

Religion, Education, and the State

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Education, Religion, and the State

- In the course of economic development, states build up the capacity to provide public goods and services across many sectors.
- But incumbent **informal providers** often **resist** state efforts to take over & formalize public goods provision:
 - religious courts, traditional medicine, stationary bandits...

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- But incumbent **informal providers** often **resist** state efforts to take over & formalize public goods provision:
 - religious courts, traditional medicine, stationary bandits...
- One major example: **mass schooling reforms**
 - state-mandated education is a recent historical phenomenon
 - often a source of **tensions** with the Church (“school wars”)
- How do **religious schools respond** to mass schooling?
 - competitive response: ‘sand in the wheels’ of educational expansion
 - can undermine **ideological** impacts of public education

This Paper: Religious Education and Nation Building

- **Enduring importance of Islamic schools in Indonesia**
 - historically: Islamic orgs and leaders were key education providers
 - today: >20% of students enrolled in Islamic schools

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 - today: >20% of students enrolled in Islamic schools
- *Sekolah Dasar INPRES*: 61,000 new public primary schools in 1970s
 - literature since Duflo (2001) focuses on human capital consequences
 - less attention given to ideological/political aspects of the policy
 - **homogenization** and **secularization** of national education
- *We study the response of Islamic schools* to rise of mass schooling
 - complementarities, differentiation, formalization
 - downstream effects on ideology, identity, and nation building

Main Findings

1. **INPRES did not crowd out Islamic schools**

↑ Islamic schools at all levels in high-INPRES districts

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↑ secondary Islamic school attendance (**demand**)

⇒ overall **net positive** effect on **Islamic school attendance**

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3. Muted impacts of mass schooling on nation building

○ no increase in support for Suharto regime, secular ideology

↑ **Islamic piety** and religious identity

↑ intergenerational **transmission** of religious values

Contributions and Related Literature

1. Formalization of Service Provision

- resistance of informal providers (Weber 1922; Tilly 1975)
- justice (Acemoglu et al 2020), health (Lowes & Montero 2019), policing ...

→ we study how a developmental state takes over the provision of education

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2. Religious School Choice and Cultural Impacts

- public/private competition (Bau 2019; Muralidharan & Sundararaman 2015)
- religious education (Altonji et al 2005; Andrabi et al. 2006, 2017)
- culture and ideology (Cantoni et al 2017, Fouka 2020)
- nation building (Alesina et al 2019) and development (Squicciarini 2019)

→ competition shapes cultural and ideological impacts of mass schooling

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3. Legacy of INPRES in Indonesia

- returns to education (Duflo 2001; Akresh et al 2018; Ashraf et al 2020)
- broader impacts (Duflo 2004; Martinez-Bravo 2017; Rohner & Saia 2019)

→ we look at Islamic sector response, cultural backlash & nation building

Roadmap

Context and Data

Conceptual Framework

Supply side: Entry and differentiation

Islamic school choice

Nation building

Conclusion

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Islam and Education Policy in Indonesia



*Most pesantrens and madrasahs ran their educational institutions **independently**, designing the educational content (mainly religious subjects) based on the expertise of their individual leaders known as the kyai. (Zuhdi, 2006)*

Islam and Education Policy in Indonesia



*Public education was viewed as a **key medium for promoting national unity** and national values—first, through **instruction in Pancasila**, and next through instruction in **the national language**, Bahasa Indonesia... (World Bank, 1989)*

*Muslim leaders interpreted that the Presidential Decree was intended, among other things, to **weaken the status of the Islamic educational institutions**. (Zuhdi, 2006)*

Islam and Education Policy in Indonesia



History of tension between Islamic sector and secularizing state

- 1945: establishment of secular state education under MEC
- 1958: first failed reform attempt under Sukarno
- 1973-75: tensions around INPRES; “Three-Minister Agreement” [timeline](#)
- Islamic “sector” a decentralized mix of independent & institutional actors

Islamic Schools and Curriculum Today

Religious schools

1. ***madrassa*** (formal day schools): 53k in 2019
 - aligned with state system: primary (6 yrs), jun sec (9), sen sec (12)
 - Islamic subjects: **26%** of instruction hours (std. dev. 6%)
 - ▶ *fiqh* (law), *hadith* (traditions), doctrine, history, Arabic
 - primary attendance **13%**, jun. sec. attendance **23%** (admin 2019)
 - fees & other costs comparable to public schools, ≪ private
2. ***pesantren*** (informal boarding schools): 26k in 2019
 - greater independence from state oversight; not aligned w/ state system
 - variation in ideology but often more religious instruction than *madrassa*

Secular schools: 220k in 2019; 76% public

Islamic School Attendance

Across Datasets

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

New Survey and Administrative Data

1. **Administrative data:** registries with **universe of schools** in 2019
 - o MORA: 52k *madrasa*, 26k *pesantren*
 - o MoE: 219k non-Islamic schools (*sekolah*)
2. **Survey data** with info on **Islamic school attendance**
(not available in the *Supas* 1995 data used by Duflo 2001)
 - o 6 rounds of the National Socioeconomic Survey (*Susenas*), 2012–2018
pro: sufficient geographic coverage relative to IFLS
con: only observe final level of education;
underreporting of Islamic school type
3. **Curriculum:** *Sistem Informasi Aplikasi Pendidikan* (SIAP)
 - o detailed curriculum timetables in 2019 for subset of *madrasa*
4. **Nation-building outcomes:** ideology and religiosity
5. **Oral history survey** of 72 schools constructed during INPRES era

Madrasa Oral History Survey

Setting

- Original **oral history** of 72 Islamic and public schools constructed during the SD INPRES era:
 - Formal Islamic schools: 33 elementary (MI), 18 secondary (MTs+MA)
 - Informal Islamic schools: 4 *pesantren*, 6 *madrasa diniyah*
 - 10 SD INPRES schools built between 1973-78
- 2 provinces: E. Java (Gresik, Lamongan) & W. Sumatra (Sijunjung)
- Snowball sampling to locate surviving school founders, school principals, and teachers who witnessed SD INPRES
- Qualitative window into the legacy of competition between 2 sectors

Madrasa Oral History Survey

Findings

1. INPRES and *madrasa* competed on location and content
 - SD INPRES and *madrasa* often few dozen meters apart
 - Multiple dimensions of competition: uniforms, schooling hours, etc.
 - SD(N) schools derided as *sekolah dalam neraka* or “**schools in hell**”

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2. **Political** dimension of SD INPRES
 - MI, MTs teachers asked to join the regime-controlled GUPPI
 - *madrasa* pressured to close when associated with NU/Masyumi
 - “*The village head asked the MI to share its students with the new SD INPRES. Incidentally the village head is a Golkar man.*”

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 - “*The village head asked the MI to share its students with the new SD INPRES. Incidentally the village head is a Golkar man.*”
3. *Madrasa* funded through **informal taxation** & *waqf*
 - “*In this community in the old days, every harvest, a portion of the revenues was given to the madrasah.*”

Madrasa Oral History Survey

Funding new Islamic schools

*“this madrasa used the village mosque as its classrooms. ‘At that time, the mosque’s walls were made of bamboo, we used it for the madrasa, too...’ Several years later, due to intensive approaches of the madrasa founders, one of the richest persons who was also the village head **gave his land to a waqf for the madrasa.**”*

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*“There was an appeal for donations in cash or kind, and the wealthier santri showed their customary willingness to set an example for the poorer villagers by allocating set percentages of their rice harvest ... would-be hajj pilgrims were told to **devote their savings to a godly purpose which was closer to home** and more apparently capable of early fulfillment.” (Orr et al. 1977)*

Roadmap

Context and Data

Conceptual Framework

Supply side: Entry and differentiation

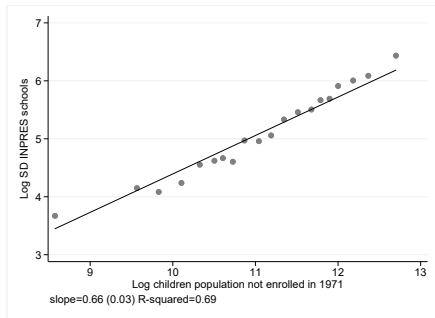
Islamic school choice

Nation building

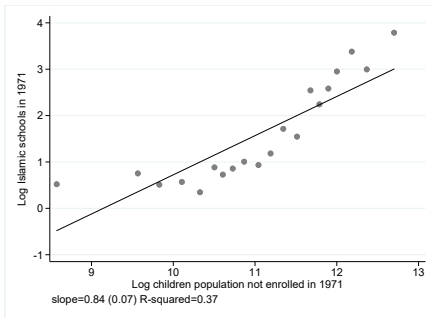
Conclusion

Understanding SD INPRES School Allocation

Policy Rule



Baseline presence of Islamic schools



Panel (a) illustrates the government's policy rule: SD INPRES school construction is proportional to the population of children not enrolled in 1971.

Panel (b) shows the log of Islamic schools in 1971 regressed on the log population of children not enrolled in 1971.

Conceptual Framework

We use a stylized model to guide the analysis:

1. The **state** builds public schools across a range of different markets
 - Objectives: $\uparrow$ enrollment, $\downarrow$ religious influence
2. **Religious actors** decide which markets to enter
 - Objectives: $\uparrow$ enrollment, $\uparrow$ religious influence
3. Each religious school sets **curriculum** in each market where it entered
4. **Students** in each market decide which elementary school to attend
 - Heterogenous preferences + Hotelling competition
5. Elem. school graduates decide whether to attend a **secondary** school

Conceptual Framework

Setup

- 2 types of schools s (state) and r (religious)
- N markets hosting a unit mass of students with heterog. preferences
- On each market preferences are uniformly distributed over $[0, J_n]$
- Student i has preferences $\rho_i \in [0, J_n]$ and receives utility $u_{i(k)}$ from attending school k :

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

- x_i is the curriculum provided to student i , v_k denotes school quality
- s must set $x_s = 0$ (secular), r chooses where to locate s.t. $x_r > 0$
- A school must pay a fixed cost of 1 to enter a market
- State budget $S < N$, religious sector budget $R = \alpha N$, $\alpha \in (0, 1)$

Conceptual Framework

Timing

Timing:

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

Conceptual Framework

Solution in the baseline case

Solving by backwards induction:

1. In **stage 4**, students choose to attend s over r iff

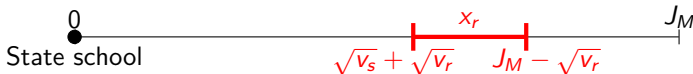
$$(v_s - v_r) \geq x_r(2\rho_i - x_r)$$

2. In **stage 3**, r 's curriculum choice depend on local preferences and the presence of a state school
 - choice most constrained in crowded markets with a state school
3. In **stage 2**, r prioritize large markets & markets not served by s
4. In **stage 1**, s schools will also prioritize large markets. In the general case where s and r are not too budget constrained, they both enter all large markets and split small markets in a non-overlapping way.

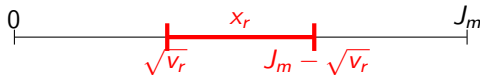
Conceptual Framework

Entry & curriculum choice before mass schooling

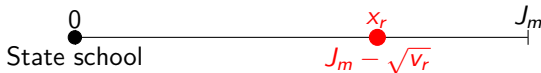
1. Heterogeneous markets with a state school:



2. Homogeneous markets with no state school:



3. Homogeneous markets with a state school:



Conceptual Framework

Budget windfall

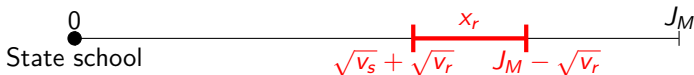
Consider an exogenous increase in the tax base, leading to $S = N$:

- s can cover **all markets** r schools now enter $\lfloor \alpha N \rfloor$ markets.
- If there are many major markets, r enters as many major markets as it can afford. Otherwise, all major markets and $\lfloor \alpha N \rfloor - m$ of the largest minor markets, and this is a unique equilibrium.
- The total number markets served by r schools **increases** by $\lfloor \alpha N \rfloor - \lfloor \alpha S \rfloor$. Some markets experience entry by both s and r .
- The budget windfall also affects **curriculum choice**:
 - In major markets not previously served by the state, the set of optimal curricula shifts upward
 - In minor markets, all less religious curricula are eliminated, and the only optimal choice is the previous upper bound $x_r = J - \sqrt{v_r}$.

Conceptual Framework

Entry & curriculum choice after mass schooling

1. Heterogeneous markets:



2. Homogeneous markets:



Conceptual Framework

Main predictions

1. Before mass schooling: **market segmentation** between public and religious schools:
 - Religious sector prioritizes areas underserved by the state
 - Heterogeneous markets most likely to support both types of schools
 - Religious curriculum choice most constrained in split markets
2. **Budget windfall** allows the state to enter all markets
 - Religious schools must adopt more religious curricula
3. **Secondary schooling** affects optimal placement of primary schools
 - Religious schools more likely to locate close to state schools

Roadmap

Context and Data

Conceptual Framework

Supply side: Entry and differentiation

Islamic school choice

Nation building

Conclusion

Entry of Islamic Schools

Empirical Strategy

We estimate the following DID on a balanced district-year panel:

$$y_{jt} = \theta_j + \theta_t + \beta INPRES_{jt} + (\mathbf{X}'_j \boldsymbol{\theta}_t)' \boldsymbol{\eta} + \varepsilon_{ijt}$$

- y_{ijt} : # Islamic schools (per 1,000 kids) built in district j in year t
- $INPRES_{jt}$: elem. public schools per 1,000 children after 1972, 0 before
- $\mathbf{X}_j \boldsymbol{\delta}_t$: interactions of year FE with child population, school enrollment, water/sanitation program exposure in 1971 + baseline Islamic school presence (MI, MTs, MA, *pesantren*)
- Standard DID + **synthetic DID** (Arkhangelsky et al 2021)

→ identifies differential **entry** of Islamic schools in high-INPRES districts

Village-Level Entry

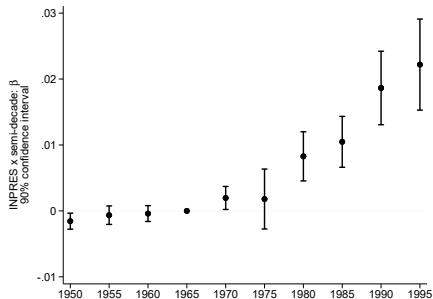
Event study design at the **village** level:

$$y_{vt} = \theta_v + \theta_t + \sum_{\tau=-5}^{10} \gamma_{\tau} \text{INPRES}_{v,t-\tau} + (\mathbf{X}'_v \boldsymbol{\theta}_t)' \boldsymbol{\eta} + \varepsilon_{vt}, \quad (1)$$

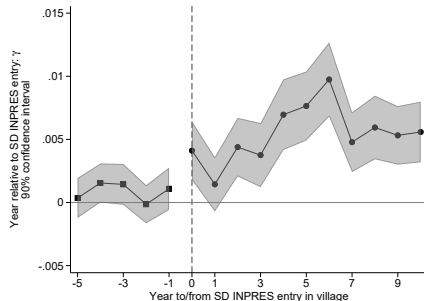
- y_{it} denotes the construction of an Islamic school in village i in year t
- θ_i and θ_t are village and year FE
- $\text{INPRES}_{i,t-\tau}$ is a binary indicator for the number of years until/after the first SD INPRES school is constructed between 1973 to 1978.
- Estimated using Borusyak, Jaravel, and Spiess (2021)

Entry of Islamic Schools

District-Level



Village Level



district: elementary madrasa secondary madrasa madrasa diniyah pesantren

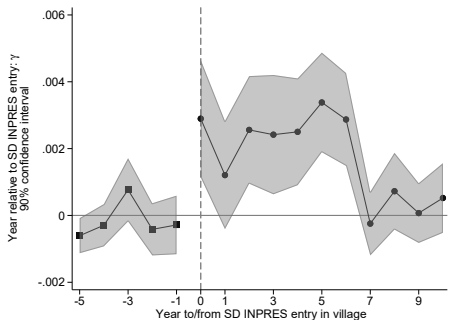
village: elementary madrasa secondary madrasa madrasa diniyah pesantren non-Islamic private balance

standard DID: all Islamic standard DID: elementary Islamic standard DID: secondary Islamic

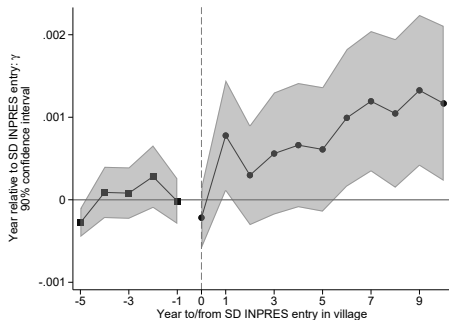
Entry of Islamic Schools

Village Level

Elementary Islamic



Jun. Sec. Islamic



district: elementary madrasa secondary madrasa madrasa diniyah pesantren

village: elementary madrasa secondary madrasa madrasa diniyah pesantren non-Islamic private balance

standard DID: all Islamic standard DID: elementary Islamic standard DID: secondary Islamic

Entry of Islamic Schools

New Islamic schools per 1,000 children

	Formal Madrasa			Informal		All
	Elementary (1)	Junior Sec. (2)	Senior Sec. (3)	<i>Pesantren</i> (4)	<i>Diniyah</i> (5)	Islamic (6)
(a) DID						
INPRES $\times$ post-1972	0.0017*** (0.0005)	0.0016*** (0.0004)	0.0009*** (0.0002)	0.0021*** (0.0005)	0.0041** (0.0016)	0.0105*** (0.0023)
(b) Synthetic DID						
INPRES $\times$ post-1972	0.0034*** (0.0013)	0.0034*** (0.0009)	0.0016*** (0.0004)	0.0043*** (0.0010)	0.0052* (0.0027)	0.0179*** (0.0039)
1959 Islamic Schools $\times$ 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

Notes: Balanced district-year panel. Controls as in Duflo (2001) + baseline Islamic schools. Standard errors clustered by district. Synthetic DID estimation from Arkhangelsky et al. (2021) using a balanced district-year panel. INPRES intensity is discretized at the 51st percentile. Controls as in Duflo (2001) + baseline Islamic schools. Standard errors clustered by district.

Roth & Rambachan Credible CIs

Podes 1980

Additional controls

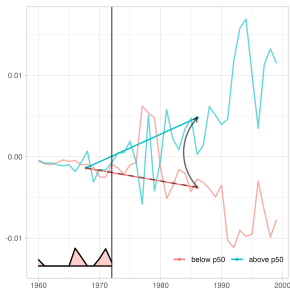
Village-level estimates

Village-level robustness

Entry of Islamic Schools

Synthetic Difference-in-Differences

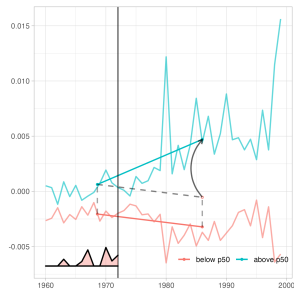
(a) *Madrasa*



(b) *Pesantren*



(c) *Diniyah*



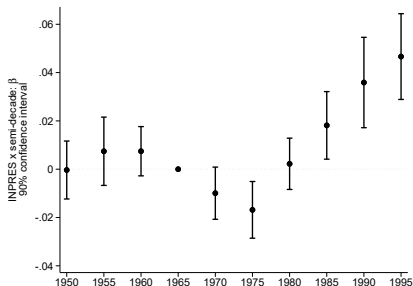
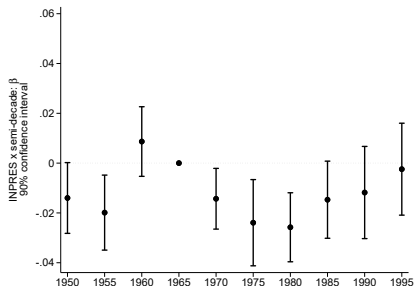
Notes: high-INPRES districts in green, low-INPRES districts in red. INPRES intensity is discretized at the 51st percentile.

Formalization

Formal/Informal Schools as a % of all Entry

(a) Formal Islamic as % of all formal

(b) Informal Islamic as % of all schools



Notes: (a): *madrasa* at all instruction levels built per district-year as a fraction fo all formal schools (including secular public, private, and Islamic schools). (b): *pesantren* and *madrasa diniyah* built per district-year as a fraction of all schools (including formal and informal schools).

Funding New Islamic Schools

Revenue Sources

- Islamic charitable trusts (*waqf*) and a rice boom financed the construction of new Islamic schools

	Formal <i>Madrasa</i>			Informal		All
	Elementary	Junior Sec.	Senior Sec.	<i>Pesantren</i>	<i>Diniyah</i>	Islamic
	(1)	(2)	(3)	(4)	(5)	(6)
1968–1983						
SD INPRES Entry	0.0001 (0.0005)	0.0002 (0.0001)	0.0001 (0.0001)	0.0001 (0.0002)	0.0006 (0.0005)	0.0011 (0.0007)
SD × potential rice yield	0.0023*** (0.0007)	0.0006*** (0.0002)	0.0000 (0.0001)	-0.0000 (0.0001)	0.0011** (0.0005)	0.0041*** (0.0009)
SD × any <i>waqf</i> , predetermined	0.0069*** (0.0012)	0.0007 (0.0005)	0.0004** (0.0002)	0.0006 (0.0004)	0.0023*** (0.0009)	0.0109*** (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

$$\mathbb{P}(\text{entry}_{vt}^s) = \theta_v + \theta_t + \beta_0 \text{SD} + \beta_1 (\text{SD} \times \text{rice yield}_{v0}) + \beta_2 (\text{SD} \times \text{waqf}_{v0}) + \varepsilon_{vt},$$

Crowding Out of Other Islamic Public Goods

Waqf Board data

	Share of Total <i>Waqf</i> 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

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

Curriculum Differentiation

Empirical Strategy

We estimate the following unbalanced district-year panel, 1960–2000:

$$y_{sjt} = \beta(INPRES_j \times Post1972_t) + (\mathbf{X}_j Post1972_t)' \boldsymbol{\Theta} + \delta_s + \delta_j + \delta_t + \varepsilon_{sjt}$$

- y_{sjt} : % weekly Islamic (or other subject) content in 2018–19 in school(-level) s established in district j and year t
- $INPRES_j$: public schools constructed per 1,000 children
- $Post1972$ is a dummy for panel years starting in 1973
- $\mathbf{X}_j Post1972_t$: interactions with child population, school enrollment, and water/sanitation program exposure in 1971

→ identifies **curriculum differentiation** in Islamic schools created in districts with greater INPRES intensity after 1972

nb: interpretation relies on stability of school curricula $\perp$ INPRES intensity

Curriculum Differentiation

Islamic vs. Civics Content

	All Levels (1)	Primary (2)	Jun. Sec. (3)	Sen. Sec. (4)
Islamic Subject Share				
INPRES $\times$ post-1972	0.012* (0.007)	0.013** (0.006)	0.023*** (0.008)	-0.040 (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
Pancasila/Civic Share				
INPRES $\times$ post-1972	-0.001 (0.001)	n/a	-0.003 (0.003)	0.008*** (0.002)
Dep. Var. Mean	0.012		0.060	0.039
Dep. Var. Std. Dev.	0.023		0.008	0.004

language instruction: total hours

curriculum and test score correlations

quality

Curriculum Differentiation

Arabic vs. Bahasa

	All Levels (1)	Primary (2)	Jun. Sec. (3)	Sen. Sec. (4)
Arabic Share				
INPRES $\times$ post-1972	0.002* (0.001)	0.003** (0.001)	0.008** (0.002)	0.017*** (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
Bahasa Indonesia Share				
INPRES $\times$ post-1972	-0.004** (0.002)	0.000 (0.003)	-0.005 (0.004)	0.002 (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

language instruction: total hours

curriculum and test score correlations

quality

Roadmap

Context and Data

Conceptual Framework

Supply side: Entry and differentiation

Islamic school choice

Nation building

Conclusion

Islamic School Choice

Empirical Strategy

We also estimate the standard INPRES DiD specification (Duflo, 2001):

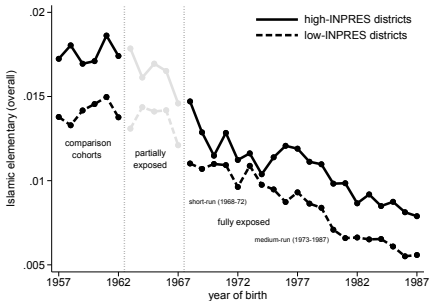
$$y_{ijt} = \alpha + \beta(\text{INPRES}_j \times \text{young}_{it}) + (\mathbf{X}'_j \boldsymbol{\theta}_t)' \boldsymbol{\eta} + \theta_j + \theta_t + \varepsilon_{ijt}$$

- individual i , district of birth j , year of birth t
- INPRES_j : public schools constructed per 1,000 children 1973–78
- $\text{young}_{it} = 1$ for individuals aged 2–6 in 1974, $= 0$ if aged 12–17
- $\mathbf{X}'_j \boldsymbol{\theta}_t$: cohort effects interacted with child population, school enrollment, and water/sanitation program exposure in 1971

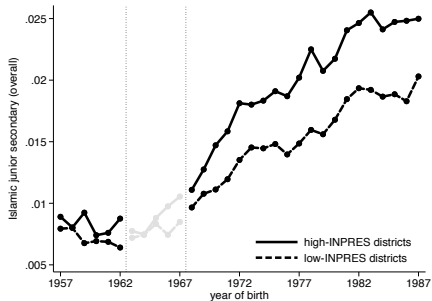
Islamic School Choice

Raw data

Elementary *Madrasa*



Junior Secondary *Madrasa*



senior secondary

any level

Islamic School Choice

↓ elementary Islamic, ↑ secondary Islamic

	Highest Education Level: [...] <i>Madrasa</i>							
	Elementary (1)	(2)	Junior Secondary (3)	(4)	Senior Secondary (5)	(6)	Any Level (7)	(8)
(a) Difference-in-Differences								
INPRES × young	-0.0010** (0.0004)	-0.0010 (0.0006)	0.0018*** (0.0004)	0.0031*** (0.0007)	0.0010*** (0.0003)	0.0018*** (0.0004)	0.0017** (0.0007)	0.0037*** (0.0012)
(b) Synthetic Difference-in-Differences								
INPRES × young	-0.0025*** (0.0008)	-0.0049*** (0.0012)	0.0034*** (0.0008)	0.0031** (0.0015)	0.0020*** (0.0007)	0.0025** (0.0010)	0.0026* (0.0014)	0.0002 (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

repeated cohorts

IFLS

by gender

headscarf ban

Islamic schooling rates

Islamic School Choice

Conditional on completing a given level

	Highest Education Level: [...] <i>Madrasa</i> Graduating at that Level							
	Elementary		Junior Secondary		Senior Secondary		Any Level	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) Difference-in-Differences								
INPRES × young	-0.0017** (0.0007)	-0.0016* (0.0009)	0.0057*** (0.0020)	0.0059*** (0.0021)	-0.0001 (0.0014)	0.0030** (0.0014)	0.0011* (0.0007)	0.0024*** (0.0009)
(b) Synthetic Difference-in-Differences								
INPRES × young	-0.0043*** (0.0016)	-0.0088*** (0.0023)	0.0117*** (0.0044)	0.0027 (0.0060)	-0.0004 (0.0028)	0.0020 (0.0040)	0.0016 (0.0017)	-0.0011 (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	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

selection correction

repeated cohorts

IFLS

by gender

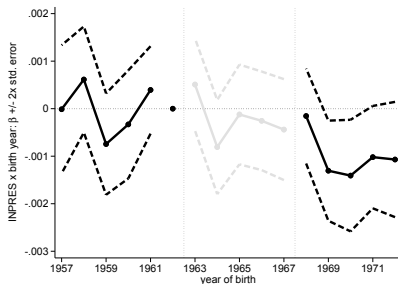
headscarf ban

Islamic schooling rates

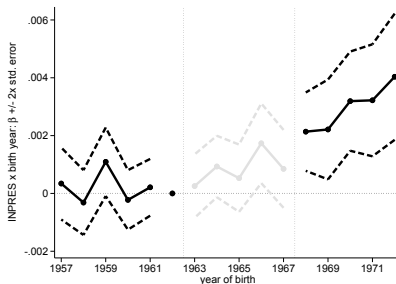
Islamic School Choice

Original Cohorts

Elementary *madrasa*



Secondary *madrasa*



Notes: fully-exposed cohorts in dark gray, partially exposed in white, unexposed cohort in light gray

Medium-run cohorts

Any level *Madrasa*

Synthetic DID

Oral history

Islamic School Choice

Heterogeneity: Baseline Islamic vote

- Stronger Islamic school choice responses in districts with deeper historical support for Islamic politics:

	Years of School		Elementary		Junior Sec.		Senior Sec.		Any	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(a) Ideological Heterogeneity										
INPRES × young	0.1329*** (0.0254)	0.2044*** (0.0358)	-0.0007 (0.0005)	-0.0004 (0.0008)	0.0019*** (0.0005)	0.0032*** (0.0008)	0.0010*** (0.0004)	0.0017*** (0.0004)	0.0021*** (0.0008)	0.0042*** (0.0013)
... × Islamic vote '55	-0.0112 (0.0267)	0.0389 (0.0341)	0.0003 (0.0007)	0.0006 (0.0010)	0.0010* (0.0005)	0.0018** (0.0009)	0.0006* (0.0003)	0.0010** (0.0005)	0.0017* (0.0010)	0.0033** (0.0016)
District × Survey Year	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1957 Schools × Cohort	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1968–72 vs. 1957–62	✓		✓		✓		✓		✓	
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
DV Mean (overall)	7.5	8.4	0.014	0.011	0.011	0.016	0.008	0.012	0.031	0.038

Islamic School Choice

Heterogeneity by Gender

- Smaller gains in years of schooling for exposed women:

	Years of School		Elementary		Junior Sec.		Senior Sec.		Any	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(b) Gender Heterogeneity										
INPRES × young × male	0.1788*** (0.0306)	0.1969*** (0.0359)	-0.0012*** (0.0004)	-0.0013** (0.0005)	0.0017*** (0.0004)	0.0023*** (0.0006)	0.0010*** (0.0003)	0.0020*** (0.0005)	0.0014** (0.0007)	0.0029*** (0.0010)
INPRES × young × female	0.0984*** (0.0288)	0.1921*** (0.0419)	-0.0008 (0.0005)	-0.0006 (0.0008)	0.0020*** (0.0005)	0.0038*** (0.0009)	0.0010** (0.0005)	0.0016*** (0.0005)	0.0021** (0.0008)	0.0045*** (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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1957 Schools × Cohort	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1968–72 vs. 1957–62	✓		✓		✓		✓		✓	
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
DV Mean (overall)	7.5	8.4	0.014	0.011	0.011	0.016	0.008	0.012	0.031	0.038
DV Mean (male)	8.1	8.8	0.011	0.009	0.010	0.014	0.008	0.011	0.027	0.033
DV Mean (female)	6.9	8.2	0.016	0.012	0.011	0.018	0.007	0.012	0.034	0.042

Islamic School Choice

Heterogeneity by Gender

- Islamic schools more likely to attract and retain girls than boys:

	Years of School		Elementary		Highest Education Level: [...] Madrasa		Junior Sec.		Senior Sec.		Any	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
(b) Gender Heterogeneity												
INPRES × young × male	0.1788*** (0.0306)	0.1969*** (0.0359)	-0.0012*** (0.0004)	-0.0013** (0.0005)	0.0017*** (0.0004)	0.0023*** (0.0006)	0.0010*** (0.0003)	0.0020*** (0.0005)	0.0014** (0.0007)	0.0029*** (0.0010)		
INPRES × young × female	0.0984*** (0.0288)	0.1921*** (0.0419)	-0.0008 (0.0005)	-0.0006 (0.0008)	0.0020*** (0.0005)	0.0038*** (0.0009)	0.0010** (0.0005)	0.0016*** (0.0005)	0.0021** (0.0008)	0.0045*** (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	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
1957 Schools × Cohort	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
1968–72 vs. 1957–62	✓		✓		✓		✓		✓			
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		
DV Mean (overall)	7.5	8.4	0.014	0.011	0.011	0.016	0.008	0.012	0.031	0.038		
DV Mean (male)	8.1	8.8	0.011	0.009	0.010	0.014	0.008	0.011	0.027	0.033		
DV Mean (female)	6.9	8.2	0.016	0.012	0.011	0.018	0.007	0.012	0.034	0.042		

Roadmap

Context and Data

Conceptual Framework

Supply side: Entry and differentiation

Islamic school choice

Nation building

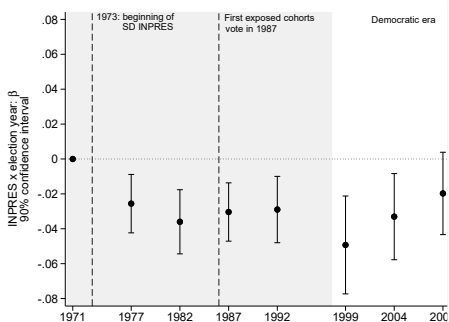
Conclusion

Mass Schooling and Nation Building

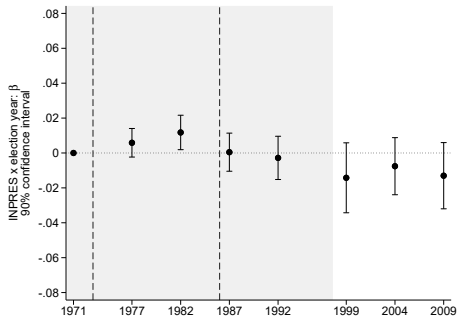
- The Islamic education sector responded by building more schools and increasing religious content at newly created schools
- In light of this, how did INPRES affect **identity** and **nation-building**?
- We examine **four families** of outcomes:
 1. **electoral support** for Suharto regime in 1970s and 80s Suharto era elections
 2. **national & religious identity**: *Bahasa* usage, Islamic practice identity
 3. political **ideology**: secular nationalism vs. Islamism ideology
 4. **intergenerational transmission** of religious values transmission
- **n.b.*: focus on reduced form given many plausible causal pathways

Short-Run Electoral Backlash

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



(b) Islam (United Dev. Party, PPP)



Notes: District-level fixed effects specification. Average *Golkar* vote share is 70%, PPP vote share is 21%.

$$vote_{jt} = \alpha + \beta(INPRES_j \times election_t) + (\mathbf{X}_j election_t)' \Theta + \mu_j + \delta_t + \varepsilon_{jt}$$

Mass Schooling and Nation Building

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 (0.0015)	-0.0029* (0.0018)	-0.0018 (0.0018)	0.0112*** (0.0026)	0.0144 (0.00108)	0.0023 (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 (1)	Fast during Ramadan (2)	Reads the Qur'an (3)	Friday (4)	Prayer: Sunna (5)	Group (6)	Pay Zakat (7)	Index (8)
INPRES × young	0.1344** (0.0604)	-0.0041 (0.0503)	0.0977** (0.0470)	0.1559** (0.0611)	0.0954* (0.0485)	0.0348 (0.0466)	0.0370 (0.0466)	0.0781*** (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: Panel (a): data from population census (1-3) and *Susenas* (4-6). (b): data from Pepinsky et al. (2018).

Mass Schooling and Nation Building

Political Ideology

	(1)	(2)	(3)	(4)	(5)
(a) Citizens					
	<i>Pancasila</i>	Respondent Supports ...		<i>Sharia</i> (Index)	
		Islamic			
		Politics	Economics	Subjective	Objective
INPRES $\times$ young	0.0194 (0.0424)	-0.0005 (0.0875)	0.0365 (0.0615)	-0.0122 (0.0581)	0.0143 (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 $\times$ young	-0.0109* (0.0061)	0.0103** (0.0044)	-0.0106* (0.0059)	0.0028 (0.0023)	-0.0110* (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: Panel (a): data from Pepinsky et al. (2018). (b): campaign manifestos from 2019 legislative elections.

Interpretation: Backlash, Complementarities, or Both?

- Argument for “benign” **complementarities**:
 - Islamic sector filled the void left by the state in secondary education (but explicit coordination unlikely, given decentralization)
 - Islamic schools contributed to overall increase in years of education
- Evidence consistent with **ideological backlash**:
 - negative short-term electoral impact of SD INPRES
 - long-term political selection: ↓ Golkar and ↑ PPP
 - ~ *Bahasa* usage, ↑ religiosity + cultural transmission
 - schools a continual source of tension: conflict in Aceh school fires

Conclusion

- New insights on celebrated **mass schooling** program:
 - short-term effects on school choice
 - dynamic effects on education markets
 - long-term effects on identity and Islamic piety
- **Competition from Islamic schools:**
 - increased post-primary schooling opportunities
 - but, counteracted the nation building impacts of mass schooling
 - ensured the **resilience** of a dual education system
- Contrast w/ other societies (eg, France, Turkey) where secularizing states successfully displaced religious schools during modernization

Thank you!

ADDITIONAL SLIDES

Islam and Education Policy in Indonesia [back](#)

1946: Government establishes secular national education system
religious schools under Ministry of Religion (MORA) authority

1958: failed reform attempt to standardize *madrassa* curriculum [MWB](#)

1972: **INPRES decree** stipulates all formal education must be
administered by Ministry of Education

1975: government recognizes special status of Islamic schools

1984-89: subsequent reforms leave the dual system unchanged

Madrasa Curriculum Proposed Reform, 1958

Curriculum of *Madrasah Wajib Belajar* 1958/1959

No	Subjects	Grade / Hour per-week								Notes
		I	II	III	IV	V	VI	VII	VIII	
1.	Religious Education	6 (21%)	6 (21%)	10 (28%)	10 (27%)	10 (25%)	10 (25%)	10 (25%)	10 (25%)	Grades I and II have 3 study hours for Fridays and 5 study-hours for the rest of the school days.
2.	Language	6	6	8	8	7	7	7	6	
3.	Math	5	5	5	5	5	5	5	5	
4.	Biology	-	-	-	-	2	2	2	2	Grades III and IV have 5 study-hours for Fridays, and 6 for other school-days, except that grade IV has 7 study hours on Mondays and Tuesdays
5.	Physics	-	-	-	-	1	1	1	1	
6.	Geography	-	-	1	2	2	2	2	2	
7.	History	-	-	-	5	1	1	1	2	
8.	Art/Drawing	2	2	1	1	1	1	1	1	Grades V to VII have 5 study hours on Fridays and 7 on the other days.
9.	Writing	2	2	1	1	1	1	1	1	
10.	Music	2	2	1	1	1	1	1	1	
11.	Handcrafting	1	1	1	1	1	1	1	1	
12.	Physical Education	2	2	2	2	2	2	2	2	
13.	Social Education	2	2	5	5	6	6	6	6	
	Total	28	28	35	37	40	40	40	40	

Note:

- 1 study-hour is equal to 40 minutes
- Classes start at 7.30 am and end at 12.30 pm with two 20 minute breaks.

Source: Mohammad Zuhdi, *Political and Social Influences on Religious Schools: A Historical Perspective on Indonesian Islamic School Curricula*, 2006 [back](#)

Qualitative background

“While there was no clear statement concerning the status of the Islamic schools ... Muslim leaders interpreted that the Presidential Decree was intended, among other things, to weaken the status of the Islamic educational institutions. Since the decree did not specifically clarify the status of Islamic educational institutions, they assumed that the government was trying to eliminate these latter through the application of a so-called pendidikan satu atap ('single roof education') policy.”

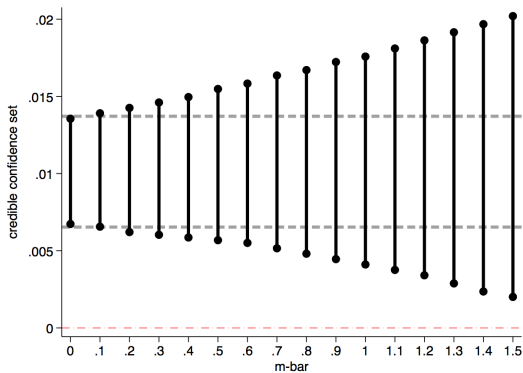
Source: Zuhdi, “Political and Social Influences on Religious School: A Historical Perspective on Indonesian Islamic School Curricula,” 2006, p. 89

Credible Confidence Sets

[back](#)

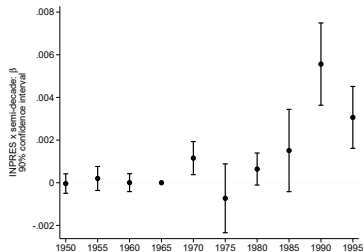
Under Varying Departure from Parallel Trends

All Islamic Schools

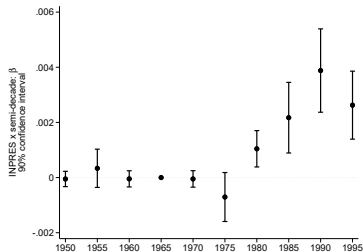


Entry of Islamic Schools [back](#)

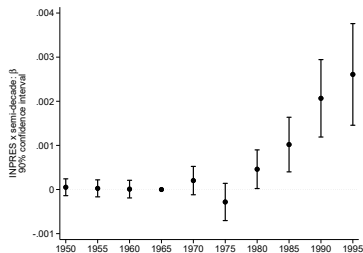
Primary



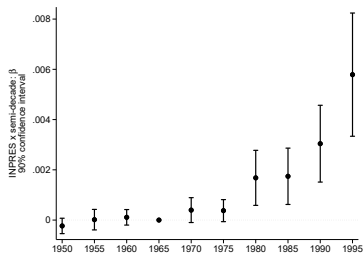
Junior Secondary



Senior Secondary

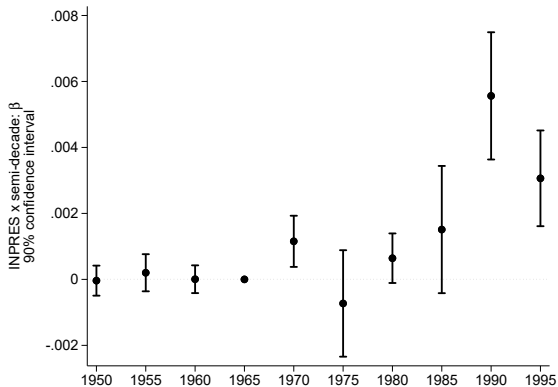


Pesantren



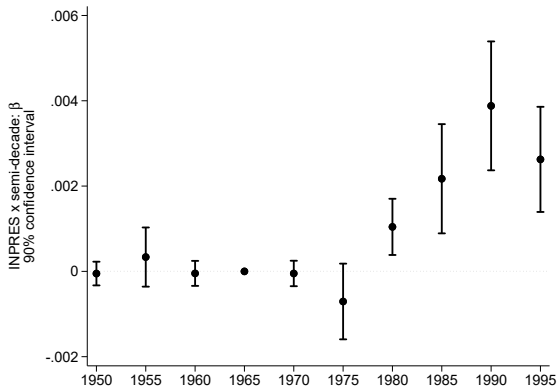
District-Level Entry [back](#)

Elementary *Madrasa* (MI)



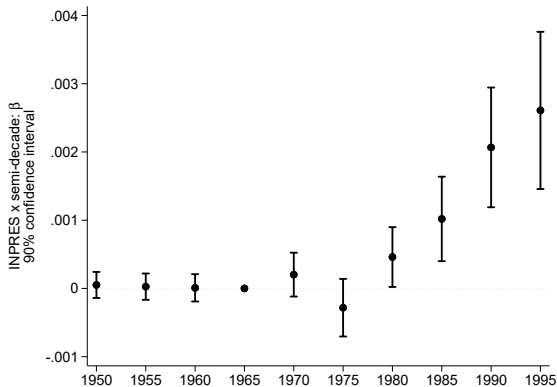
District-Level Entry [back](#)

Junior Secondary *Madrassa* (MTs+MA)



District-Level Entry [back](#)

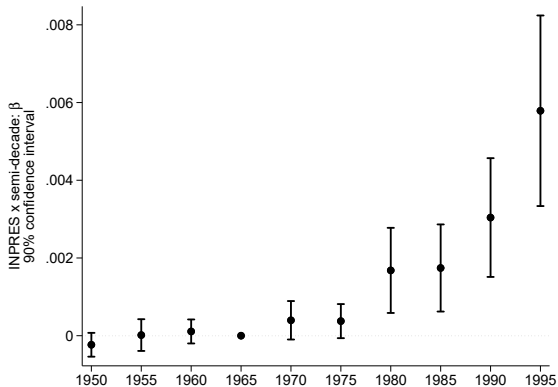
Senior Secondary *Madrasa* (MTs+MA)



District-Level Entry

[back](#)

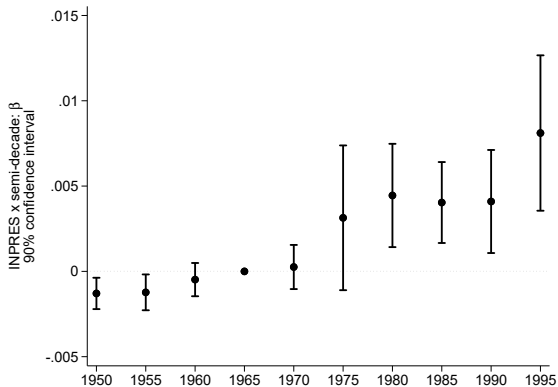
Pesantren



District-Level Entry

[back](#)

Madrasa Diniyah



District-Level Entry [back](#)

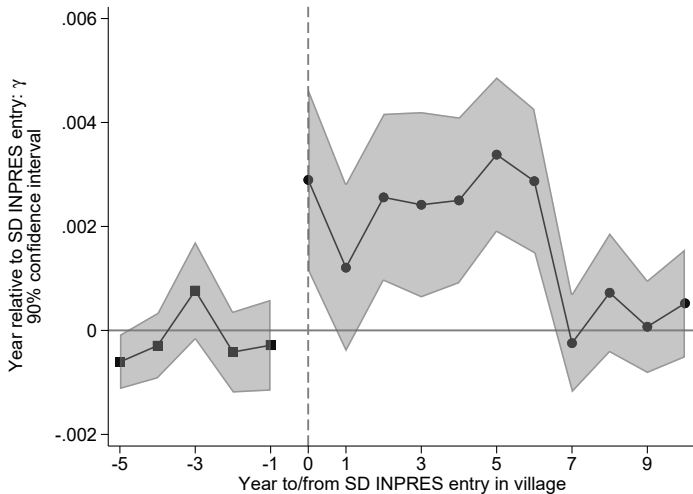
Additional controls interacted with year FE

	Formal <i>Madrasa</i>			Informal		All
	Elementary (1)	Junior Sec. (2)	Senior Sec. (3)	<i>Pesantren</i> (4)	<i>Diniyah</i> (5)	Islamic (6)
INPRES $\times$ post-1972	0.0016*** (0.0004)	0.0016*** (0.0003)	0.0008*** (0.0002)	0.0022*** (0.0005)	0.0041*** (0.0016)	0.0103*** (0.0020)
1959 Islamic Schools $\times$ Year FE	✓	✓	✓	✓	✓	✓
Additional Controls $\times$ 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

- Additional controls include: *waqf* endowments in 1960, Muslim pop share in 1972, Islamic vote in 1955-57, historical Arab minority populations, *Darul Islam* insurgency, and an indicator the pilot compulsory schooling program after 1957.

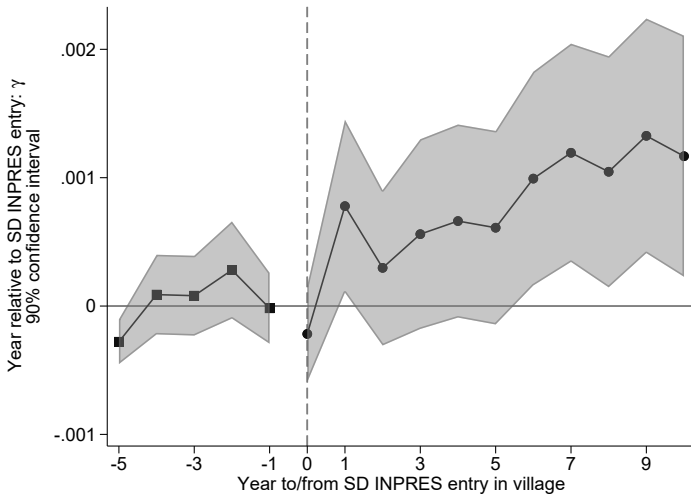
Village-Level Entry [back](#)

Elementary *Madrassa* (MI)



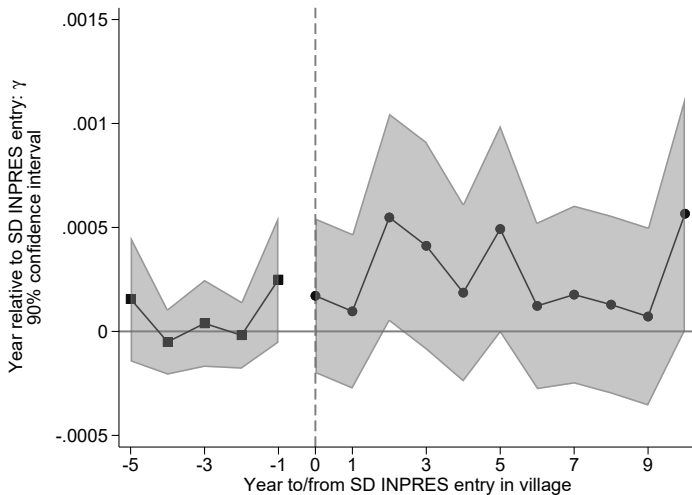
Village-Level Entry [back](#)

Junior Secondary *Madrassa* (MTs+MA)



Village-Level Entry [back](#)

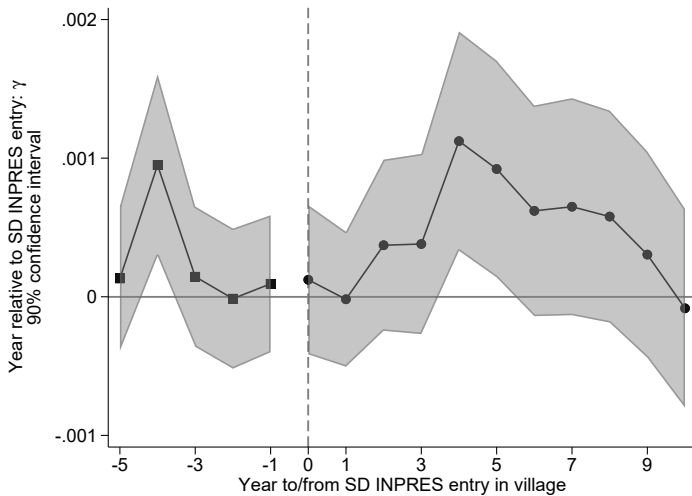
Senior Secondary *Madrassa* (MTs+MA)



Village-Level Entry

[back](#)

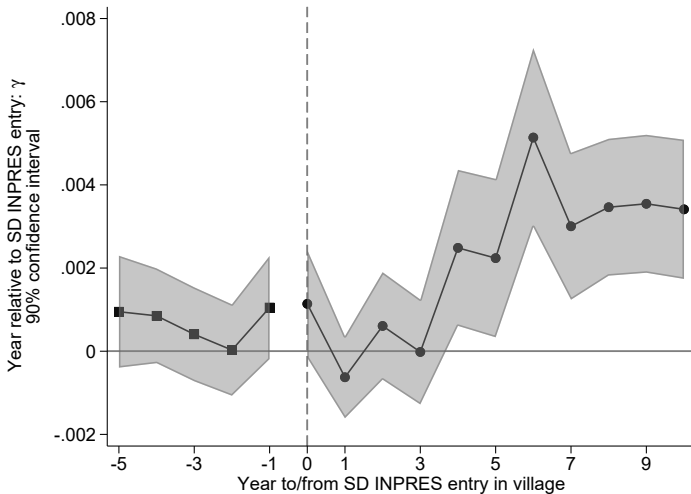
Pesantren



Village-Level Entry

[back](#)

Madrasa Diniyah



Exogeneity of Timing of INPRES Entry

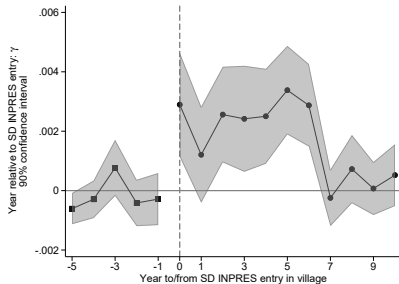
Village level [back](#)

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

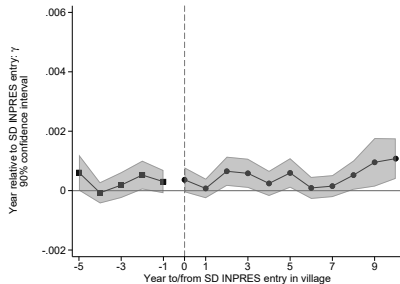
Islamic vs. Secular Private Entry

Village level [back](#)

Elementary Islamic



Elementary Non-Islamic



Islamic School Entry: Village Level [back](#)

	Formal <i>Madrasa</i>			Informal		All
	Elementary	Junior Sec.	Senior Sec.	<i>Pesantren</i>	<i>Diniyah</i>	Islamic
	(1)	(2)	(3)	(4)	(5)	(6)
(c) Difference-in-Differences, Village Level						
SD INPRES Entry	0.0021*** (0.0004)	0.0018*** (0.0002)	0.0007*** (0.0001)	0.0017*** (0.0003)	0.0043*** (0.0007)	0.0105*** (0.0012)
(d) Robust Difference-in-Differences Estimator, Village Level						
SD INPRES Entry	0.0022*** (0.0002)	0.0017*** (0.0001)	0.0008*** (0.0001)	0.0013*** (0.0002)	0.0035*** (0.0003)	0.0094*** (0.0005)
1959 Islamic Schools $\times$ 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

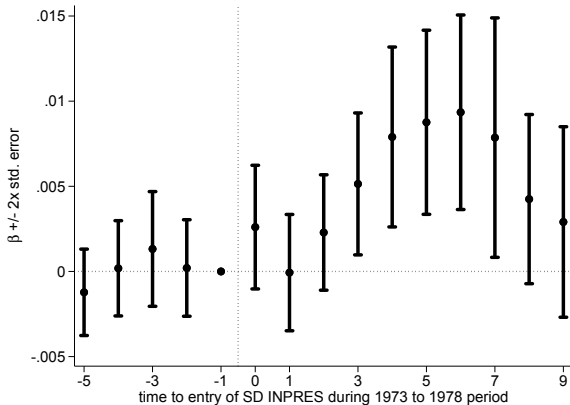
Islamic School Entry at the Village Level

Robustness [back](#)

	Formal <i>Madrasa</i>			Informal		All
	Elementary (1)	Junior Sec. (2)	Senior Sec. (3)	<i>Pesantren</i> (4)	<i>Diniyah</i> (5)	Islamic (6)
(a) Baseline estimates (Table ??, panel d)						
SD INPRES Entry	0.0022*** (0.0002)	0.0017*** (0.0001)	0.0008*** (0.0001)	0.0013*** (0.0002)	0.0035*** (0.0003)	0.0094*** (0.0005)
(b) Removing time-varying controls						
SD INPRES Entry	0.0021*** (0.0002)	0.0016*** (0.0001)	0.0008*** (0.0001)	0.0012*** (0.0002)	0.0032*** (0.0003)	0.0088*** (0.0005)
(c) Shorter panel 1968-1983						
SD INPRES Entry	0.0026*** (0.0004)	0.0005*** (0.0002)	0.0002* (0.0001)	0.0004* (0.0002)	0.0015*** (0.0004)	0.0052*** (0.0007)
(d) Clustering by district						
SD INPRES Entry	0.0022*** (0.0004)	0.0017*** (0.0002)	0.0008*** (0.0001)	0.0013*** (0.0003)	0.0035*** (0.0008)	0.0094*** (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

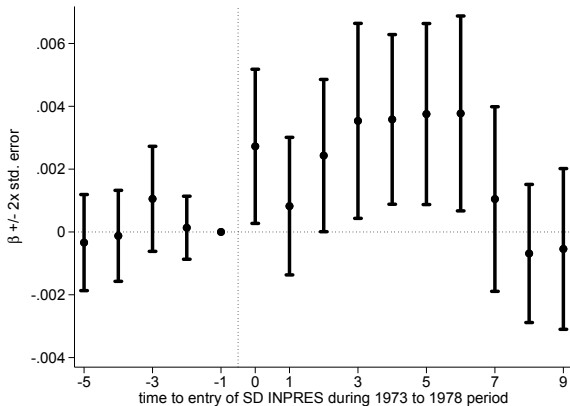
Islamic School Entry: Standard DID

Village level: All Islamic Schools [back](#)



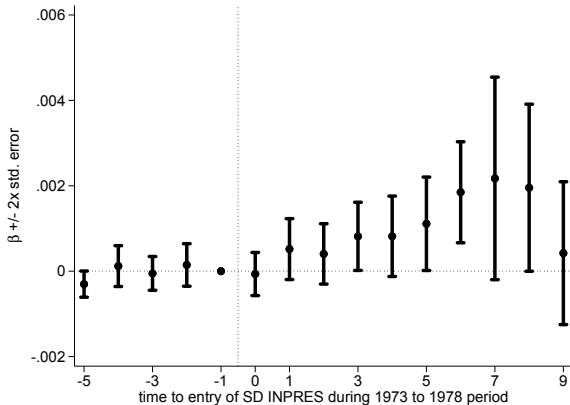
Islamic School Entry: Standard DID

Village level: Elementary Islamic [back](#)



Islamic School Entry: Standard DID

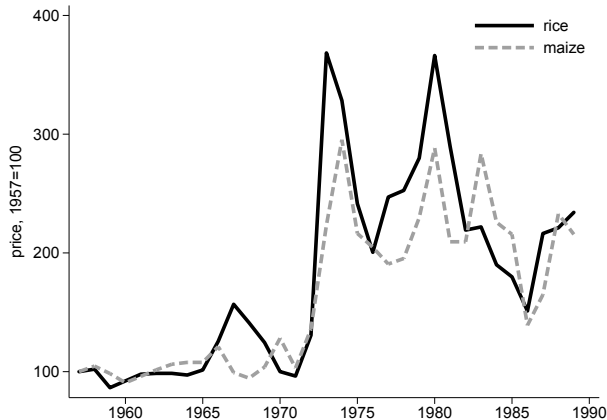
Village level: Junior Secondary Islamic [back](#)



Funding New Islamic Schools

Revenue Sources

- Islamic charitable trusts (*waqf*) and a rice boom financed the construction of new Islamic schools



Funding New Islamic Schools

Revenue Sources [back](#)

- Islamic charitable trusts (***waqf***) and a rice boom financed the construction of new Islamic schools

	Formal <i>Madrasa</i>			Informal		All
	Elementary (1)	Junior Sec. (2)	Senior Sec. (3)	<i>Pesantren</i> (4)	<i>Diniyah</i> (5)	Islamic (6)
(a) 1960–1999						
SD INPRES Entry	0.0011*** (0.0003)	0.0011*** (0.0002)	0.0004*** (0.0001)	0.0009*** (0.0003)	0.0025*** (0.0006)	0.0059*** (0.0011)
SD × potential rice yield	0.0015*** (0.0004)	0.0013*** (0.0003)	0.0004*** (0.0001)	0.0009** (0.0004)	0.0033*** (0.0008)	0.0074*** (0.0013)
SD × any <i>waqf</i> , predetermined	0.0041*** (0.0007)	0.0027*** (0.0004)	0.0013*** (0.0003)	0.0049*** (0.0011)	0.0073*** (0.0018)	0.0202*** (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

$$\mathbb{P}(\text{entry}_{vt}^s) = \theta_v + \theta_t + \beta_0 \text{SD} + \beta_1 (\text{SD} \times \text{rice yield}_{v0}) + \beta_2 (\text{SD} \times \text{waqf}_{v0}) + \varepsilon_{vt},$$

Placebo: Before

Placebo: After

Placebo: Islamic school entry between 1960–1968 [back](#)

	Formal <i>Madrasa</i>			Informal		All
	Elementary (1)	Junior Sec. (2)	Senior Sec. (3)	<i>Pesantren</i> (4)	<i>Diniyah</i> (5)	Islamic (6)
(a) 1960–1968						
SD Entry	0.0007 (0.0005)	0.0001 (0.0001)	-0.0000 (0.0000)	-0.0002 (0.0002)	-0.0007 (0.0009)	-0.0002 (0.0011)
SD × potential rice yield	-0.0013** (0.0006)	-0.0002 (0.0002)	-0.0000 (0.0000)	0.0003 (0.0002)	-0.0001 (0.0007)	-0.0012 (0.0011)
SD × any <i>waqf</i> , predetermined	-0.0016 (0.0029)	0.0018 (0.0014)	-0.0000 (0.0000)	-0.0008 (0.0013)	0.0020 (0.0027)	0.0013 (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

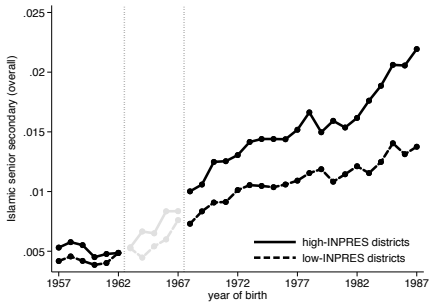
Placebo: Islamic school entry between 1990–1998 [back](#)

	Formal <i>Madrasa</i>			Informal		All
	Elementary (1)	Junior Sec. (2)	Senior Sec. (3)	<i>Pesantren</i> (4)	<i>Diniyah</i> (5)	Islamic (6)
(b) 1990–1998						
SD Entry	-0.0035 (0.0033)	-0.0015 (0.0016)	0.0012* (0.0007)	-0.0007 (0.0016)	0.0018 (0.0019)	-0.0027 (0.0048)
SD × potential rice yield	-0.0065 (0.0041)	-0.0014 (0.0018)	0.0008 (0.0008)	-0.0025 (0.0021)	-0.0018 (0.0022)	-0.0114* (0.0058)
SD × any <i>waqf</i> , predetermined	0.0041 (0.0049)	0.0019 (0.0042)	-0.0038 (0.0024)	0.0053 (0.0100)	0.0186* (0.0103)	0.0262* (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

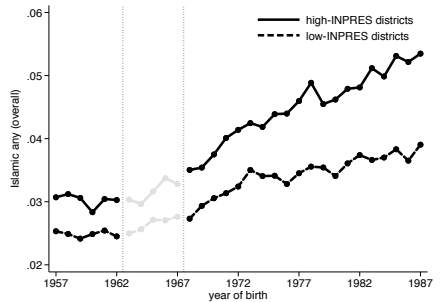
Religious School Attendance

Raw data

Senior Secondary *Madrassa*

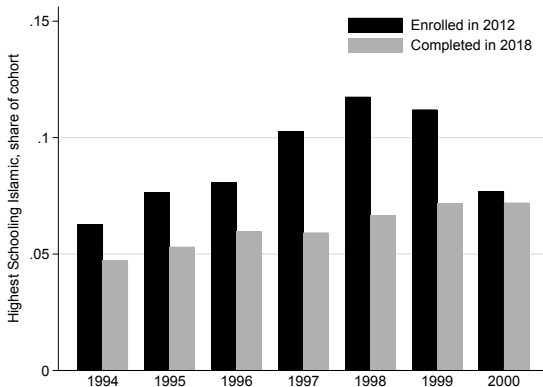


Any Level *Madrassa*



Religious School Attendance

Repeated Cohorts in Susenas



- Cohorts born between 1994-99: young enough to have been enrolled in school in 2012, old enough to have finished high school by 2018

Islamic School Choice [back](#)

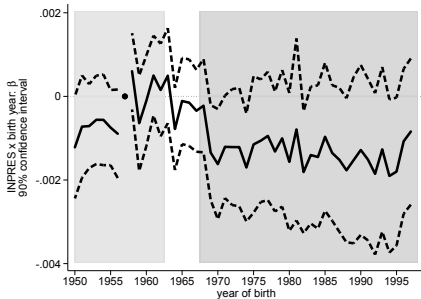
Selection corrections

	Highest Education Level: [...] <i>Madrasa</i>				Graduating at that Level			
	Elementary		Junior Secondary		Senior Secondary		Any Level	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(c) DID with Selection Correction (Parametric)								
INPRES $\times$ young	-0.0029** (0.0012) [0.049]	-0.0042** (0.0012) [0.020]	0.0037 (0.0027) [0.347]	0.0055* (0.0020) [0.068]	0.0017 (0.0021) [0.481]	0.0028 (0.0017) [0.202]	0.0002 (0.0008) [0.731]	0.0022 (0.0009) [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 $\times$ young	-0.0017*** (0.0007) [0.001]	-0.0021*** (0.0008) [0.001]	0.0053*** (0.0020) [0.001]	0.0059*** (0.0020) [0.001]	0.0001 (0.0015) [0.986]	0.0018 (0.0013) [0.249]	0.0004 (0.0007) [0.479]	-0.0001 (0.0009) [0.575]
Selection Terms, p-value	0.902	0.034	0.002	0.000	0.155	0.000	0.111	0.000
District $\times$ Survey Year FE	✓	✓	✓	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓	✓	✓	✓
1957 Islamic Schools $\times$ 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

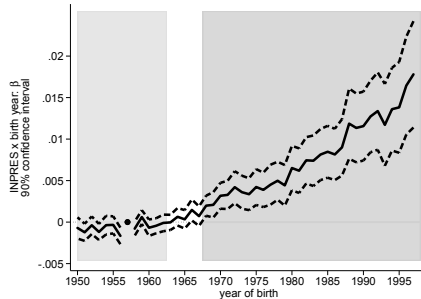
Religious School Attendance

Long-term effects

Elementary madrasa



Secondary madrasa



Notes: fully-exposed cohorts in dark gray, partially exposed in white, unexposed cohort in light gray

Religious School Attendance

Intergenerational Transmission (OLS)

	Child's Education: [...] Islamic			
	Elem. (1)	Jun. Sec. (2)	Sen. Sec. (3)	Any (4)
Mother's education:				
elementary Islamic	0.0897*** (0.0076)	0.0932*** (0.0074)	0.0826*** (0.0068)	
junior secondary Islamic	0.0036 (0.0024)	0.0625*** (0.0066)	0.1003*** (0.0109)	
senior secondary Islamic	-0.0004 (0.0019)	0.0109* (0.0059)	0.1390*** (0.0113)	
any Islamic				0.2008*** (0.0093)
Observations	246,066	246,066	246,066	246,066
Number of Districts	275	275	275	275
Dependent Variable Mean	0.005	0.026	0.033	0.060

Notes: estimated using Susenas 2012-2018. Standard errors clustered by the mother's district of birth.

Religious School Attendance

Intergenerational Transmission (OLS)

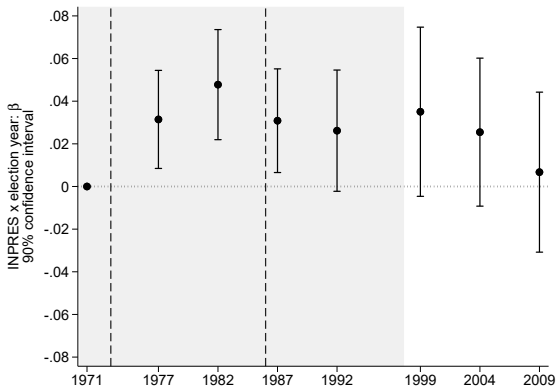
	Child's Education: [...] Islamic			
	Elem. (1)	Jun. Sec. (2)	Sen. Sec. (3)	Any (4)
Father's education:				
elementary Islamic	0.0946*** (0.0088)	0.0914*** (0.0072)	0.0764*** (0.0076)	
junior secondary Islamic	0.0013 (0.0023)	0.0834*** (0.0076)	0.0947*** (0.0085)	
senior secondary Islamic	0.0016 (0.0020)	0.0233*** (0.0072)	0.1545*** (0.0118)	
any Islamic				0.2015*** (0.0090)
Observations	304,048	304,048	304,048	304,048
Number of Districts	275	275	275	275
Dependent Variable Mean	0.005	0.026	0.034	0.061

Notes: estimated using Susenas 2012-2018. Standard errors clustered by the father's district of birth.

Short-Run Electoral Backlash

[back](#)

(c) Islam vs. State (PPP minus *Golkar*)



Notes: District-level fixed effects specification. Average *Golkar* vote share is 70%, PPP vote share is 21%.

$$vote_{jt} = \alpha + \beta(INPRES_j \times election_t) + (\mathbf{X}_j election_t)' \Theta + \mu_j + \delta_t + \varepsilon_{jt}$$

Religious School Attendance [back](#)

Marriage Matching and Intergenerational Transmission

- INPRES-exposed husbands **marry Islamic-educated partners**
- Children's education reproduces parental patterns

	Spouse Education:				Child Education:			
	Any Islamic (1)	(2)	Elementary Islamic (3)	(4)	Jun. Sec. Islamic (5)	(6)	Sen. Sec. Islamic (7)	(8)
INPRES $\times$ young (Husband/Father)	0.0019** (0.0009)							
INPRES $\times$ young (Wife/Mother)	0.0000 (0.0007)							
Observations	725,803	544,204	304,048	246,066	304,048	246,066	304,048	246,066
Number of Districts	275	275	275	275	275	275	275	275
Dependent Variable Mean	0.039	0.024	0.005	0.005	0.026	0.026	0.034	0.033
R ²	0.035	0.024	0.014	0.014	0.026	0.028	0.029	0.028

Notes: Restricted to cohorts aged 2–6 (exposed) vs. 12–17 in 1974. Standard errors clustered by district of birth.

Religious School Attendance

Marriage Matching and Intergenerational Transmission

- INPRES-exposed husbands marry Islamic-educated partners
- **Children's education reproduces parental patterns**

	Spouse Education:		Elementary Islamic		Child Education:		Sen. Sec. Islamic	
	Any Islamic (1)	(2)	(3)	(4)	Jun. Sec. Islamic (5)	(6)	(7)	(8)
INPRES $\times$ young (Husband/Father)	0.0019** (0.0009)		-0.0010** (0.0004)		0.0011* (0.0006)		0.0025** (0.0012)	
INPRES $\times$ young (Wife/Mother)		0.0000 (0.0007)		-0.0009** (0.0004)		0.0007 (0.0006)		0.0022** (0.0010)
Observations	725,803	544,204	304,048	246,066	304,048	246,066	304,048	246,066
Number of Districts	275	275	275	275	275	275	275	275
Dependent Variable Mean	0.039	0.024	0.005	0.005	0.026	0.026	0.034	0.033
R ²	0.035	0.024	0.014	0.014	0.026	0.028	0.029	0.028

Notes: Restricted to cohorts aged 2–6 (exposed) vs. 12–17 in 1974. Standard errors clustered by district of birth.

Religious School Attendance [back](#)

Long-Run: All Cohorts Born After 1968

	Years of Schooling (1)	Highest Level: [. . .] Islamic Schooling			
		Primary (2)	Junior Sec. (3)	Senior Sec. (4)	Any (5)
INPRES × young	0.2824*** (0.0479)	-0.0006 (0.0008)	0.0047*** (0.0011)	0.0033*** (0.0007)	0.0070*** (0.0020)
Number of Individuals	3,938,710	3,938,728	3,938,728	3,938,728	3,938,728
Dep. Var. Mean	7.7	0.010	0.016	0.012	0.037

Notes: Restricted to cohorts aged 6 or less (exposed) vs. 12 or more in 1974. Restricted to cohorts with completed schooling by survey year (2012–18). Standard errors clustered by district of birth.

- ↑ **likelihood of Islamic schooling:**

1 INPRES school $\Rightarrow$ ↑ 19% any Islamic school

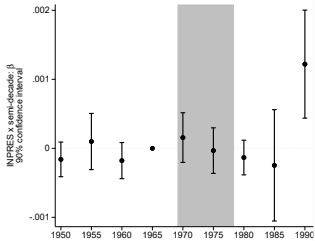
Religious School Attendance in the IFLS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Highest Education Level: [...] Islamic						Years of Islamic Education			
	Elementary		Junior Sec.		Senior Sec.		Elementary		Secondary	
INPRES × young	-0.0173 (0.0108)	-0.0222*** (0.0076)	0.0311 (0.0218)	0.0313** (0.0155)	0.0311 (0.0338)	0.0321* (0.0189)	-0.0637 (0.0620)	-0.0907** (0.0392)	0.1506 (0.1048)	0.1001** (0.0507)
Observations	6,124	41,818	3,164	23,875	2,206	15,407	6,124	41,818	3,318	25,184
Number of Districts	205	252	197	247	188	238	205	252	198	248
2-6 vs. 12-17 in 1974	✓		✓		✓		✓		✓	
≤6 vs. ≥12 in 1974		✓		✓		✓		✓		✓
Dependent Variable Mean	0.110	0.122	0.217	0.274	0.186	0.244	0.589	0.622	0.950	1.101
R ²	0.136	0.145	0.144	0.121	0.150	0.123	0.132	0.137	0.136	0.120

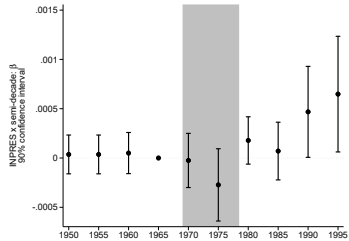
Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Robust standard errors clustered by district of birth.

Entry of Public Madrasas

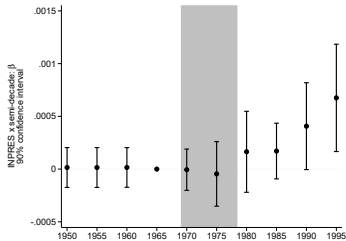
Elementary



Junior Secondary

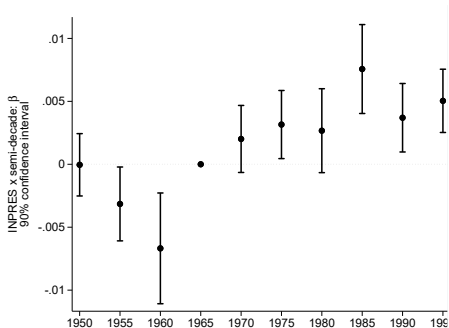


Senior Secondary

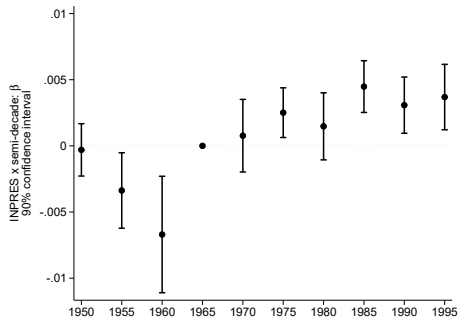


Entry of Non-Islamic Private Schools (1)

(a) All

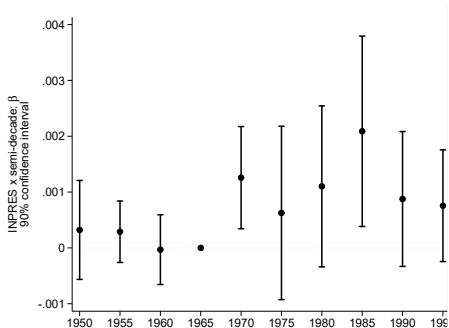


(b) Primary

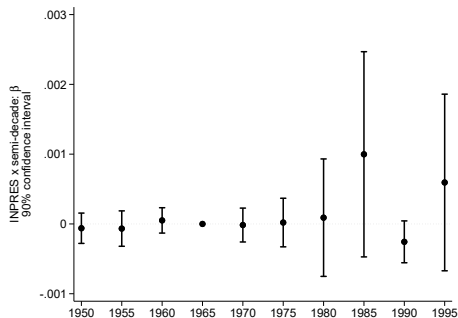


Entry of Non-Islamic Private Schools (2)

(c) Junior Secondary



(d) Senior Secondary



New Islamic Schools Over Time [back](#)

Historical Administrative Data (No Attrition Bias)

	Islamic Schools				State Schools		
	Prim. (1)	Jun. Sec. (2)	Sen. Sec. (3)	<i>pesantren</i> (4)	Prim. (5)	Jun. Sec. (6)	Sen. Sec. (7)
Effect of No. of INPRES Schools on...							
1980 level	0.258*** (0.063)	–	–	0.044* (0.023)	0.492*** (0.088)	-0.064*** (0.020)	-0.060*** (0.015)
Δ 1980 - 1983	0.022 (0.019)	–	–	0.008 (0.006)	-0.077 (0.056)	0.023 (0.016)	-0.006 (0.008)
Δ 1983 - 1990	0.126*** (0.032)	–	–	0.015 (0.012)	0.282*** (0.086)	0.011 (0.030)	0.005 (0.021)
Δ 1990 - 1993	0.015 (0.022)	0.009* (0.005)	0.012*** (0.004)	0.011** (0.004)	-0.028 (0.047)	0.015 (0.017)	0.011 (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

Curriculum Differentiation

Arabic vs. National Language

	All Levels (1)	Primary (2)	Jun. Sec. (3)	Sen. Sec. (4)
(c) Arabic Share				
INPRES $\times$ post-1972	0.003** (0.001)	0.003* (0.001)	0.002 (0.002)	0.010* (0.006)
Dep. Var. Mean	0.056	0.051	0.064	0.058
Dep. Var. Std. Dev.	0.018	0.016	0.014	0.025
(d) Bahasa Indonesia Share				
INPRES $\times$ post-1972	-0.001 (0.002)	-0.000 (0.003)	-0.006* (0.004)	0.004* (0.002)
Dep. Var. Mean	0.055	0.007	0.121	0.081
Dep. Var. Std. Dev.	0.057	0.027	0.021	0.020
Number of Observations	16,441	8,370	4,965	3,106
Number of Districts	239	213	213	178

Curriculum Differentiation: Islamic Content

Total Hours

	All Levels (1)	Primary (2)	Jun. Sec. (3)	Sen. Sec. (4)
(a) Islamic Subject Share				
INPRES $\times$ post-1972	0.274* (0.141)	0.250* (0.147)	0.341 (0.318)	-2.058** (0.864)
Dependent Variable Mean	7.060	5.651	7.999	9.300
(b) <i>Pancasila</i> /Civic Share				
INPRES $\times$ post-1972	-0.024 (0.019)	n/a	-0.208** (0.081)	0.204* (0.104)
Dependent Variable Mean	0.817		1.804	1.426
Number of Observations	16,889	8,559	5,077	3,251
Number of Districts	263	245	250	225

Notes: Unbalanced district-year panel. Controls as in Duflo (2001). Standard errors clustered by district.

Curriculum Differentiation: Language

Total Hours

	All Levels (1)	Primary (2)	Jun. Sec. (3)	Sen. Sec. (4)
(c) Arabic Share				
INPRES $\times$ post-1972	0.038* (0.023)	0.059* (0.033)	-0.062 (0.068)	0.375*** (0.102)
Dependent Variable Mean	1.536	1.131	1.917	2.009
(d) Bahasa Indonesia Share				
INPRES $\times$ post-1972	-0.096* (0.051)	-0.015 (0.062)	-0.334*** (0.118)	0.088 (0.140)
Dependent Variable Mean	1.719	0.148	3.634	2.865
Number of Observations	16,889	8,559	5,077	3,251
Number of Districts	263	245	250	225

Notes: Unbalanced district-year panel. Controls as in Duflo (2001). Standard errors clustered by district.

Curriculum Differentiation and Quality

Standardized Test Scores

- Negative correlation between % Islamic content and test scores:

	<i>Test Scores in [...]</i>	
	Math (1)	Science (2)
Islamic curriculum share	-0.0539** (0.0217)	-0.0398* (0.0221)
<i>Pancasila</i> and Civics curriculum share	0.0550 (0.0758)	0.0553 (0.0833)
Number of Observations	1,371	1,371
Dep. Var. Mean	0.0	0.0

INPRES Intensity and Quality Differentiation

Standardized Test Scores

- Madrasas established post-INPRES associated with ↓ test scores:

	<i>Math and Science Test Scores in [...]</i>			
	All Schools	Islamic	Non-Islamic	Δ I-NI
	(1)	(2)	(3)	(4)
INPRES $\times$ post-1972	0.001 (0.025)	-0.122 (0.117)	0.0002 (0.0241)	-0.623** (0.249)
Number of Observations	10,055	2,486	9,252	1,681
Number of Districts	273	209	273	186
Dependent Variable Mean	0.00	0.00	0.00	0.00

Notes: Unbalanced district-year panel. Controls as in Duflo (2001). Standard errors clustered by district.

INPRES Exposure and Speaking Ability

2010 Pop. Census

	Able to Speak Indonesian		
	All (1)	Muslims (2)	Non-Muslims (3)
INPRES $\times$ young	0.0182*** (0.0052)	0.0242*** (0.0068)	0.0049 (0.0041)
Observations	31,678,510	27,811,101	3,867,324
Number of Districts	273	273	273
Dep. Var. Mean	0.931	0.933	0.918

Notes: Restricted to cohorts aged 2–6 vs. 12–17 in 1974. Standard errors clustered by district of birth.

INPRES Exposure and Latin Alphabet Literacy

Susenas

	Latin Alphabet Literacy		
	All (1)	Islamic-Educ. (2)	Secular-Educ. (3)
INPRES $\times$ young	0.0194*** (0.0042)	0.0111*** (0.0039)	0.0196*** (0.0042)
Observations	839,026	25,935	813,087
Number of Districts	275	268	275
Dep. Var. Mean	0.914	0.985	0.912

Notes: Restricted to cohorts aged 2–6 vs. 12–17 in 1974. Standard errors clustered by district of birth.

INPRES Exposure and Other Language Literacy

Susenas

	Other Language Literacy		
	All (1)	Islamic-Educ. (2)	Secular-Educ. (3)
INPRES $\times$ young	0.0034 (0.0023)	-0.0003 (0.0050)	0.0034 (0.0023)
Observations	839,026	25,935	813,087
Number of Districts	275	268	275
Dep. Var. Mean	0.060	0.045	0.061

Notes: Restricted to cohorts aged 2–6 vs. 12–17 in 1974. Standard errors clustered by district of birth.

Effects on Schooling (Pepinsky sample)

	<i>Highest Education Level:</i>			
	Any Elementary (1)	Islamic Elementary (2)	Islamic Jun. Sec. (3)	Islamic Sen. Sec. (4)
INPRES $\times$ young	0.0829** (0.0389)	0.0067 (0.0207)	0.0380** (0.0152)	-0.0020 (0.0087)
Observations	1,785	1,694	1,694	1,694
Number of Districts	145	145	145	145
Dep Var. Mean	0.773	0.029	0.037	0.021
R ²	0.390	0.250	0.202	0.258

Notes: Restricted to cohorts aged 6 or less (exposed) vs. 12 or more in 1974. Standard errors clustered by district of birth.

Religious Political Preferences

Survey Data from Pepinsky et al (2018)

	Corporal Punishments (1)	Prohibit Interest (2)	Hijab Mandatory (3)	Support Polygamy (4)	Punish Adultery (5)	Punish Apostasy (6)	Index Subjective (7)	Index Objective (8)
INPRES $\times$ young	-0.0174 (0.0474)	-0.0438 (0.0469)	0.0414 (0.0355)	0.0142 (0.0578)	-0.0182 (0.0516)	-0.0006 (0.0281)	-0.0040 (0.0222)	-0.0311 (0.0328)
Observations	1,722	1,625	1,740	1,777	1,740	1,714	1,790	1,703
Number of Districts	143	143	143	145	145	145	145	145
Dep. Var. Mean	0.312	0.452	0.826	0.388	0.433	0.183	0.433	0.681

Notes: Restricted to cohorts aged 6 or less (exposed) vs. 12 or more in 1974. Standard errors clustered by district of birth.

[back](#)

Table A.19: Intergenerational Transmission of Islamic Schooling (OLS)

	<i>Child's Education: [...] Islamic</i>							
	Elem. (1)	Jun. Sec. (2)	Sen. Sec. (3)	Any (4)	Elem. (5)	Jun. Sec. (6)	Sen. Sec. (7)	Any (8)
Father's education:								
elementary Islamic	0.0946*** (0.0088)	0.0914*** (0.0072)	0.0764*** (0.0076)					
junior secondary Islamic	0.0013 (0.0023)	0.0834*** (0.0076)	0.0947*** (0.0085)					
senior secondary Islamic	0.0016 (0.0020)	0.0233*** (0.0072)	0.1545*** (0.0118)					
any Islamic				0.2015*** (0.0090)				
Mother's education:								
elementary Islamic					0.0897*** (0.0076)	0.0932*** (0.0074)	0.0826*** (0.0068)	
junior secondary Islamic					0.0036 (0.0024)	0.0625*** (0.0066)	0.1003*** (0.0109)	
senior secondary Islamic					-0.0004 (0.0019)	0.0109* (0.0059)	0.1390*** (0.0113)	
any Islamic								0.2008*** (0.0093)
Observations	304,048	304,048	304,048	304,048	246,066	246,066	246,066	246,066
Number of Districts	275	275	275	275	275	275	275	275
Dependent Variable Mean	0.005	0.026	0.034	0.061	0.005	0.026	0.033	0.060

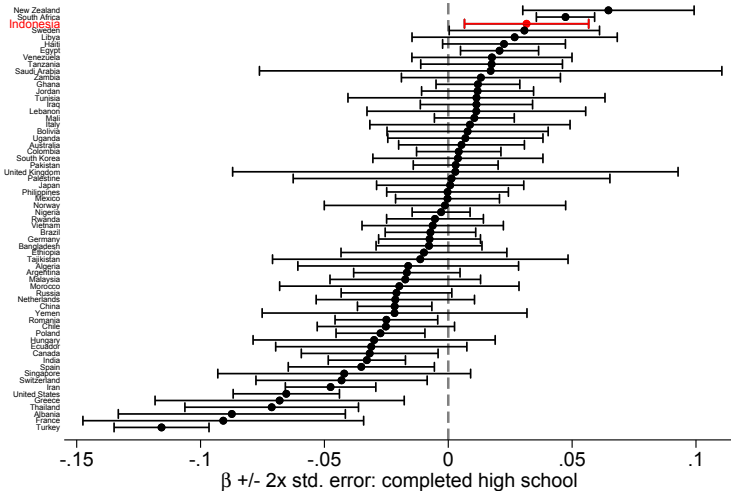
Notes: This table reports correlations of parental Islamic schooling and children's Islamic schooling. Columns 1–4 are for father's Islamic schooling and 5–8 for mother's. The sample in columns 1–4 (5–8) is the same as in odd-numbered (even-numbered) columns 3–8 of Table 9. The outcomes parallel those in panel (a) of Table 2. All of these specifications are restricted to children with mothers and fathers fall within the original birth cohorts: aged 2–6 (young) or 12–17 in 1974. The regressions additionally control for child birth cohort fixed effects. The specification is otherwise identical to that in Table 2; see the notes therein for details.

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

Education and Religiosity Across Countries

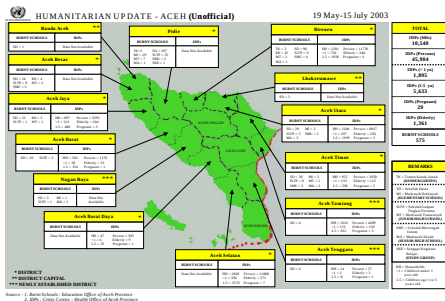
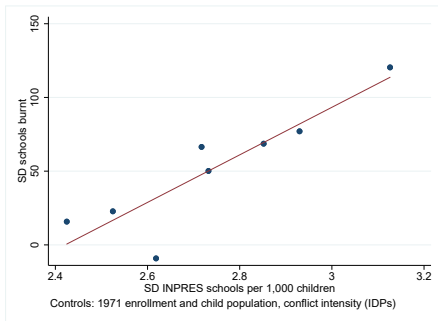
World Value Survey

Dep. Var.: I am a religious person



Long-term Backlash

SD Schools Burnt in Aceh



INPRES Exposure and Identity [back](#)

~ national language use at home, ↑ Arabic proficiency

Which Sub-Sample?	National Language Use at Home			Arabic Literacy		
	All	Muslims	Non-Muslims	All	Islamic-Educated	Secular-Educated
	(1)	(2)	(3)	(4)	(5)	(6)
INPRES × young	-0.0018 (0.0014)	-0.0040** (0.0017)	-0.0001 (0.0020)	0.0046* (0.0028)	0.0179* (0.0103)	0.0038 (0.0027)
Observations	31,678,510	27,811,101	3,867,324	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

Notes: Restricted to cohorts aged 2–6 vs. 12–17 in 1974. Standard errors clustered by district of birth.

$$y_{ijt} = \alpha + \beta(\text{INPRES}_j \times \text{young}_{it}) + (\mathbf{X}'_j \boldsymbol{\Omega}_t)' \boldsymbol{\Theta} + \mu_j + \delta_t + \varepsilon_{ijt}$$

nb: null effect on likelihood of being Muslim: -0.0003 (0.0011), mean of 0.878

INPRES Exposure and Islamic Piety [back](#)

Survey Data from Pepinsky et al (2018)

Greater religiosity, especially for Qur'an reading and *group* prayer

	Islamic Piety and Practice							Index (8)
	Pray 5x daily (1)	Fast during Ramadan (2)	Reads the Qur'an (3)	Friday (4)	Prayer: <i>Sunna</i> (5)	Group (6)	Pay <i>Zakat</i> (7)	
INPRES $\times$ young	0.0615 (0.0400)	0.0029 (0.0217)	0.0666** (0.0318)	0.0614** (0.0280)	0.0886*** (0.0239)	0.0847** (0.0343)	-0.0138 (0.0220)	0.0537*** (0.0149)
Observations	1,864	1,865	1,860	1,856	1,846	1,859	1,860	1,866
Number of Districts	150	150	150	150	150	150	150	150
Dep. Var. Mean	0.655	0.811	0.267	0.226	0.176	0.246	0.832	0.436

Notes: Restricted to cohorts aged 6 or less (exposed) vs. 12 or more in 1974. Standard errors clustered by district of birth.

schooling effects in Pepinsky sample

INPRES Exposure and Ideology [back](#)

Survey Data from Pepinsky et al (2018)

- **Null effects** on support for *Pancasila* (but + among non-Muslims)
- No accompanying rise in support for **Islamism**

	(1)	(2)	(3)	(4)	(5)
(a) Citizens					
Which Sub-Sample?	Supports <i>Pancasila</i>			Supports <i>Sharia</i>	
	All	Non-Muslims	Muslims	Subjective Muslims	Objective Muslims
INPRES $\times$ young	0.0025 (0.0315)	0.2450** (0.1179)	0.0088 (0.0378)	-0.0040 (0.0222)	-0.0311 (0.0328)
Number of Individuals	2,034	205	1,798	1,790	1,703
Number of Districts	159	33	145	145	145
Dep. Var. Mean	0.840	0.927	0.829	0.433	0.681

Notes: Restricted to cohorts aged 6 or less (exposed) vs. 12 or more in 1974. Standard errors clustered by district of birth.

INPRES Exposure and Ideology [back](#)

Political Platforms

INPRES-exposed politicians appeal less to nation-building themes

	(1)	(2)	(3)	(4)	(5)
(b) Candidates					
	Golkar Party	United Development Party (PPP)	Nation Building	Platform Appeal Islam	Nation Building Excl. Islam
INPRES $\times$ young	-0.0106* (0.0059)	0.0073* (0.0043)	-0.0112* (0.0059)	0.0019 (0.0021)	-0.0111** (0.0055)
Number of Candidates	17,710	17,710	17,710	17,710	17,710
Number of Districts	273	273	273	273	273
Dep. Var. Mean	0.119	0.046	0.117	0.027	0.111

Notes: Restricted to cohorts aged 2–6 vs. 12–17 in 1974. Standard errors clustered by district of birth.

Horizontal transmission

Children reproduce their parents' Islamic education choices

	Horizontal Transmission: Child Islamic Education					
	Elementary Islamic		Jun. Sec. Islamic		Sen. Sec. Islamic	
	(1)	(2)	(3)	(4)	(5)	(6)
INPRES $\times$ young (Father)	-0.0010** (0.0004)		0.0011* (0.0006)		0.0025** (0.0012)	
INPRES $\times$ young (Mother)		-0.0009** (0.0004)		0.0007 (0.0006)		0.0021** (0.0010)
Observations	304,048	246,060	304,048	246,060	304,048	246,060
Number of Districts	275	275	275	275	275	275
Dependent Variable Mean	0.005	0.005	0.026	0.026	0.034	0.033
R ²	0.014	0.014	0.026	0.028	0.029	0.028

Vertical transmission

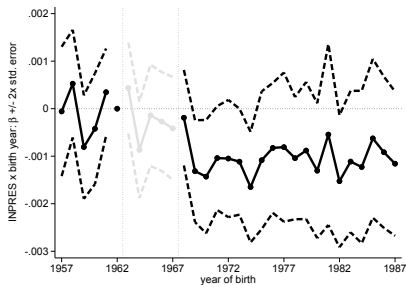
Parents invest in religious transmission within the household

	Vertical Transmission					
	<i>Marriage Matching</i>		<i>Arabic Literacy</i>			
	Islamic-Educated Partner		Arabic in the Home Parents & Children		Child's Arabic No Islamic Schooling	
	(1)	(2)	(3)	(4)	(5)	(6)
INPRES $\times$ young (Father)	0.0020** (0.0009)		0.0044* (0.0025)		0.0073** (0.0036)	
INPRES $\times$ young (Mother)		-0.0001 (0.0007)		0.0049* (0.0026)		0.0054 (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

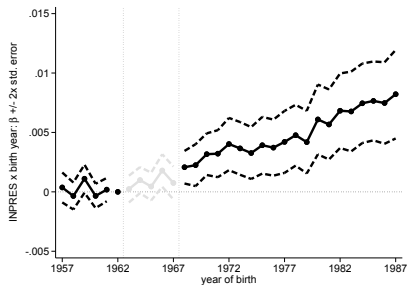
Islamic School Choice

Medium run

Elementary *madrasa*



Secondary *madrasa*

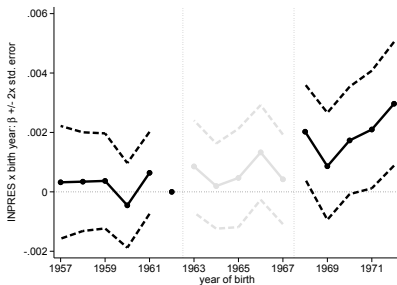


Notes: fully-exposed cohorts in dark gray, partially exposed in white, unexposed cohort in light gray

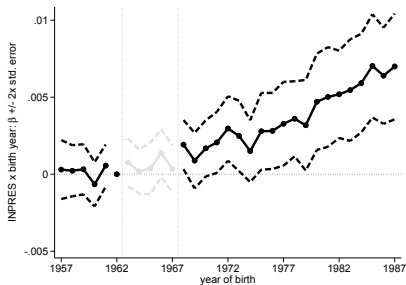
Islamic School Choice

Medium run

Elementary *madrassa*



Secondary *madrassa*

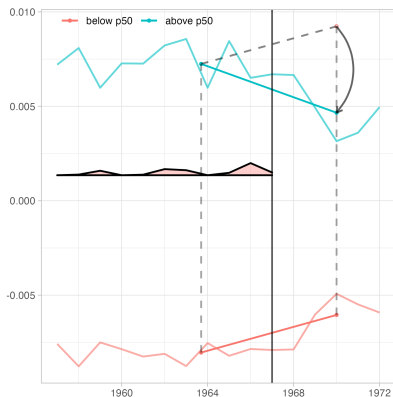


Notes: fully-exposed cohorts in dark gray, partially exposed in white, unexposed cohort in light gray

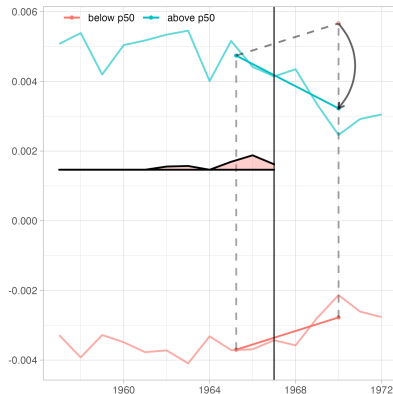
Elementary *Madrassa* Attendance

Synthetic Difference-in-Differences [back](#)

(a) Unconditional estimates



(b) Conditional estimates

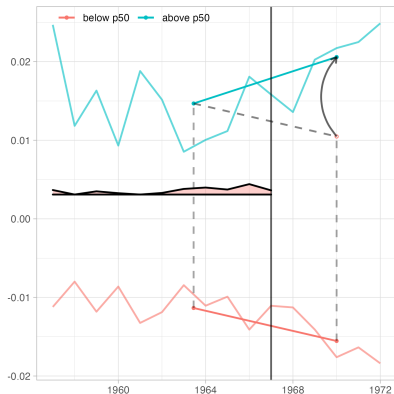


Notes: exposed cohorts in green, comparison cohorts in red. INPRES intensity is discretized at the 51st percentile.

Junior Secondary *Madrasa* Attendance

Synthetic Difference-in-Differences

(a) Unconditional estimates



(b) Conditional estimates



Notes: exposed cohorts in green, comparison cohorts in red. INPRES intensity is discretized at the 51st percentile.

Religious School Attendance

Heterogeneous effects by gender

	Highest Level: [...] Islamic Schooling							
	Primary		Junior Sec.		Senior Sec.		Any	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
INPRES × young	-0.0013** (0.0006)	-0.0014* (0.0008)	0.0021*** (0.0005)	0.0035*** (0.0008)	0.0013*** (0.0003)	0.0031*** (0.0007)	0.0018** (0.0008)	0.0048*** (0.0015)
INPRES × young × girl	0.0010** (0.0004)	0.0010*** (0.0003)	-0.0005 (0.0004)	0.0010*** (0.0003)	-0.0007* (0.0004)	-0.0009*** (0.0003)	-0.0001 (0.0007)	0.0011** (0.0005)
Observations	839,026	3,310,410	839,026	3,310,410	839,026	3,310,410	839,026	3,310,410
Number of Districts	275	275	275	275	275	275	275	275
Age 2-6 vs. 12-17 in 1974	✓		✓		✓		✓	
Age ≤6 vs. 12-17 in 1974		✓		✓		✓		✓
Dependent Variable Mean	0.014	0.009	0.011	0.018	0.008	0.014	0.031	0.041
R ²	0.029	0.022	0.012	0.025	0.007	0.016	0.031	0.044

Notes: Odd columns restricted to cohorts aged 2–6 (exposed) vs. 12–17 in 1974. Standard errors clustered by district of birth.

Religious School Attendance

Heterogeneous effects by gender

Conditional estimates

	Highest Level: [...] Islamic Schooling							
	Primary (1)	(2)	Junior Sec. (3)	(4)	Senior Sec. (5)	(6)	Any (7)	(8)
INPRES $\times$ young	-0.0022** (0.0010)	0.0023* (0.0013)	0.0037* (0.0021)	0.0065*** (0.0021)	0.0011 (0.0008)	0.0045*** (0.0013)	0.0008 (0.0007)	0.0051*** (0.0014)
INPRES $\times$ young $\times$ girl	0.0015* (0.0008)	0.0007* (0.0004)	0.0042* (0.0024)	0.0040*** (0.0011)	0.0013 (0.0011)	0.0012** (0.0006)	0.0012 (0.0008)	0.0015*** (0.0005)
Observations	293,629	1,316,748	103,113	850,602	231,271	1,382,662	628,013	3,550,012
Number of Districts	275	275	275	275	275	275	275	275
Age 2-6 vs. 12-17 in 1974	✓		✓		✓		✓	
Age ≤ 6 vs. 12-17 in 1974		✓		✓		✓		✓
Dependent Variable Mean	0.028	0.050	0.073	0.112	0.026	0.043	0.035	0.062
R ²	0.043	0.063	0.080	0.086	0.026	0.044	0.035	0.059

Notes: Odd columns restricted to cohorts aged 2–6 (exposed) vs. 12–17 in 1974. Standard errors clustered by district of birth.

Qualitative Evidence: *Madrasa* Oral History [back](#)

- Insights from oral history survey:
- Evidence of **competition** between nearby schools:

"Around the same time with the madrasah construction, an SD Inpres was also constructed in the village. Both madrasah and the SD were looking to have local children enroll in their respective schools. "I think that was usual, each wanted to have more students, right? Both SD and madrasah were the same, looking for students. If I could, all villagers don't need to go to SD, all to madrasah."

"Of course, we were better than the SD Inpres. Our evidence is we had more students."

Qualitative Evidence: *Madrasa* Oral History

- Insights from oral history survey:
- **Complementarities** across instruction levels:

“Most MI alumni chose to continue at the nearest MTs madrasah that are also Muhammadiyah. Not many chose to continue to SMP because the general school was deemed lacking in its religious instruction.”

“SD Inpres location was not far but also not too close. A lot of their alumni went instead to our madrasah. We are always ready to give their graduates a place in our school.”

Understanding SD INPRES School Allocation [back](#)

	SD INPRES Schools in District			
	(1)	(2)	(3)	(4)
% Baseline Islamic primary graduates	0.039*** (0.009)	0.028*** (0.009)		0.011 (0.008)
Baseline Islamic primary schools			0.130*** (0.030)	0.079*** (0.025)
School-aged children not enrolled	0.684*** (0.076)		0.622*** (0.080)	0.628*** (0.072)
Baseline non-Islamic enrollment		-0.016*** (0.005)		-0.014*** (0.005)
Islamic party vote shares 1950s				0.004*** (0.001)
Observations	275	275	275	275
Targeting Policy Controls	✓	✓	✓	✓
Province Fixed Effects	✓	✓	✓	✓
R ²	0.872	0.812	0.872	0.893

Data at district level. Controls include 1971 child pop., school enrollment, and exposure to the water & sanitation program.