the potential loss in enrollment induced by mass public schooling. In practice, if schools face frictions in their ability to adjust curriculum over time, then we expect newer schools founded after SD INPRES to be more differentiated on curriculum than older ones.

Finally, introducing religious secondary education makes it relatively more likely that Islamic schools will locate in the same markets as public schools, as they seek to capture excess demand from primary graduates educated in either sector. This also increases incentives to make curriculum more religious at the primary level. Appendix B.4.2 discusses the formal details underlying this last set of predictions. We turn now to a discussion of the novel data that allow us to test these hypotheses.

B.4 Proofs

B.4.1 Baseline Setup

Stage 4 There are four types of markets that may arise: (1) markets with only s; (2) markets with only r; (3) markets with both schools; (4) markets without any school. Markets of type (4) do not involve any decision by the students. In markets of type (1) and (2), students need to decide whether to attend the only school they have or not. In markets of type (3), students need to choose between attending s, r or no school at all.

Consider market of type (1). School s must set $x_s = 0$. Hence, a student with religious preference ρ_i (called type ρ_i henceforth) will choose to attend the school if and only if

$$v_s - \rho_i^2 \geq 0, \text{ which implies } \rho_i \leq \sqrt{v_s}.$$

Note: if this market's J is lower than $\sqrt{v_s}$, all students will choose to attend the school.

Consider market of type (2). Suppose school r sets curriculum x_r. Then a student with type ρ_i will choose to attend if and only if

$$v_r - (x_r - \rho_i)^2 \geq 0, \text{ which implies } \rho_i \in [x_r - \sqrt{v_r}, x_r + \sqrt{v_r}].$$

Note: if this market's J is lower than $\sqrt{v_r}$, any choice of x_r will lead to all students attending the school.

Consider market of type (3). We already know that a student of type ρ_i may choose to attend school s if $\rho_i \leq \sqrt{v_s}$ and may choose to attend school r if $\rho_i \in \left[x_r - \sqrt{v_r}, x_r + \sqrt{v_r}\right]$. Consider a student whose type satisfies both conditions, i.e. she has to choose which of the two schools to attend. She

will choose school s if and only if

$$v_s - \rho_i^2 \geq v_r - (x_r - \rho_i)^2, \text{ which implies } \rho_i \leq \frac{1}{2}\left(\frac{v_s - v_r}{x_r} + x_r\right).$$

This condition can also be rewritten as $(v_s - v_r) \geq x_r(2\rho_i - x_r)$, which intuitively corresponds to comparing the benefit of higher quality in the public school on the left side and the benefit of more religious education in the religious school. Note: this constraint matters if and only if $x_r < \sqrt{v_s} + \sqrt{v_r}$.

This completes the analysis of stage 4.

Stage 3 Consider the curriculum decision of the religious school in markets of type (2) and (3).

In markets of type (2), the school wants to maximize the mass of attending students, which can be represented as

$$\max_{x_r} \ \left(\min\{x_r + \sqrt{v_r}, J\} - \max\{x_r - \sqrt{v_r}, 0\}\right)$$

There may be a continuum of optimal values of x_r, provided that J is larger than $2\sqrt{v_r}$ (or smaller than $\sqrt{v_r}$). However, across all possible values of J, setting $x_r = \frac{1}{2}J$ is always an optimal choice. The range of optimal curricula is given by $x_r \in [\sqrt{v_r}, J - \sqrt{v_r}]$.

In markets of type (3), the school has to balance maximizing its reach over students and competing with the public school. A student of type ρ_i will choose to attend the religious school if and only if:

$$\begin{cases} x_r - \sqrt{v_r} \leq \rho_i \leq x_r + \sqrt{v_r} \\ \rho_i \geq \frac{1}{2}\left(\frac{v_s - v_r}{x_r} + x_r\right) \end{cases}$$

Recall from stage 4 analysis that competition does not affect school r as long as $x_r > \sqrt{v_s} + \sqrt{v_r}$.

This effectively splits the school's problem into two possible situations: $x_r \geq \sqrt{v_s} + \sqrt{v_r}$, and vice versa. We can solve the problem separately and then compare the solutions to figure out the optimal x_r.

Case 1: Consider the case $x_r \geq \sqrt{v_s} + \sqrt{v_r}$. School r's problem then becomes

$$\max_{x_r \geq \sqrt{v_s} + \sqrt{v_r}} \ \left(\min\{x_r + \sqrt{v_r}, J\} - (x_r - \sqrt{v_r})\right).$$

If $J > 2\sqrt{v_r} + \sqrt{v_s}$ holds, then school r is not constrained by competition. There is a range of x_r (or a unique x_r in case of equality) where its objective function is maximized at the value of $2\sqrt{v_r}$. This range is given by

$$x_r \in [\sqrt{v_s} + \sqrt{v_r}, J - \sqrt{v_r}].$$

Notably, picking $x_r = \frac{1}{2}J$ may no longer be optimal. This occurs when $J < 2\sqrt{v_s} + 4\sqrt{v_r}$.

If $J < 2\sqrt{v_r} + \sqrt{v_s}$ holds, then the school's problem becomes

$$\max_{x_r \geq \sqrt{v_s} + \sqrt{v_r}} \ \left(J - (x_r - \sqrt{v_r})\right).$$

This problem has a unique solution $x_r = \sqrt{v_s} + \sqrt{v_r}$, i.e. the school wants to pick as low x_r as possible, while still maintaining the constraint of this case.

Case 2: Now consider the case where $x_r < \sqrt{v_s} + \sqrt{v_r}$. Based on the above, this case should only matter if $J < 2\sqrt{v_r} + \sqrt{v_s}$. In such a case, the lower bound of students who pick school r is determined by school s, not by the student's individual rationality constraint. In other words, school r's problem becomes

$$\max_{x_r < \sqrt{v_s}+\sqrt{v_r}} \left(\min\{x_r + \sqrt{v_r}, J\} - \frac{1}{2}\left(\frac{v_s - v_r}{x_r} + x_r \right) \right).$$

For low enough values of x_r the problem takes form

$$\max_{x_{r1} < \sqrt{v_s}+\sqrt{v_r}} \left(x_{r1} + \sqrt{v_r} - \frac{1}{2}\left(\frac{v_s - v_r}{x_{r1}} + x_{r1} \right) \right).$$

and for higher values it takes form

$$\max_{x_{r2} < \sqrt{v_s}+\sqrt{v_r}} \left(J - \frac{1}{2}\left(\frac{v_s - v_r}{x_{r2}} + x_{r2} \right) \right).$$

The first subcase has a strictly increasing function of x_r, so its solution will be on the upper edge of the subcases, where $x_{r1} = J - \sqrt{v_r}$.[3] The second subcase is solved at $x_{r2} = \sqrt{v_s - v_r}$ or $x_{r2} = J - \sqrt{v_r}$, whichever is larger.

Assuming $v_s < 2v_r$, we can conclude $J > 2\sqrt{v_r} > \sqrt{v_s - v_r} + \sqrt{v_r}$, implying that $J - \sqrt{v_r} > \sqrt{v_s - v_r}$. Thus, the optimal choice for the religious school in the case $J < 2\sqrt{v_r} + \sqrt{v_s}$ becomes $x_r = J - \sqrt{v_r}$.

Overall, we can conclude that Case 2 is solved at $\sqrt{v_s - v_r}$ or $J - \sqrt{v_r}$, whichever is larger. If $v_s < 2v_r$, then Case 2 is solved at $x_r = J - \sqrt{v_r}$.

To summarize, if $J \geq 2\sqrt{v_r} + \sqrt{v_s}$, the religious school can enter the market without being affected by the secular school's competition, and get the same payoff as in a market of type (2). If $J \in (2\sqrt{v_r}, 2\sqrt{v_r} + \sqrt{v_s})$, then the religious school has to actively compete with the secular school for students, and provided that $v_s < 2v_r$, it will choose $x_r = J - \sqrt{v_r}$.

Note that in both cases, one of the religious school's best responses is to set $x_r = J - \sqrt{v_r}$ in every market it enters, i.e. it focuses on the most religious students. It's not the only best response in larger markets and markets without competition from the state school. However, it is the only best response in markets where $J < 2\sqrt{v_r} + \sqrt{v_s}$.

Stage 2 Consider the entry decision of the religious school. From its perspective, the markets are split into two groups: ones with school s and ones without.

School r's problem may be viewed as a sequential decision about which market to enter next. It will identify "the best" market in each of the two groups, and then compare them. Whichever market is "better", it will choose to enter, and move on to choosing which market to enter after that. This way, the school's problem can be viewed as a sequence of binary comparisons between the best market with school s and the best market without it.

Since school r only cares about enrolling as many students as possible, a market's value to it is measured by the mass of students it will be able to cover upon entering. For markets without s, this is easy to identify: given the assumption that $J > 2\sqrt{v_r}$, such a market always has value $2\sqrt{v_r}$ to the religious school.

[3] Note that $J - \sqrt{v_r}$ is smaller than $\sqrt{v_s} + \sqrt{v_r}$ for this case.

Markets with school s split into two cases. If $J \geq 2\sqrt{v_r} + \sqrt{v_s}$, then the market's value is equal to $2\sqrt{v_r}$. If $J \in [2\sqrt{v_r}, 2\sqrt{v_r} + \sqrt{v_s})$, then the market has value

$$J - \frac{1}{2}\left(\frac{v_s - v_r}{J - \sqrt{v_r}} + J - \sqrt{v_r}\right) = \frac{1}{2}\left(J + \sqrt{v_r} - \frac{v_s - v_r}{J - \sqrt{v_r}}\right).$$

To summarize,

(a) A market without s will have value $2\sqrt{v_r}$.

(b) A market with s has value $2\sqrt{v_r}$ if $J > 2\sqrt{v_r} + \sqrt{v_s}$. Otherwise, it has value $\frac{1}{2}\left(J + \sqrt{v_r} - \frac{v_s - v_r}{J - \sqrt{v_r}}\right)$. Note that the latter value is increasing in J and is less than $2\sqrt{v_r}$ when $J < 2\sqrt{v_r} + \sqrt{v_s}$.

This implies that the school will first prioritize markets that have value $2\sqrt{v_r}$. These are all markets without s and markets with s where $J > 2\sqrt{v_r} + \sqrt{v_s}$. After that, it will rank remaining markets based on their J and enter them in descending order.

Stage 1 Here we introduce additional terminology: a market is called *major* if it satisfies $J \geq 2\sqrt{v_r} + \sqrt{v_s}$, and otherwise it is *minor*. Major markets can host both schools without them actively competing for students, and hence harming each other's attendance. Let the number of major markets be m.

If the combined budget of the two schools is smaller than or equal to $N + m$, then there are many equilibria where the schools do not compete in any market, major or minor. For example, both schools might enter all major markets, and then split minor markets in a non-overlapping way. Alternatively, one school may mostly occupy minor markets, while the other mostly occupies major ones. Multiplicity of equilibria comes in how the schools split the set of markets in a non-overlapping way (except major markets, which they may share without affecting each other).

If the combined budget of the two schools is larger than $N + m$, then the equilibria all involve the following: both schools enter every major market and the largest (by J) minor markets; the smaller minor markets are divided between them in an arbitrary but non-overlapping way. Below is an example of how this may work.

Example: Suppose there are 5 major markets and 10 minor markets, with both schools having a budget of $R = S = 12$. If the schools enter all major markets, they both will still have a budget of 7 remaining. This implies that they will have to share at least 4 minor markets regardless of how they split them. In equilibrium, the state school will enter the 4 largest minor markets, and an arbitrary 3-large subset of the remaining minor markets. The religious school will then enter the 4 largest minor markets too, and the 3 unoccupied smaller minor markets. The multiplicity of equilibria here comes in how the two schools split the smaller 6 markets. The fact that they enter all major markets and the 4 largest minor markets is true in every equilibrium.

A few lemmas supporting the results above follow.

Lemma 1. *Suppose s and r share a minor market with $J = j_1$, and suppose there is a minor market with $J = j_2 > j_1$ such that none of the schools entered it. Then this cannot be an equilibrium.*

Proof. Either school obviously can improve their payoff by switching to the larger market in the corresponding phase. □

Lemma 2. *Suppose s and r share a minor market with $J = j_1$, and suppose there is a minor market with $J = j_2 > j_1$ such that only one of the schools entered it. Then this cannot be an equilibrium.*

Proof. Let us start with school r, as it moves last. Suppose both schools occupy the market with $J = j_1$, but only school s occupies the market with $J = j_2$. By entering market with $J = j_1$, school r splits the market with the other school and earns a payoff of

$$\frac{1}{2}\left(j_1 + \sqrt{v_r} - \frac{v_s - v_r}{j_1 - \sqrt{v_r}}\right).$$

If it instead enters the larger market with $J = j_2$, it will earn a payoff of

$$\frac{1}{2}\left(j_2 + \sqrt{v_r} - \frac{v_s - v_r}{j_2 - \sqrt{v_r}}\right).$$

Note that this payoff is larger than the previous one, since the expression is strictly increasing in J. Hence, religious school prefers to deviate from $J = j_1$ to $J = j_2$, and the initial outcome cannot be part of an equilibrium.

Now consider school s in the same situation: it splits the market $J = j_1$ with r and doesn't enter market $J = j_2$, with r entering it afterwards. Under this outcome, it earns a payoff from this market equal to

$$\frac{1}{2}\left(\frac{v_s - v_r}{j_1 - \sqrt{v_r} + j_1 - \sqrt{v_r}}\right).$$

If it instead switches to $J = j_2$ in stage 1, then two things might happen later: r might remain in market $J = j_2$ or switch it to some other market. If it remains, then payoff of s improves to

$$\frac{1}{2}\left(\frac{v_s - v_r}{j_2 - \sqrt{v_r} + j_2 - \sqrt{v_r}}\right),$$

since its payoff above is increasing in J.

If r switches to another market, there are two subcases: either it switches to a market without impacting s's payoff (a major market or a minor market without s), or it switches to a minor market with s in it. The former doesn't impact s's payoff improvement, but the latter can. However, the latter occurs if and only if there is an even larger minor market which s originally occupied but r did not. In that case, the first half of this proof shows that the initial outcome could not be an equilibrium because r would prefer to switch. However, if r did not have such incentive while occupying $J = j_1$, then it will not switch to another minor market with s when that switches to $J = j_2$. Hence, s's payoff will improve, and the original outcome could not be an equilibrium. □

These two lemmas show that there is no equilibrium outcome where the largest minor markets are not split between the two schools. If a particular minor market is split between the schools, it must be the case that the larger minor markets are also split; otherwise, this is not an equilibrium. How many of these largest markets will be split in equilibrium?

Lemma 3. *Suppose s and r share a minor market with $J = j_1$, and suppose there is a smaller minor market with $J = j_2 < j_1$ such that no school entered it. Then this cannot be an equilibrium.*

Proof. It is sufficient to show this is not optimal for school r, though the same is true for the other school. By occupying the same $J = j_1$ market as school s, r earns a payoff of

$$\frac{1}{2}\left(j_1 + \sqrt{v_r} - \frac{v_s - v_r}{J - \sqrt{v_r}}\right) < 2\sqrt{v_r},$$

where the inequality follows because of $J < 2\sqrt{v_r} + \sqrt{v_s}$. By switching to the unoccupied $J = j_2$ market, r will earn a payoff of $2\sqrt{v_r}$ instead, which is clearly better. Hence, the original outcome cannot be an equilibrium. □

This lemma shows that the equilibrium will have a particular split of the minor markets. All of them will be occupied by at least one of the schools, and the number of the largest minor markets split between both schools must be such that the remaining minor markets are partitioned exhaustively between the two schools in a non-overlapping way. There's a unique number that makes this work, and can be constructed in the following way. Start with schools jointly entering all of the largest markets, and then switch a school from the smallest of these largest markets to one of the smaller unoccupied markets one by one, until all markets are filled.

The exact number of minor markets that will be shared in equilibrium is given by $R + S - N - m$ or $N - m$, whichever is larger. This is true if and only if $R \geq N$ and $S \geq N$ are impossible. Otherwise, the exact number of shared minor markets depends on the parameters in a slightly more complicated way.

B.4.2 Introducing Religious Secondary Education

In this extension, we introduce religious secondary education. We then explore how this affects school r's entry decisions at the primary and secondary levels. The market for primary schools works in the same way as above, except that the religious sector can allocate a fraction of its budget towards secondary schools. The new timing of the game is as follows:

1. The state decides which markets to enter.
2. The religious sector sets R_p, the amount of its budget R spent on primary schools.
3. The state decides which markets to enter for primary schools.
4. School r sets curriculum for primary schools in each market where it entered in stage 3.
5. Primary students in each market decide (in a myopic way) which school to attend, if any.
6. Using the remaining funds from stage 2, $R_h = R - R_p$, the religious sector decides which markets to enter for secondary schools, under the constraint that secondary schools can only be built wherever there is either a primary state or religious school. Secondary religious school curriculum must be set at some exogenous x_r^h and school quality is $v_r^h > v_r$. The cost of building a primary and a secondary school is equal to 1.
7. Primary student *graduates* in each market decide whether or not to attend the secondary religious school. They attend the religious secondary school if $v_r^h - (x_r^h - \rho_i)^2 > 0$.

In this modified setup, school r now maximizes a combination of primary and secondary enrollment (P and H, respectively), $P + \eta H$. We focus on the $\eta \geq 1$ case and, for simplicity, assume that there are no state secondary schools.[4] Additionally, suppose that $x_r^h = J - \sqrt{v_r^h}$, since that is a best response under all circumstances.

Description of the equilibrium. In the baseline setup, religious schools avoided markets served by a state school. This changes once we introduce religious secondary schools, which may capture the excess

[4] To maintain tractability, we do not consider competition between public and religious schools at the secondary level. Although restrictive, this assumption helps clarify the religious sector's incentives and will be relaxed in the empirical analysis.

demand from primary graduates educated in both sectors. This excess demand makes markets with a school s relatively more attractive for the religious sector, and leads to a change in the order in which schools r enter each market. The religious sector first prioritizes (major and minor) markets with a state school. Only then will it enter (major and minor) markets without a school s.

This different pattern of entry also incentivizes schools r to adopt a more religious curriculum at the primary level, for two reasons. First, in major markets with a state school s, the set of optimal curricula shifts weakly upwards to avoid competition from the state. Second, in all markets without a school s, the set of optimal curricula also shifts upwards because a low value of x_r would lead r to lose some of its least religious primary graduates at the secondary level.[5] Thus, in addition to increasing incentives to challenge the state in the markets where it entered, the introduction of secondary education also increases curriculum differentiation at the primary level. Furthermore, this changes the incentives of the state, which previously would have prioritized major markets and the largest of the minor markets. Now, it has a strict incentive to avoid entering the largest of the minor markets because the religious school prioritizes those markets if it sees s in them.

Proof. Given $\eta \geq 1$, any religious primary school that entered a market will want to build a secondary school in the same market. The value of major markets and minor markets without s will increase, as the school now builds both a primary and a secondary school there (for the price of 2). Since $v_r^h > v_r$, both of these markets will have value $(2 + 2\eta)\sqrt{v_r}$. As for a minor market with school s, the primary attendance there is equal to

$$\frac{1}{2}\left(J + \sqrt{v_r} - \frac{v_s - v_r}{J - \sqrt{v_r}}\right).$$

Note that the market is split exhaustively between the state and religious primary schools. Hence, when r builds a secondary school in it, it can take some of the state school's graduates and enroll them. Assuming $J > 2\sqrt{v_r^h}$, this makes secondary attendance in such a market equal to $2\eta\sqrt{v_r^h}$. This makes a minor market of size J with school s have a combined value for school r equal to

$$\frac{1}{2}\left(J + \sqrt{v_r} - \frac{v_s - v_r}{J - \sqrt{v_r}}\right) + 2\eta\sqrt{v_r^h}.$$

Note that for some parameters, this may be larger than $2(1+\eta)\sqrt{v_r}$. For instance, if J is sufficiently close to the cutoff between major and minor markets ($2\sqrt{v_r} + \sqrt{v_s}$), then the value of the market is close to

$$2\sqrt{v_r} + 2\eta\sqrt{v_r^h},$$

which is larger than $(2 + 2\eta)\sqrt{v_r}$.

Another case to consider is that of major markets with school s. If J of that market is low enough, it is possible for a secondary religious school to get some gradutes from the state primary school. For this, we need $J - 2\sqrt{v_r^h} < \sqrt{v_s}$ to hold, i.e. $J < 2\sqrt{v_r^h} + \sqrt{v_s}$. The value of building a primary and a secondary school in such market is

$$(2 + 2\eta)\sqrt{v_r} + \eta\left(2\sqrt{v_r^h} + \sqrt{v_s} - J\right).$$

This is clearly better than any market without school s, so school r will prioritize these markets in addition to minor markets with s. Note that this value is decreasing in J, so the school ranks a market higher when it is closer in size to $J = 2\sqrt{v_r} + \sqrt{v_s}$, the separating cutoff between major and minor markets.

[5] Here, recall that we asume $x_r^h = J - \sqrt{x_r^h}$. Formally, x_r must satisfy $x_r \geq x_r^h - \sqrt{v_r^h} = J - 2\sqrt{v_r^h}$ in order to minimize enrollment losses at the secondary level.

How does the school comparatively rank major markets with s and minor markets with s? Consider a minor market with $J = J_m$ and a major market with $J = J_M$, both with a primary state school. School r values the major market higher than the minor market if and only if

$$\frac{1}{2}\left(J_m + \sqrt{v_r} - \frac{v_s - v_r}{J_m - \sqrt{v_r}}\right) + 2\eta\sqrt{v_r^h} < (2+2\eta)\sqrt{v_r} + \eta\left(2\sqrt{v_r^h} + \sqrt{v_s} - J_M\right)$$
$$\frac{1}{2}\left(J_m + \sqrt{v_r} - \frac{v_s - v_r}{J_m - \sqrt{v_r}}\right) < 2\sqrt{v_r} - \eta\left(J_M - 2\sqrt{v_r} - \sqrt{v_s}\right)$$

The comparison on J_M and J_m is not clear. However, it is possible for this inequality to go either way. For example, when J_m is very close to $2\sqrt{v_r} + \sqrt{v_s}$ while J_M is not, the minor market is better than the major. When J_M is close to the cutoff instead, the major market is better than the minor. If school r has enough budget to fill both of these types of markets with primary and secondary school, it will do that. Otherwise, it will go through both lists and sequentially choose the best option out of the two.

Here is a formal summary of school r's optimal order of building.

Lemma 4. *School r will both build a primary and a secondary school in the following order of priority:*

1. *Minor markets with school s that satisfy*

$$\frac{1}{2}\left(J + \sqrt{v_r} - \frac{v_s - v_r}{J - \sqrt{v_r}}\right) + 2\eta\sqrt{v_r^h} > (2+2\eta)\sqrt{v_r},$$

   in the descending order of J, as well as major markets with school s that satisfy

$$J < 2\sqrt{v_r^h} + \sqrt{v_s}$$

   in the ascending order of J.

2. *Major markets without s, minor markets without s, and major markets with s that satisfy $J \geq 2\sqrt{v_r^h} + \sqrt{v_s}$.*

3. *Minor markets with s that satisfy*

$$\frac{1}{2}\left(J + \sqrt{v_r} - \frac{v_s - v_r}{J - \sqrt{v_r}}\right) + 2\eta\sqrt{v_r^h} \leq (2+2\eta)\sqrt{v_r}.$$

In the first step, if the school has to pick and choose due to low budget, it will arrange the minor markets in descending order of J and the major markets in ascending order of J, and then compare the top options of both lists. As shown above, this formally corresponds to comparing

$$\frac{1}{2}\left(J_m + \sqrt{v_r} - \frac{v_s - v_r}{J_m - \sqrt{v_r}}\right) \text{ and } 2\sqrt{v_r} - \eta\left(J_M - 2\sqrt{v_r} - \sqrt{v_s}\right).$$

Lemma 4 impacts the choice of primary curriculum for r. Recall that we assume $x_r^h = J - \sqrt{v_r^h}$. When r expects to build a secondary school in the same market as a primary school, the primary curriculum cannot be too low (in order to maximize secondary enrollment. Specifically, x_r should satisfy

$$x_r \geq x_r^h - \sqrt{v_r^h} = J - 2\sqrt{v_r^h}.$$

If this does not hold, r will be losing some of its least religious primary graduates when it comes to the secondary enrollment. This changes the analysis in Stage 3 of the baseline model as follows:

- In markets of type (2) (without s), r must pick $x_r \in [\max\{\sqrt{v_r}, J - 2\sqrt{v_r^h}\}, J - \sqrt{v_r}]$, as opposed to $[\sqrt{v_r}, J - \sqrt{v_r}]$. This potentially shifts the set of optimal curricula upwards (in a weak sense), since the lower bound of the set may increase from $\sqrt{v_r}$ to $J - 2\sqrt{v_r^h}$, provided that J is large enough.
- In major markets of type (3) (with s), r must pick $x_r \in [\max\{\sqrt{v_s} + \sqrt{v_r}, J - 2\sqrt{v_r^h}\}, J - \sqrt{v_r}]$. Once again, the set of optimal curricula weakly shifts upwards as its lower bound may increase from $\sqrt{v_s} + \sqrt{v_r}$ to $J - 2\sqrt{v_r^h}$, provided that J is large enough.
- In minor markets of type (3) (with s), there is no change. The optimal primary curriculum is still $x_r = J - \sqrt{v_r}$.

Interestingly, Lemma 4 changes the incentives of school s. Previously, it would prioritize entering major markets and the largest of the minor markets first. Now, it has a strict incentive to avoid entering the largest of the minor markets because the religious school is going to prioritize entering those if it sees s in them. Instead, it will prioritize markets in the following order.

Lemma 5. *School s will build its primary schools in the following order of priority:*

1. *Major markets, as well as minor markets that do not satisfy*

$$\frac{1}{2}\left(J + \sqrt{v_r} - \frac{v_s - v_r}{J - \sqrt{v_r}}\right) + 2\eta\sqrt{v_r^h} \leq (2 + 2\eta)\sqrt{v_r},$$

   in any order.

2. *Minor markets that satisfy this condition, in the descending order of size.*

Thus, s first prioritizes major markets and the smaller of the minor markets, and only then it goes back to the largest minor markets, if it has leftover budget.

Note that if the schools share any market, it again must be the largest of the minor markets. The exact number of shared markets depends on budget S first and foremost, and on budget R next.

Let m_{cond} be the number of minor markets that satisfy the condition

$$\frac{1}{2}\left(J + \sqrt{v_r} - \frac{v_s - v_r}{J - \sqrt{v_r}}\right) + 2\eta\sqrt{v_r^h} > (2 + 2\eta)\sqrt{v_r}.$$

The next lemma details the number of minor markets that r and s will share and compete in. Note that it is possible for the schools to share major markets without competing, i.e. impacting each other's attendance.

Lemma 6. *Schools s and r do not share any minor markets if $S \leq N - m_{cond}$. Otherwise, the schools share the number of the largest minor markets equal to*

$$\min\left\{m_{cond};\ S - N + m_{cond};\ \frac{1}{2}R\right\}.$$

To understand this lemma, note that if S exceeds the number of markets that are not minor markets satisfying the condition above, it means that s will enter $S - N + m_{cond}$ or m_{cond} of those markets, whichever is lower. That is also the exact number of markets s and r will share, unless r does not have the budget to fill them all with a primary and a secondary school (which would happen if $\frac{1}{2}R$ is smaller).

C Oral History Accounts of School Construction in the 1970s

We conducted qualitative field visits to better understand the contexts, institutions, and history of local education markets at the time of SD INPRES, purposively focusing on the Islamic sector's response to the program. In total, we reconstructed from local interviews the histories of 9 SD INPRES schools, 33 elementary *madrasa* (MI), 14 junior secondary *madrasa* (MTs), 4 senior secondary *madrasa* (MA), 4 boarding schools (*pesantren*), and 6 Qur'anic afternoon (*madrasa diniyah*) established in 1973 or later. This appendix provides further background on these oral history accounts.

C.1 Setup

Site Selection. We selected the location for our qualitative interviews using the following considerations: (i) the historical importance of Islamic schooling in the area, and (ii) *madrasa* and SD INPRES construction activities between 1973–80. Our field locations included the districts of Sijunjung in West Sumatra province and Lamongan and Gresik in East Java province.

We selected West Sumatra based on a review of the secondary literature in Indonesian, Dutch, and English. Historical accounts of Islamic education in Indonesia highlight its deep roots in the region, reflecting its history as one of the first areas to be Islamized due to early contacts with Muslim traders from the Arabic Peninsula and India. Steenbrink (1986) noted that Adabiyah School, the first "modern" *madrasa* in Indonesia, was built in 1907 in Padang Panjang, West Sumatra. In addition, village-level data recorded as many as 51 SD INPRES schools in the district. Interviews were conducted in Fall 2021.

On the other hand, Lamongan in East Java stands out as one of the districts with the most *madrasa* constructions between 1973–80. In this period, Lamongan experienced the most constructions of Islamic junior secondary (MTs), the third-most of Islamic senior secondary (MA), as well as substantial numbers of Islamic elementary (MI) constructions (18 MTs, 7 MA, 87 MI). As a result, Lamongan had 0.39 more *madrasa* (across all levels) constructed per 1,000 children than the median district (0.32 more MI, 0.06 more MTs and 0.02 more MA). Interviews were conducted in Lamongan and neighboring Gresik district between October-November 2021.

Respondent Selection. We targeted respondents using snowball sampling. We instructed our local assistants to identify the following individuals for possible interviews: SD INPRES teachers or principals when the school was first established, *madrasa* teachers or principals at time of establishment, or community leaders (including village heads and subdistrict heads) who were in office during the construction period. Reaching the original *madrasa* founders typically required several interactions with intermediaries. Respondents were 69 years old on average.

C.2 Key Lessons

1. SD INPRES and *Madrasa* Compete on Location and Content. The first finding from our oral histories was that SD INPRES and elementary *madrasa* built between 1973–80 tend to operate in close geographical proximity to each other. Several villages had both types of schools constructed less than one kilometer apart from each other; occasionally the two schools were a few dozen meters apart. Constructions of new elementary *madrasa* tended to closely track the timing of SD INPRES construction.

One of the SD INPRES schools we located was described as having been strongly opposed by local religious leaders, who would frequently mention it during Friday prayers and subsequently mobilized the community to build a MTs. In this case, the SD INPRES itself competed back by providing free uniforms to students. One striking anecdote mentioned to us was that religious leaders would often refer to SDN (*Sekolah Dasar Negeri*, i.e., public primary school) as "schools in hell", using a wordplay on the

Indonesian acronym. Finally, we recorded instances of (i) failed attempts to merge the SD INPRES with the local MI, after pushback from local chapters of large Islamic organizations (*Nahdlatul Ulama* (NU) and *Muhammadiyah*), and (ii) cheating in national exams orchestrated by SD INPRES and MI instructors as part of the ongoing competition between both types of schools.

Neighboring SD INPRES and elementary *madrasa* also competed on the content and organization of schooling. A local religious leader (known colloquially as *kiai*) who established an MI openly declared competition with the new SD. The kiai *"already had many students, the children in the neighborhood all went there. But when the SD was built he reacted like that. He felt the competition, because his school is located close with the SD."* In that same village, the SD INPRES initially had high enrollment, but this enrollment dwindled—by the mid 1990s, the school only had six pupils left. *"The reason was that over time the community felt that the portion of religious teaching in the SD was inadequate for the children."* In this and other cases, combining formal education in the state (SD) school with Islamic teachings in the early morning or the late afternoon was a solution adopted by many families: *"the elders and youths of the village discussed this and agreed to hold extra religious classes prior to the normal school day. The school day was made to start at 5:30am so they could have extra religious classes before normal school started at 7 am."* The *kiai "then built a kindergarten in the village, with the hope that the kindergarten graduates go to MI, not the SD INPRES."*

Competition to attract students transitioning across instruction levels was also salient in our interviews. In one instance, an SD INPRES instructor affiliated with NU encouraged all SD INPRES graduates to transition into the local MTs. Most MI graduates chose to continue their education in the nearest MTs, especially when the schools were run by NU or *Muhammadiyah*. While others chose to transition to the nearby *pesantren*, few students were said to have chosen the nearby SMP (junior secondary public school) because *"they deemed the religious education there was lacking."* Other *Nahdliyin* (NU-affiliated) community members reported preferring educational institutions that offer a 70% religion / 30% general curriculum mix. A respondent affiliated with an MTs stated: *"To me, the curriculum from the government rather made the religious lessons fewer, because they add the numerous general subjects. We offer Fiqh, Alquran Hadits, Aqidah Akhlak, and others. The madrasa's curriculum is roughly balanced between religious subjects and general subjects."*

2. *Waqf* Contributions Supported Fixed Setup and Variable Operating Costs. New *madrasa* constructions were usually funded through donations from wealthy community members. In one case, *"the founders and administrators personally approached the Hajji [local elites who had made the pilgrimage to Mecca]. She had a lot of land, in the neighboring village a lot of land, in this village also a lot of land, she had land everywhere. Unfortunately she did not have any children, maybe she didn't know whom to leave the land to. We asked for land to build a school. Thank God, she agreed immediately."*

Constructing and launching a new *madrasa*, however, was a substantial effort that often required makeshift solutions in the short run: *In its first years, the madrasah used the space at the mosque for its classroom activities. Only in 1985 did the madrasa build its own permanent building on a land waqf endowed by . . . a local community leader who was moved to give some of his land for the constructions."*

Other community members contributed progressively through cash *waqf* auctions. This mechanism was described to us as follows: *"The land for the madrasa building was the property of one of the rich villagers which was bought communally using 'waqf auction'. This is similar to common waqf that has land as its object, but to participate in the waqf, the waqif* [waqf administrator] *from local community bought it in an auction. The price was set at IDR 1,500 per square meter* [roughly USD 1/square meter]. *The waqif voluntarily bought the parcel according to their abilities."* Prices recorded in these auctions varied across villages; in another village the price point was IDR 5,000 per square meter.

Finally, even the less well-off families were asked to contribute to the local fundraising effort: *"In this community in the old days, every harvest, a portion of the revenues was given to the madrasah. They themselves decided how much they could afford and they were keen to give. These were routine for years."* Farmers were

among the first mobilized: *"Every harvest—our biggest harvest was peanut—the children helped their parents for the harvest. The NU-affiliated Muslim women helped us collect the harvest donation for the madrasah."* These contributions would then mean that parents who enrolled their children in the *madrasa* were exempt from paying any fees: *"Here was the calculation: how much an agricultural laborer earned in two mornings, that's their contribution for their children. For a ploughman, how much did he earn plowing the rice fields for two days, that's what he gave to the madrasah. For a sawman, his earnings in two days was what he paid. Every child paid different amounts, because their parents' earnings were also different."*

3. *Golkar* Intervention in Education Markets. Finally, we uncovered anecdotal evidence consistent with SD INPRES allocation being used for political motives. In one instance, an SD INPRES planned in one village was moved to a different village after *Golkar* failed to win the election locally. Meanwhile, *madrasa* administrators faced various pressures from *Golkar* members to facilitate enrollment in the local SD INPRES. A *madrasa* teacher active since the 1970s shared with us: *"Once the village head came to visit me to ask the MI to 'share' its students with the newly built SD INPRES. Incidentally the village head is a Golkar man, so surely he sided with the SD. I told him that the decision of where children go to school is not my decision, but the decision of the child with their parents, a family decision. I did not dictate it nor should it be the village head's business."* We recorded other instances of MI and MTs teachers being pressured to join GUPPI (the Association for the Improvement of Islamic Education taken over by Suharto's *Golkar* partisans), to participate in local *Pancasila* seminars, and to join or publicly support *Golkar*. One surviving MI founder reported feeling that his school had been ostracized by the New Order government because of the school's affiliation with NU, which was seen back then as a hotbed of support for *Masyumi*, a major Islamic political party banned in 1960 under Sukarno.

D Data Sources and Construction

We describe here the main variables and data sources used in the paper.

Education: Survey and Administrative Data

Surveys. We measure years and type of schooling using the annual National Socioeconomic Survey (*Susenas*) from 2012, 2013, 2014, 2016, 2017, and 2018. These enumerate schooling measures for all household members and also record the birth district for each, which we merge with the district-level INPRES intensity measure collected by Duflo (2001). We additionally use Islamic school attendance data from the Indonesia Family Life Survey (IFLS) in 1993, 1997, 2000, 2007, and 2014. The IFLS is too limited geographically for our econometric analysis, but we use it for descriptive purposes in Table A.14 and elsewhere in the text.

Susenas reports the type of education (Islamic or secular) for the final level of schooling certification (primary, junior secondary, and senior secondary) as well as the final year of schooling attended if falling between certification levels. Our measure of Islamic schooling is based on the union of these two, but results are nearly identical when restricting to final level certified or final level attended. For example, some individuals report completing secular primary school and attending two years of Islamic junior secondary but not completing the full three years at that level. Our approach identifies this individual as having secular primary school and, separately, Islamic junior secondary school.

Registries. We use data from numerous administrative sources provided by the Government of Indonesia. Table A.14 used data on total non-*pesantren* enrollment in 2019 from the Ministry of Education (MEC) and Ministry of Religious Affairs (MORA) as reported at the following website: `http://apkapm.data.kemdikbud.go.id` (accessed March 22, 2020). *Pesantren* enrollment in 2019 is computed from school-level records that we scraped from the MORA portal: `https://ditpdpontren.kemenag.go.id/pbsb/` (accessed November 15, 2018). These records also indicate the district and year of establishment for each *pesantren* (see Bazzi et al., 2020, for additional details).

Data on *madrasa* come from MORA registries provided to us by MORA officials in August 2019 and January/February 2020.[1] These include village, district, and year of establishment for all formal *madrasa* (primary, junior secondary, and senior secondary) as well as informal *madrasa diniyah*. The latter are entirely privately-run. The former are majority private with a small fraction (around 8%) that are publicly-run by MORA. Overall, 6% of *madrasa* and 22% of *pesantren*, respectively, have missing establishment years. This missing-ness is uncorrelated with SD INPRES intensity.

Data on non-Islamic schools come from a MEC registry known by its Indonesian acronym *Dapodik*.[2] These data include village, district, and year of establishment for all formal schools not administered by MORA. These include 166,257 publicly-run schools and 52,888 privately-run schools. Among the latter, 10,919 schools have Islamic names, indicating that they are likely religious schools operating under the MEC instead of MORA. These schools are subject to different regulations on curriculum and also have access to other sources of state funding than the Islamic schools under MORA oversight. We distinguish secular from Islamic-named private schools in the MEC data by identifying the latter as having any of the following terms appearing in the school name: Islam, Darussalam, Darul, Muhammada, Salam, Sunna, Kuran, Jihad, Umma, Madrasa Halal, or Imam. We use this distinction to examine private secular schools in Appendix Figure A.2.

[1] We are grateful to the following individuals for graciously sharing these data: Dodi Irawan, Aziz Saleh, Dr. Abdullah Faqih, and Doni Wibowo.

[2] We are grateful to Wisnu Harto Adiwijoyo for graciously sharing these data.

In addition to the main district-level data constructed from the above registries, we also built a village-level panel. We use the 2018 *Podes* dataset listing all villages in Indonesia as the master. We match this database by successively using a fuzzy merge with the *Dapodik*, MORA *madrasa*, MORA *diniyah*, and *pesantren* data. The *Dapodik* and MORA *madrasa* data record the village name where the school is located, while the *diniyah* and *pesantren* datasets have address fields to identify the location of each establishment. The fuzzy merge uses province code, district name, subdistrict name, and village name with a high matching score threshold (0.95) and required match on province code and district name. We were able to match 80% of villages in *Dapodik* and 84% of villages in MORA *madrasa* data. For *diniyah* and *pesantren*, we use village names extracted from its full address after pre-processing the address string with extensive regular expressions. We are able to match 62% of villages in the *diniyah* dataset and 66% of villages in the *pesantren* dataset.

We measure curriculum content at the school–grade level using data from the Sistem Informasi Aplikasi Pendidikan (SIAP) registry of schools. We scraped data from this registry's online portal over several months in Fall 2019: http://siap-sekolah.com/. As of April 2020, SIAP only included detailed curriculum timetables for *madrasa*. We link these *madrasa* to the MORA registry using school IDs reported in both sources. The SIAP report detailed course timetables for every hour of every schoolday in a typical week for the 2018–2019 academic year. There are over 3,000 distinct course titles with many being (spelling) variations on the same topic. We coded up each course as being Islamic or non-Islamic and also identified courses associated with civic education and *Pancasila*, which are known by their Indonesian acronym of PPKN. These course codings are available upon request. SIAP includes data for around one-fifth of all *madrasa*, but as noted in the text, this selective reporting likely works against our core findings with respect to INPRES intensity.

We measure test scores using data collected by the MEC on the national exam scores in 2014 for science and math. We scraped these data in March 2015 from the MEC portal: http://referensi.data.kemdikbud.go.id. We link these data to the *Dapodik* and MORA registries using school IDs available across datasets.

Electoral Outcomes: Vote Shares and Legislative Candidates

Vote Shares. First, we draw upon district-level vote shares by party from the national legislative elections in 1971, 1977, 1982, 1987, 1992, 1999, 2004, and 2009. These data were graciously shared with us by individuals that worked with Dwight King. In 1971, one observes the following Islamic parties: NU, PSII, Perti, and the Muslim Party of Indonesia (*Partai Muslimin Indonesia* or Parmusi). From 1977 to 1992, the only Islamic party was the United Development Party (*Partai Persatuan Pembangunan* or PPP), which was forged out of a forced merger of the four Islamic parties contesting the 1971 election. We study the vote shares for the PPP and the Suharto regime party, *Golkar*.

Legislative Candidates. We use data on the universe of legislative candidates in the 2019 election. Thanks to Nicholas Kuipers for scraping and sharing these data from the Indonesian Electoral Commission: http://www.kpu.go.id/. These include candidates for national, provincial, and district legislatures. We use information on candidate age, district, and party ticket. We also categorize their campaign motivation and platform statements as appealing to Islamic themes as reflected in the following words: *umma*, *dawah*, Muslim, Islam, *sharia*, and jihad. We separately classify appeals to nation building as reflected in the following words: *Pancasila*, Indonesia, NKRI, *bangsa* (nation), *bhinneka* (diversity), and *satuan* (unitary). The latter three terms are staples in the nation-building corpus of Indonesian leaders and literature. NKRI is an acronym for the Indonesian homeland in a popular nationalistic slogan.

Linguistic Proxies for Identity

We proxy for national identity using an indicator of whether an individual speaks the national language, *Bahasa Indonesia*, as his/her main language at home (instead of his/her native ethnic language). This is distinct from Indonesian speaking ability, which we also observe. These data—along with religion, age, and district of birth—are recorded in the complete-count 2010 Population Census, which we obtained from the Harvard Library.

We view Arabic language proficiency as one indicator of Islamic identity. The *Susenas* data described above record literacy in Latin, Arabic, and other alphabets.

Religiosity and Religious Political Preferences

We use rich individual-level survey data from Pepinsky, Liddle and Mujani (2018), which is based on a 2008 survey conducted by the authors in which 10 individuals were sampled from each contemporary district. These data include individual age, religion, years and type of education, a host of questions on Islamic piety, practice, and political preferences. Seven Islamic practices are explored in Table 8. The survey also record dimensions of support for Islamic law (*sharia*) and religious politics more generally. We also use a measure of stated support for *Pancasila*.