THE INSTITUTIONAL FOUNDATIONS OF RELIGIOUS POLITICS:
EVIDENCE FROM INDONESIA

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NBER Working Paper No. 25151
October 2018
JEL No. D72,D74,P16,P26,Z12

ABSTRACT

Why do religious politics thrive in some societies but not others? This paper explores the institutional foundations of this process in Indonesia, the world's largest Muslim democracy. We show that a major Islamic institution, the waqf, fostered the entrenchment of political Islam at a critical historical juncture. In the early 1960s, rural elites transferred large amounts of land into waqf—a type of inalienable charitable trust—to avoid expropriation by the government as part of a major land reform effort. Although the land reform was later undone, the waqf properties remained. We show that greater intensity of the planned reform led to more prevalent waqf land and Islamic institutions endowed as such, including religious schools, which are strongholds of the Islamist movement. We identify lasting effects of the reform on electoral support for Islamist parties, preferences for religious candidates, and the adoption of Islamic legal regulations (sharia). Overall, the land reform contributed to the resilience and eventual rise of political Islam by helping to spread religious institutions, thereby solidifying the alliance between local elites and Islamist groups. These findings shed new light on how religious institutions may shape politics in modern democracies.

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1 Introduction

Religion, "the heart of a heartless world" (Marx, 1844), has been an important part of human existence throughout history. Since the end of the Cold War, the rise of religion in politics led many to predict the twenty-first century would be "God's Century" (Toft et al., 2011). While this phenomenon has affected every major religious tradition, support for religious politics varies widely between and within societies. A particularly intriguing case is that of Islamism, support for which differs dramatically across the Muslim world.[1]

The literature on the economics of religion provides a wealth of evidence on how religious values and politics shape human behavior and development (Barro and McCleary, 2003). For instance, Becker and Woessmann (2009) and Cantoni et al. (forthcoming) demonstrate the link between religion and economic development, while Kuran (2011), Michalopoulos et al. (2016), and Rubin (2011) study this relationship for Islam specifically.[2] Others link economic risk to the intensity of religious practice (Ager and Ciccone, 2018; Bentzen, forthcoming; Chen, 2010). Still others explore the role of religion in mediating economic shocks and the dynamics of institutional change (Belloc et al., 2016; Chaney, 2013).

However, much less is known about why some societies—often within the same religious tradition—embrace religious politics while others do not. To explain the resurgence of religious politics in the late twentieth century, the literature has traditionally emphasized the perceived failure of the secular state to address economic grievances and to uphold moral and civic values when confronted with the disrupting forces of globalization (Almond et al., 2003; Juergensmeyer, 1993, 2010). Yet, this does not address what we argue is a puzzle: Why do religious individuals manage to become influential political forces in some settings but not in others? How do religious actors gain political prominence, and what are the mechanisms linking religion and political outcomes?

This paper identifies institutions as a fundamental cause of religious influence in politics. We hypothesize that specific religious institutions can nurture support for political activism by religious actors, and in doing so, shape the nature and the success of religious politics. We believe this is an important contribution to our understanding of the economics of religion. In Islam as in other spiritual traditions, religious institutions may affect the ability of political actors to form coalitions, to mobilize for or against certain reforms, and to seize political power.[3]

We use a natural historical experiment in the world's largest Muslim country, Indonesia, to estimate the long-run effect of Islamic institutions on the success of religious politics. Our empirical analysis exploits the aborted Indonesian land reform of 1960 known as the Basic Agrarian Law (BAL). Building

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[1]Following Euben and Zaman, eds (2009, pg.4), we define Islamist movements as those which make the Islamic doctrine a central part of their political platform, and which "attempt to return to the scriptural foundations of the Muslim community, excavating and reinterpreting them for application to the present-day social and political world." We also use *Islamism* and *political Islam* interchangeably throughout the paper in reference to Islamist movements. Kurzman and Naqvi (2010) and Cammett and Luong (2014) document the considerable variation in support for Islamist parties across Muslim countries.

[2]Recent studies explore the impact of specific Islamic practices such as pilgrimage (Clingingsmith et al., 2009) and fasting (Campante and Yanagizawa-Drott, 2015) on social and economic well-being.

[3]A relevant historical example is the *Non Expedit* given to Catholics by Pope Pius IX in 19th-century Italy, which explicitly prohibited Catholics from voting and standing in parliamentary elections. Similarly, within Islam, there are longstanding debates about whether participation in elections is religiously permissible, given that some see political parties as contributing to the division of the Muslim community (see Hasan, 2009).

on recent studies that estimate the long-term effects of "accidents of history" at specific critical junctures (Banerjee and Iyer, 2005; Dell, 2012), we identify the consequences of events around this episode for the persistence of the Islamist movement in Indonesia. As part of this reform attempt, the Sukarno government challenged conservative and largely hostile rural landowners by attempting to redistribute land to landless households, who represented 60% of the rural population at the time (Soemardjan, 1962; Utrecht, 1969). The government's efforts to redistribute land largely failed, but the attempted reform fostered an alliance between landed elites and religious interests that continues to shape politics today. In particular, the BAL exempted religious lands held in Islamic charitable trust—known as *waqf* (plural *awqaf*)—from redistribution. Knowing this, many large landowners transferred expropriable land to *waqf* endowments under the authority of local religious leaders. We show that areas targeted by the land reform exhibit more pervasive *waqf* and institutions endowed as such, including Islamic boarding schools and mosques. Moreover, targeted regions exhibit greater support for Islamist political parties and more extensive local Islamic law (i.e., *sharia* regulations) in the contemporary era of democracy and decentralized governance.

To estimate the effect of the land reform on subsequent outcomes, we use a *differences-in-discontinuity* design analogous to Grembi et al. (2016). This specification leverages two sources of identifying variation. First, as in a standard regression discontinuity (RD) design, we exploit discontinuous policy variation at the population density threshold used to determine the intensity of expropriation under the BAL. Districts with a population density above 400 people/km^2 were to experience more redistribution under the reform: the maximum size of individual holdings was set at 5 hectares of irrigated land and 6 hectares of dry land, as opposed to 7.5 and 9 hectares for irrigated and dry land in districts with a population density under 400 people/km^2.[4] Second, we exploit cross-sectional variation in the number of marginal landholdings—holdings between 5–7.5 hectares of irrigated land and between 6–9 hectares of dry land—namely the landholdings to be confiscated in districts above 400 people/km^2. Our main specification thus identifies effects of the reform by measuring the difference in outcomes between districts with and without a large number of marginal landholdings, and by estimating whether this difference changes discontinuously at the threshold used to determine the intensity of expropriation. We validate the design by showing that the main identifying assumptions of both RD and difference-in-differences (DID) hold in our setup. We show that observables are continuous at the 400 people/km^2 threshold, and we run placebo checks to test the parallel trends assumptions for districts with and without a large number of marginal landholdings.

Crucially for our research design, the land reform excluded land held in *waqf* from redistribution. A widely adopted institution in Muslim societies, the *waqf* has been the subject of a large historical literature and was famously described by Kuran (2001, 2011) as a major factor behind economic stagnation in the Middle East. While a charitable institution in name, the *waqf* has been used throughout history as a protection against the threat of expropriation by the state rather than as a vehicle for redistribution (Abbasi, 2012; Encyclopaedia of Islam, 2012; Gil, 1998; Sharon, 1966; Singer, 2008). In the same manner, the exemption of religious lands in the BAL led wealthy landowners to protect their assets by transferring

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[4]This is the most widely applicable threshold for expropriation under the law. However, for robustness, we also consider another much lower threshold at 50 people/km^2 that applied in more sparsely populated regions of the country.

them to religious institutions endowed as *waqf* in districts targeted by the anticipated reform.

Using the empirical strategy described above, we show that forty years onwards, significantly more land is held in *waqf* in districts where landholders were most threatened by the reform—districts with population density above 400 people/km^2 and a large number of marginal landholdings. This stands in contrast to the lack of any systematic long-run effects of the reform on land inequality, which is due to the fact that most expropriated lands had been retaken during the late 1960s as the land reform was largely undone and reversed (Huizer, 1972; Utrecht, 1969). However, this was not the case for religious lands held in *waqf* since the sanctity of the institution made it extremely difficult if not impossible to change the status of these lands.

This shock to the scope of *awqaf*, we argue, is critical to explain variation in support for political Islam in contemporary Indonesia. Districts that experienced a greater increase in the creation of *waqf* endowments as a result of the 1960 reform also provided greater support for Islamist political parties in legislative elections several decades later. In the first free and fair election of the democratic era beginning in 1999, we identify stronger support for hardline Islamist parties, including the United Development Party, which was the main vehicle for Islamist aspirations during the repressive authoritarian period of Suharto rule (1967–1998). Post-Suharto, such parties advocated for an Islamic state and rejected the national ideology of *Pancasila*, which promotes a secular and inclusive vision for Indonesia. In areas most affected by the land reform, support for these Islamist parties persisted in subsequent democratic elections after 1999 at the expense of more moderate Islamic parties that embraced *Pancasila*.

Why would an increase in the amount of land held in *waqf* in 1960 impact contemporary support for Islamist parties? We argue that the long-term effects of the *waqf* are intimately tied to its specific institutional features and its ability to sustain a variety of Islamic organizations over time. *Waqf* lands are inalienable under Islamic law and provide a great degree of autonomy from the state. In the Indonesian context, the *waqf* helped solidify and deepen the alliance between local elites and the Islamist groups that continue to play an important role in Indonesian politics. We show that districts targeted by the land reform exhibit more pervasive mosques and Islamic boarding schools known as *pesantren*. These institutions are key conduits for Islamist ideas and action. Unlike other Islamic schools (known as *madrasas*), *pesantren* are entirely privately funded, maintain their own curriculum, and remain outside the purview of government oversight (McVey, 1983).[5] Drawing on work by scholars of contemporary Indonesian politics, we argue that *pesantren* are central to the local organization of political Islam today.

Importantly, the effects we find are not limited to electoral support for Islamist parties, but also extend to voters' preferences for religious candidates and actual implementation of Islamic law. Using recent data from the Indonesian Family Life Survey (IFLS), we show that respondents in districts targeted by the land reform are more likely to say that a candidate's religion and religiosity influence their voting decisions. These results corroborate our findings on electoral outcomes. They are also consequential for policy. Since democratization in 1998, local governments in districts more exposed to the land reform are more likely to adopt Islamic legal regulations (*sharia*), which have potentially far-reaching

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[5]In 2012/13, roughly 3.8 million or around 7.3% of all students across Indonesia were enrolled in *pesantren* according to the Ministry of Education. While *pesantren* are similar to madrasas found elsewhere in the Muslim world, in Indonesia are more conservative, traditional, and focused on producing the next generation of Islamic scholars, preachers, and leaders.

social and economic implications.[6] These results point to the influence of Islamists on the political process even when they are not in power, as many of these regulations were adopted by local governments controlled by secular parties indebted to Islamist movements for their success at the ballot box. In the last section of the paper, we present further evidence consistent with the hypothesis that the *waqf* is what links the land reform and support for Islamist politics today rather than alternative pathways related to underdevelopment, public goods provision, changes in land inequality, or violence in the mid-1960s.

Across spiritual traditions, religious institutions provide stability and secrecy to the individuals who operate them, which makes them ideal venues for political activism. We hypothesize that three characteristics of the institutions we study caused their outsized influence in Indonesian politics and could similarly define the role of clerical institutions in other contexts. First, inalienable religious institutions can protect particular groups during sustained periods of political oppression, allowing them to survive until they can again compete or seek indirect influence in the political arena. This was true historically not only for Islamist movements under hostile regimes (Egypt, Indonesia, Turkey), but also, for example, for conservative movements associated with the Roman Catholic Church such as the Opus Dei. Second, institutions that attract charitable giving are bound to foster opportunistic alliances between elites and religious interest groups to influence law and policymaking.[7] Third, religious institutions outside government purview can be used to foment opposition to the state. In the same way that *pesantren* have nurtured support for Islamism in Indonesia, there is widespread anecdotal evidence that temples in India have been used to cultivate Hindu nationalism.[8]

Related Literature.   Overall, our paper contributes new insights to the political economy literature on religious institutions and politics. Chaney (2013) shows in historical Egypt that economic downturns increase the political power of religious leaders through the threat of collective action against the state. Belloc et al. (2016) explore the role of religion in mediating institutional change in medieval Italy. Michalopoulos et al. (2017) provide empirical evidence that the egalitarian and redistributive nature of Islam, especially its rules governing inheritance, help explain the religion's rapid historical expansion through trade networks. Iyer (2016) provides a detailed summary of other work on the economics of religion, noting an important puzzle, namely the persistence of religion despite the array of secular forces and economic development that militate against it. Our findings suggest that the durability of religious institutions and their role in organizing politically significant voting blocks may be especially important factors in understanding the rise of Islamism today. This echoes a theme in Rubin (2017), whose work, like that of Chaney (2013), suggests that Islamic authorities were granted a large say in politics historically as a result of the threat they posed to ruling elites. Our findings shed light on the microfoundations

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[6]These regulations cover many facets of life, including, among others, the collection of alms, the banning of alcohol, and the requirement that women wear the Islamic veil. We measure these *sharia* laws from 1998 to 2013 using district-level data from Buehler (2016), who similarly argues that local variation in the institutional strength of Islamist groups is key to understand the "Islamization of politics" in Indonesia. Our findings on *sharia* are important given the recent declining popularity of Islamist parties at the polls while at the same time a growing influence of Islamist movements outside formal party politics.

[7]In the U.S., groups such as Priests for Life, the Women's Christian Temperance Union, and the American Jewish Congress "collectively spend over $350 million every year attempting to entrench religious values into the law" (Robinson, 2015).

[8]In 2015, the state of Kerala moved to forbid military drills ('shakha') on temple premises by the Rashtriya Swayamsevak Sangh Hindu nationalist group, triggering the opposition of the right-wing Bharatiya Janata Party party (*Times of India*, 5 June 2015).

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of this threat, which may be important today as democracy advances across the developing world.[9]

Our paper also adds to a wider social science literature on the rise of Islamist movements in predominantly Muslim societies (e.g., Berman, 2011; Blaydes and Linzer, 2011; Pepinsky et al., 2012). We contribute to this literature by providing causal evidence on the institutional mechanisms driving the emergence of Islamist groups. Iannaccone and Berman (2006) argue that participating in "extreme" religious behavior can screen out potential free-riders. This provides Islamist parties with a screening technology that other parties may not have, which makes institutions like Indonesia's Islamic boarding schools (outside the purview of the state) particularly useful for political mobilization. Our results suggest that institutions may be important for understanding why Islamism gradually rose to prominence after a long period of marginalization (see, e.g., Lacroix, 2011; Wickham, 2002, 2013).

Finally, we add to a growing literature exploring the link between culture and institutions (Alesina and Giuliano, 2015; Lowes et al., 2017; Tabellini, 2010). Numerous studies identify a relationship between economic circumstances and religious culture (see comprehensive reviews in Chen and Hungerman, 2014; Iannaccone, 1998; Iyer, 2016). Much less is known about how religious institutions shape culture and vice versa. While we cannot disentangle the two, our findings are consistent with a shock to religious institutions in the 1960s feeding back onto religious culture during the authoritarian era, which then facilitated further institutional change during the era of democracy and decentralization when Islamists could influence politics more directly. These dynamics have potential implications for other countries with deep religious cultures undergoing political openings.

The paper proceeds as follows. Sections 2 and 3 provide relevant background on the 1960 Indonesian land reform and the *waqf*, respectively. Section 4 outlines our theoretical argument and describes the different mechanisms through which *waqf* estates created as a result of the land reform might plausibly impact contemporary outcomes. Section 5 describes our data and empirical strategy. Section 6 presents our results and identification checks, and Section 7 concludes.

2   The 1960 Indonesian Land Reform

In the tumultuous decades after independence, the Sukarno regime sought to launch a major land reform aimed at empowering poor households across Indonesia. In this section, we provide relevant background on this reform effort, known as the Basic Agrarian Law (BAL) of 1960, which, as we later document, inadvertently fostered the spread of Islamic institutions throughout the archipelago.

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[9]Our findings also relate to Robinson (2015) who link the dissolution of religiously-owned monastery lands in 15th century England to growth in innovation, agricultural commercialization, and industrial development. We find that religiously-owned land played an important role in shaping political (but not economic) development even though that land did not cover the vast swathes of territory it did in historical England or elsewhere in Muslim world (see Kuran, 2011). Other relevant work on Islam includes Meyersson (2014), who shows that local Islamic rule increased female education in Turkey, and Henderson and Kuncoro (2011), who argue that Islamic parties in local assemblies are associated with lower corruption in Indonesia. We offer insight into how institutions may have helped these parties attain political power.

2.1 Land Inequality in Post-Independence Indonesia

The origins of the 1960 land reform lie in the pervasive inequality across Indonesia in the colonial era. Under the Dutch, land was owned through a variety of property regimes, ranging from conventional private property to a host of communal and religious property types recognized under the Dutch Agrarian Law of 1870. Rural inequality was most pronounced in Java and Bali where the average landholder cultivated no more than half a hectare and where 60% of cultivators were landless (Soemardjan, 1962). Although the distribution of land in Indonesia was considerably more equal than in other agricultural economies in the developing world (Montgomery and Sugito, 1980), large landowners were powerful actors in the countryside. Post-independence, President Sukarno and his supporters attempted to do away with the old colonial laws governing agriculture and to impose a technical solution that would address landlessness by redistributing land away from large landholders, especially "absentee" landlords (Soemardjan, 1962; Utrecht, 1969).

2.2 Design of the Land Reform

The Sukarno government first laid out its detailed plans for "the termination of proprietary rights on land" in its August 1959 *Political Manifesto* address (Utrecht, 1969). This prompted fears among rural landowners that comprehensive land redistribution would soon be implemented. These plans were codified in the BAL (Number 5) introduced on 24 September 1960 and a subsequent law Number 56 introduced on 28 December 1960. The latter proposed floors and ceilings on private landholdings.[10] The law distinguished different thresholds for "dry" land and "wet" irrigated land used largely for rice cultivation (*sawah*), with surpluses in excess of cutoffs at the district level destined for redistribution to landless peasants. Finally, a subsequent law (Number 224) introduced on 12 September 1961 stipulated the (arguably unfavorable) terms of redistribution.[11]

Ceilings on the amount of land any individual could own were defined as a function of population density at the district level. These arbitrary cutoffs, which inform our empirical strategy in Section 5, stipulated that districts with more than 400 people/km^2 could have maximum holdings of 5 (6) hectares of wetland (dryland), districts with 251–400 people/km^2 could have maximum holdings of 7.5 (9) hectares of wetland (dryland), districts with 51–250 people/km^2 could have maximum holdings of 10 (12) hectares of wetland (dryland), and districts with less than or equal to 50 people/km^2 could have maximum holdings of 15 (20) hectares of wetland (dryland). The maximum allowable holdings could not exceed 20 hectares anywhere in the country.

The regime knew that it faced significant political risks when it undertook the land reform and chose

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[10]The basic floor of 2 hectares was to apply everywhere but was never actually feasible in practice given the limited land relative to population in most areas of the country.

[11]The law No. 224 of 1961 detailed the actual course of implementation and indemnification for seized lands under the BAL of 1960. The fair price was set at 10 times the assessed annual profits from the land for the first five hectares and 9 times for the next five hectare increments with 7 times for any remaining land beyond that. The government was supposed to deposit 10 percent of the payment in a public bank with the remainder in promissory notes that could be redeemed one year after the land was redistributed. Beneficiaries of redistribution would have 16 years in which to pay the government to recoup these costs. Landowners that refused redistribution would be sent to prison for 3 months and receive no indemnification. Huizer (1972) provides further details on the law.

not to antagonize religious elites by conceding that the law would not be contrary to religious law. The original BAL (No. 5) stipulated that religiously-held lands, including all land under Islamic trusts (*waqf*), were exempt from redistribution.[12] Utrecht (1969) describes this exemption of religious lands from redistribution as a "serious impediment to land reform." However, it is entirely consistent with the literature on the *waqf*, which we discuss in detail below. This literature emphasizes that historically, rulers throughout the Muslim world were hesitant to confiscate *waqf* properties because they feared the consequences of seizing land "owned" by God (Encyclopaedia of Islam, 2012).[13]

2.3   Implementation and Failure of the Reform

While the government proceeded with detailed legislation stipulating how land was to be redistributed, the unfavorable terms of redistribution, together with a lack of information on details of the BAL on the ground and countless practical obstacles slowed the implementation of the reform. In the early 1960s, peasant organizations linked to the Communist Party (*Partai Komunis Indonesia* or PKI) led information campaigns that met with variable success in Java and Bali, where the reform was to begin before proceeding to the Outer Islands (Huizer, 1972). However, local redistribution committees established under the BAL did not become operational until September 1962, two years after the BAL was promulgated. These village-level committees, overseen by the district government, were often composed of representatives of the local elite sympathetic with large landowners. As implementation of the reform stalled, vigilante groups affiliated with the peasant movement began seizing property, which significantly escalated tensions in the countryside (Utrecht, 1969). After a failed coup in October 1965 by junior officers accused of being loyal to the PKI, mass violence spread throughout rural areas targeting "leftists" and Sukarno's supporters (Cribb, 2001; Farid, 2005; Roosa, 2006). The ensuing violence brought land reform efforts to a standstill while most landowners took back their properties. This was not the case, however, for religious lands held in *waqf* since the sanctity of the institution made it extremely difficult if not impossible to change the status of these lands.

Although the land reform was never formally repealed, a recent assessment of its legacy notes that it faced innumerable technical and legal contradictions that undermined its ability to address rural inequality (Lucus and Warren, 2013). An evaluation of changes in the distribution of land between the 1963 and 1973 Agricultural Censuses concluded that "there appears to be no appreciable change between censuses in inequality of holdings of *sawah* [rice paddy] or dry land" (Montgomery and Sugito, 1980). Utrecht (1969) details a process by which the land reform stalled and was eventually undone by the late 1960s in most parts of the country.[14] He concludes that the "most formidable obstruction to

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[12]Article 49 addresses the exemption, and point (3) stipulates that "Perwakafan tanah milik dilindungi dan diatur dengan Peraturan Pemerintah," which translates "Waqf land with the right of ownership shall be protected and overseen by Government Regulation." The article was also construed to apply to land connected to Hindu temples or *laba pura* (Utrecht, 1969).

[13]The exemption of religious lands was a necessary concession to placate Islamic leaders who, in early discussions with the Sukarno regime in the late 1950s, expressed strong reservation about restrictions on land ownership being in contradiction to Islamic law (Mortimer, 2006). Sukarno was keen to avoid rekindling he violent Islamic fundamentalist uprisings of the 1950s, rooted in the Darul Islam group's attempt to establish an Islamic state.

[14]In Section 6.6, we provide corroborating evidence that the intensity of the reform effort did not lead to lower land inequality in subsequent decades.

land reform came from the religious organisations" that "arranged for the land surplus... to be donated to religious institutions, the wakap [i.e., *waqf*], through antedated acts of transfer." It is this process that underpins our main hypotheses linking the failed reform, the entrenchment of Islamic institutions endowed in *waqf*, and contemporary support for Islamist parties and policies.

3 Background on the *Waqf*

This section provides general background on the Islamic institution linking the 1960 land reform to contemporary support for political Islam, the *waqf*. We focus on its specific use in Indonesia and on aspects most relevant to our empirical framework.

3.1 The *Waqf* in Islamic Law and History

Often described as a type of Islamic trust, the *waqf* is defined by the *Encyclopedia of Islam* as "the elements that a person, with the intention of committing a pious deed, declares part of his or her property to be henceforth unalienable and designates persons or public utilities as beneficiaries of its yields." A voluminous literature on the *waqf* argues that, ever since its introduction in Arabia soon after the death of the Prophet Muhammad, the institution served as a protection against the threat of expropriation by the state rather than as a vehicle for redistribution (Abbasi, 2012; Gil, 1998; Sharon, 1966; Singer, 2008; Encyclopaedia of Islam, 2012).[15] The sanctity of the norm against expropriation of land in *waqf* is illustrated in the first enduring record of a *waqf* from around 913 CE, which reads in part:

> This [waqf] is inviolable. Fa'iq ibn 'Abd Allah the Sicilian has renounced it, and whoever interferes in the distribution of these alms (*sadaqa*) and of this *waqf* or changes them, does so without authority .... May Allah punish him for his bad deed, for verily he has taken upon himself the burden of his sin and exposed himself to the anger of his Lord. ... He who interferes with [the regulations of] this [waqf] and who modifies it is warned of being struck by a violent death in this world or by the chastisement of the fire of Hell." (Sharon, 1966)

In principle, any Muslim can endow a *waqf*, a feature that made the institution popular among women and former slaves, whose property was otherwise vulnerable after their death (Fay, 1997; Shaham, 2000). Despite this appeal to these more disadvantaged groups, in practice, endowing a *waqf* required significant resources and was an institution of the wealthy. All *waqf* properties required funds not only to cover the operating costs of whatever charitable cause was identified by the founder but also to pay the salary of the administrator (Encyclopaedia of Islam, 2012). Because *awqaf* were meant to last in perpetuity, the funds used to support an individual *waqf* were often valuable assets that produced annual profits such as the fruits of orchards, the crops of fields, or even surpluses from tax farming. Endowing a *waqf* was therefore a pious deed but one only available to those with the substantial means necessary for permanently alienating a tangible asset and its revenues.

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[15]There is significant anecdotal evidence that in numerous contexts the *waqf*, particularly the *waqf ahli* (family *waqf*), which named descendants of the founder as beneficiaries in perpetuity, was used as a vehicle for shielding wealth from redistribution mandated by inheritance laws (Crecelius, 1995; Mandaville, 1979).

3.2 Usage of the *waqf* in Indonesia

The *waqf* institution reached Indonesia in the 1500s as Islam was taking deeper hold across the archipelago. In sharp contrast with the Middle East, only a small fraction of land was held in *waqf*. The Dutch colonial administration did not legally recognize *awqaf* for much of the time they ruled Indonesia. In the late 18th century, this gradually changed as the influential colonial adviser Christiaan Snouck Hurgronje introduced more liberal policies toward Islam (Atmadja, 1922; Benda, 1958; Salim, 2006). Nevertheless, these colonial restrictions limited the diffusion of the *waqf* in Indonesia relative to the Middle East or South Asia (Abbasi, 2012; Bussons de Janssens, 1951). The creation of new *awqaf* gathered pace during the 20th century, mostly in two separate phases: (i) during the 1930s, and (ii) during the Sukarno regime that ruled after independence in 1945 (Djatnika, 1985).

While in Indonesia, as elsewhere, any charitable act can be endowed by a *waqf*, today, *awqaf* are primarily used for supporting houses of worship or religious education. Indeed, most places of worship and religious schools are endowed as *waqf* properties. However, because most economic entities, including farmland, were not under *waqf* historically, the geographic coverage of *awqaf* (in terms of land area) remains fairly limited (see Jahar, 2006). This distinguishes the institution from its more pervasive application for economic purposes in some Muslim countries. At the same time, its widespread use in Indonesia for important local religious institutions leaves open the possibility for outsized influence on local culture and preferences via the enshrinement and emboldenment of such institutions.

4 Conceptual Framework: From Land Reform to Islamism

This section offers a conceptual framework that describes how an increase in *waqf* caused by the land reform affected contemporary support for political Islam. While representing a small fraction of land in Indonesia today,[16] the *waqf* had a disproportionate long-run impact on politics for two reasons: (i) its protection of elite interests at a critical juncture of history, and (ii) its support of other institutions that are central to the organization of the Islamist movement, namely Islamic boarding schools (*pesantren*).

4.1 Land Reform and the Spread of *Awqaf*

By exempting *awqaf* lands from redistribution in the BAL, the Sukarno government united the interests of large landowners and religious conservatives who were both threatened by the land reform. While large landowners feared the confiscation of their property, Islamists feared a coup by forces sympathetic to Communism within the regime and the marginalization of the class of rural landowners directly responsible for funding religious institutions (Djatnika, 1985; Huizer, 1972; Utrecht, 1969). Not surprisingly, landowners in affected districts took advantage of the loophole in the BAL to protect their land by transferring it to *waqf* (often with antedated acts of transfer), increasing the institutionalized bonds between rural elites and Islamists in districts most exposed to the land reform.

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[16]Approximately 2,400 km^2, or 0.12% of total land area was held in *waqf* in 2003, according to the village administrative census known as *Potensi Desa* or *Podes* (see Section 5.2).

The institutional characteristics of the *waqf* described in Section 3—its flexibility, immunity from ex-propriation and the reputational benefits conferred on the founder—help explain why, when confronted by the land reform, large landowners in threatened districts moved to protect their land by designating it as *waqf*. In the most comprehensive study of this phenomenon, Djatnika (1985) documents that "many Muslim landowners prefer[red] giving up their excess land in the form of wakaf [sic], rather than seeing them attributed to the Peasant Front (BTI)." His analysis focuses on East Java, where 17 out of 28 districts were above the 400 people/km^2 threshold for expropriation. Figure 1 shows the variation in registered *waqf* properties from the 1500s to the late 1900s in East Java, collected by and reproduced from Djatnika (1985). The figure shows a surge in registered *waqf* properties in East Java during the Sukarno regime, which peaked in the 1956–1960 period when the agrarian reform was announced. *Awqaf* registered dur-ing this period totaled more than 120,000 hectares—a 165 % increase from the previous period.[17]

A large body of qualitative evidence supports the analysis from Djatnika (1985) and the general finding that "Moslem religious institutions... frequently became the recipients of land from landlords seeking to escape the application of the reform law" (Utrecht, 1969). Castles (1965) recounts a prominent example in which elites transferred land under threat of expropriation to religious leaders:[18]

> "For some years the school [*Pondok-Moderen pesantren*] has possessed 25 hectares of rice-field, but this has recently been greatly increased by about 240 hectares, which was dedicated [to *waqf*] (*diwakafkan*) by landowners in the Ngawi district who were to lose it under the land reform law. In late 1964 the communist peasant organization B.T.I, was trying to prevent the *Pondok-Moderen* from getting any benefit from the land while the *Pondok-Moderen* was having a struggle to hold on to it. But apparently it is legal to dedicate land in excess of the legal maximum for religious purposes in this way."

In our empirical analysis, we directly test whether the land reform induced *waqf* formation in areas where landowners were most threatened with expropriation. Specifically, exploiting the fact that *waqf* estates are inalienable, we show that districts where large landowners were most threatened by the 1960 land reform—districts with high population density and a large number of landowners with marginal landholdings—have a higher density of *waqf* in the current period. This hypothesis is key to our theo-retical argument: for the 1960 land reform to have affected Islamism in Indonesia today, it should have induced variation in Islamic institutions that persisted over time.

4.2 *Waqf* and Elite Interests

Waqf lands protected under the land reform formalized customary notions about the inalienability of land devoted to charity, and in doing so, cemented the position of rural elites. According to the leading

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[17]Note that some of the dates of *waqf* creation in the 1956–1960 period likely reflect the antedating of land transfers during the later period, a process alluded to in the quote by Utrecht (1969) in Section 2.3.

[18]This once-modest local *pesantren* has since blossomed into a center of Islamic education with a large network of schools growing out of the original Islamic school at Guntur. Among its alumni are many influential Muslim leaders including Hidayat Nur Wahid, an early leader of the Prosperous Justice Party (*Partai Keadilan Sejahtera* or PKS), one of the major Islamist political parties over the last two decades. This example illustrates an important mechanism underlying our empirical results that we flesh out in the remainder of this section, namely the link from the attempted land reform to *waqf*.

scholar of the *waqf* in Indonesia, *waqf* estates enabled rural Indonesian elites to "endow public goods in perpetuity and to benefit from the prestige and reputational benefits associated with this public demonstration of piety", allowing "public recognition of their legacy to survive for decades, regardless of political power changes" (Fauzia, 2013).

While *awqaf* can be used to support secular public works (e.g., fountains, roads, wells), many founders direct their *waqf* towards supporting explicitly religious institutions: mosques, prayer rooms, Qur'anic schools (i.e., *pesantren*), and the like. This relationship has long been a feature of Islamic institutions in the Indonesian context, nicely illustrated in this passage from Hefner (2011):[19]

> "Qur'anic schools across Indonesia have always depended on gifts from wealthy landowners and on produce from lands controlled by the school owner. Endowments (*waqf*) to religious institutions are strongly sanctioned in Islamic law, linked as they are to the reproduction of institutions at the heart of religious life. This circulation of wealth from economic to religious elites (themselves sometimes from the ranks of the former) is all part of the way differences of wealth and class are moralized in traditionalist Muslim communities."

Consider the example of K.H. Choer Affandi (1923–1994), a member of the rural elite who established the prominent *Miftahul Huda pesantren* in Tasikmalaya district around the time of the land reform. The son of a Dutch police officer, Affandi belonged to the rural nobility as a descendant from the Sultan of Mataram (Central Java, 1587–1755). Affandi became the leader of the Islamic State Movement (*Darul Islam*) and fought as a guerrilla warrior in West Java between 1949–1962. After surrendering to the government, he established the *pesantren* with the blessing of political elites, including the district mayor. Before establishing the school, Affandi received "many [endowment] offers from several parties":

> "(1) Hadi Junaedi in Padayunga-Nagarawangi, who will donate 400 bricks of land, (2) K. H. Ismal BA (member of the DPR [Local Legislature] Tasikmalaya and Chair of NU [Nahdlatul Ulama, Islamic Organization]) who offers a house in the NU complex, (3) H. Badruddin (Managing Director of Batik Partners and member of the PUI [Persatuan Umat Islam or Persis, Islamic Organization) who will give 1 hectare of land along with 5 buildings in the City of Tasikmalaya, (4) K. H. Kamaluddin, brother of Choer Affandi and head of a *pesantren* in Pangandaran [District], who offers 1 hectare of *waqf* land . . . " (Teguh, 2018).[20]

These historical accounts illustrate the reputational benefits of establishing a *waqf* for local economic elites. *Waqf* lands created as a result of the land reform were often used to support other Islamic institutions that served the interests of these elites. As a result, we should observe a greater prevalence of Islamic institutions typically supported by a *waqf* (such as mosques and *pesantrens*) in districts where

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[19]Geertz (1956) similarly describes a common scene in the Javanese countryside where the economic and religious elites intertwine: "The rich hadji [an honorific title for those that undertook pilgrimage to Mecca], surrounded by a group of satellite landholders and young laborer students, could build up a system of agricultural production (often with home industry attached) which took the form of a kind of small-scale plantation."

[20]As we describe below, *Miftahul Huda pesantren* became a stronghold of the United Development Party (*Partai Persatuan Pembangunan* or PPP), one of the longstanding Islamist parties in Indonesia. Affandi's son, K.H. Asep Ahman Maoshul Affandi, also became a Member of the National Legislature under the PPP banner.

large landowners were most threatened by the 1960 land reform. Other forms of Islamic practice that do not rely on the presence of a *waqf* should be unaffected by the land reform. We test this conjecture by looking at the presence of *zakat*—a form of Islamic taxation or alms-giving that does not require the presence of the *waqf* to function—-in districts targeted by the reform.

4.3 *Pesantren* **and the Islamist Movement**

Pesantren have long played an important role in shaping political Islam in Indonesia (Buehler, 2016; Lee, 2004; Turmudi, 2006). Sukmajati (2011) provides a detailed qualitative study of this relationship in Tasik-malaya District (noted above), which has among the highest prevalence of *pesantren* in the country and the highest levels of electoral support for Islamist parties. Among these *pesantren* is the abovementioned *Miftahul Huda*, which "appl[ies] Salafism" and "focuses heavily on Islamic studies . . . . The local population also assumes that the Miftahul Huda Islamic boarding school is close to the United Development Party (*Partai Persatuan Pembangunan* or PPP)" (Sukmajati, 2011). In the 1999 election, which we study in the empirical section of this paper, Tasikmalaya reliably voted for the Islamist PPP, which came on top of the vote in 41% of the district's villages (compared to the national average of 10%).[21]

The connection between *pesantren* and political Islam can take many forms. For example, students in these institutions often form the next generation of Islamist political leaders (see footnote 18). *Pesantren* students often retain their social networks when entering university, where Islamic groups played a central role in sustaining Islamist organizational capital amidst the repression during the Suharto era (see Machmudi, 2008). *Pesantren* also engage in public goods provision and other community-based activism that would likely influence those outside the immediate family networks in these schools. Hamayotsu (2011), for example, details the vital role of Islamic schools and related community-building efforts in mobilizing and growing support for the hardline Prosperous Justice Party. Finally, *pesantren* often maintain their own militias, which are used for agitation and mobilization around elections (Buehler, 2016).

Our last set of hypotheses thus pertain to the final link in the pathway from the 1960 land reform and local support for Islamism in Indonesia. If districts at greater risk for land reform experienced a surge in the prevalence of organizations that support political Islam, such as *pesantren*, then these districts should display greater support for Islamic parties, candidates, and policies in the contemporary era.

5   Empirical Framework

This section describes our main testable hypotheses, data sources, and the identification strategy we use to estimate the long-term effect of the 1960 land reform on Islamic institutions endowed in *waqf* as well as contemporary support for political Islam.

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[21]The PPP was the umbrella Islamic party founded in the early 1970s when the Suharto regime forced all Islamic parties (of which there were five in the first legislative election in 1971) into a single ticket. This grouping of diverse parties survived until the mid-1980s when it split along ideological and regional lines, eventually giving birth to a more moderate Islamic party (PKB). We consider these various distinctions across religious parties when presenting empirical results.

5.1 Key Predictions

Several testable implications follow from the qualitative evidence presented in Section 4. First, we should see differences in *waqf* prevalence between districts most threatened by the land reform and districts exposed to less redistribution under the reform. Specifically, there should be higher concentrations of *waqf* in districts above the 400 people/km^2 threshold and a large number of large landholdings. Second, we should observe a higher concentration of *pesantren* endowed and supported by these *awqaf* in those districts. Third, we should find greater electoral support for the Islamist movement in areas with a higher prevalence of *waqf*-endowed *peasantren* established after the 1960 land reform. We describe next the data and identification strategy used to test these hypotheses.

5.2 Data: Measuring Land Reform Exposure, Islamic Institutions, and Islamism

We use a variety of geographic, demographic, socioeconomic, and electoral data to estimate the effect of the aborted 1960 land reform on the prevalence of Islamic institutions and contemporary support for Islamist parties. We report summary statistics in Appendix Table A.1 and provide complete details on data sources and variable construction in Appendix B.

Land and Demographic Data.   Our analysis relies on two historic district-level variables that determined the intensity of expropriation under the land reform: 1960 population density and the presence of large landholdings. Since we do not observe the measure of population density used by the government during the design of the land reform, we reconstructed district-level population density using population figures from the 1961 Population Census, and land area figures calculated in ArcGIS, based on the historic district boundaries. There are 202 historic districts in the 1960 Census records, and 200 districts in the 1963 Agricultural Census. After linking with other data sources, detailed below, we are left with 188 historic districts, which are the level at which the policy shocks vary and hence our main source of identifying variation. Our resulting measure of district-level population density averages 275 people/km^2 across all of Indonesia, and 555 people/km^2 in Java. The threshold of 400 people/km^2, which we focus on in our baseline analysis, is approximately the 70th percentile in population density.

To capture differences in the presence of large landholdings, we use district-level figures on the distribution of landholdings from the 1963 Agricultural Census. The Central Bureau of Statistics (BPS) used this Census to evaluate the land tenure situation ahead of the actual implementation of the land reform (Huizer, 1972). The Census provides, at the district level, the number of landholdings falling in seven discrete bins under 5 hectares, as well as the total number of holdings above 5 hectares. We estimate the number of holdings marginally affected by the population density cutoffs used in the reform. Under the reform, holdings affected by the 400 people/km^2 cutoff, for example, were those ranging between 5 and 9 hectares (5–7.5 hectares for irrigated land, and 6–9 hectares for dry land). Any holdings above 9 hectares would have been confiscated at the next lowest threshold of population density of 250 people/km^2.[22] Our identification strategy, detailed in Section 5.3 below, therefore leverages both

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[22]Ideally, we would have data on the distribution of landholdings before the announcement of land reform aims in 1959. While such data is not available, the Pareto estimating procedure will capture the leading sources of cross-sectional variation in large

discontinuous variation in the intensity of the reform above and below the 400 people/km^2 cutoff, and cross-sectional variation in the number of "marginal" landholdings subject to redistribution.

However, because the number of marginal holdings in ranges above 5 ha is unobserved in the 1963 Agricultural Census, we must draw upon estimation methods popularized in recent work on upper tail income and wealth. In the manner of Piketty and Saez (2003) and Saez and Zucman (2016), among others, we estimate the size of these bins by assuming a Pareto distribution over landholdings and estimating the shape parameter separately for each district (see Appendix B.2 for full details). There is growing consensus that the Pareto distribution appropriately describes the distribution of landholdings (e.g., see Allen (2014) and Bazzi (2017) for evidence from the Philippines and Indonesia, respectively). We use this methodology to calculate the number of large landholdings targeted by the reform in each district, depending on its population density category.

Islamic Institutions and Organizations. Our data on Islamic institutions, including the amount and fraction of land under *waqf*, comes from the 2003 Village Potential Statistics (*Podes*) Survey, which is available at the village-level for approximately 69,000 villages across Indonesia.[23] The amount of land held in *waqf* is small relative to total land. This is consistent with the fact that *awqaf* typically do not support large agricultural estates in Indonesia, but rather mosques, prayer rooms, and educational institutions. In 2003, 66% of villages have some land under *waqf*, and the average village has 1.9 hectares of *waqf*, with *waqf* parcels covering 0.5% of total land and 5.9% of legally zoned land. From *Podes*, we also use data on the number of *pesantren*, mosques, and *zakat* groups. We use the 2000 Population Census to measure the Muslim population share in each village.

Electoral Support for Islamist Parties. We use two main data sources to measure electoral outcomes. First, we use the 2003 *Podes*, which records village-level information on the 1999 national legislative election, the first election in the post-Suharto, democratic era. This election was won by the Indonesian Democratic Party (PDI-P, centre-left and nationalist) with 33.7% of the vote. Our primary focus is on the performance of Islamic and Islamist parties. The National Awakening Party (PKB, Islamic moderate) won 12.6% of the vote, and the United Development Party (PPP, Islamist) won 10.7%.[24] Other Islamist parties like the Prosperous Justice Party (PKS, Islamist) garnered smaller vote shares but figure importantly in understanding Islamist politics in subsequent elections. The *Podes* data reveal which party finished first, second, and third in each village but do not indicate the vote shares. This is the only available dataset that allows us to observe voting outcomes below the district level in the 1999 election.

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holdings so long as there is not significant misreporting at the cutoffs. We find no indication of pervasive bunching below the 5 hectare threshold in affected districts. We assess this directly by checking for a violation of the monotonicity implication of the power law distribution for landholdings, which implies that the number of landholders with farms of 3–3.99 hectares should exceed the number of landholders with farms of 4–4.99 hectares. Violations of this pattern could point to misreporting of holdings above 5 hectares as just below 5 hectares to avoid expropriation in districts with population density above 400 people/km^2. We see 4 out of 58 districts above the 400 cutoff with more landholdings in 4–4.99 ha than in 3–3.99 ha. This suggests that the bunching is limited, if indeed it exists. Moreover, results are robust to omitting these four districts.

[23]We restrict attention to around 55,000 villages covered by the scope of the land reform and with data that can be linked to the historic districts from the 1963 Agricultural Census.

[24]The PKB emerged after the fall of Suharto as an alternative to the longstanding PPP and as a vehicle for organizing votes among those long affiliated with the *Nahdlatul Ulama* movement originating in East Java. This group had largely split with the PPP umbrella of Islamic parties in the 1980s as a result of ideological disagreement (see footnote 21).

Second, we draw upon district-level vote shares, which allow us to track voting behavior over the entire study period beginning in 1955 with the first legislative election after independence.[25] These data cover elections through 2009 and provide a more complete picture of voting patterns in the democratic era but come at the expense of the geographic detail in *Podes*. For both the historical and post-Suharto period, we categorize Islamic and Islamist parties using well-established classifications in the political science literature (Baswedan, 2004) (see Section 6.3 and Appendix B.5 for details on the classification).

Voter Preferences. We use individual-level data from the Indonesian Family Life Survey (2007 and 2014/15) to measure voters' preferences for politicians' religious leanings. We focus in particular on respondents' stated preferences revealed by two survey questions capturing how important candidates religion and religiosity are in influencing their voting decisions.

Sharia **Regulations.** Buehler (2016) provides data on the number of *sharia* regulations adopted by district governments from 1998–2013. In total, his dataset includes 443 regulations adopted across 133 districts. We use all three variables provided in this dataset, namely (i) the number of regulations (adopted by local legislatures), (ii) the number of executive instructions and decrees (adopted by local mayors, known as *bupati*), and (iii) the total number of regulations, all of which are reported at the district level. These regulations cover myriad issues including, among others, the payment of *zakat* tax to the closing of commercial establishments during Friday prayer to the wearing of the Islamic headscarf by women.

Other Outcomes. The aborted land reform could have affected a range of socioeconomic outcomes correlated with Islamist institutions and politics through channels other than the *waqf*. We address these potential channels by also looking at measures of development and public goods (see Section 6.6).

5.3 Identification

To evaluate the intensity of the anticipated land reform, we use the differences-in-discontinuity design described and formalized in Grembi et al. (2016). As in a standard RD design, this specification exploits discontinuous policy variation at the cutoff used to determine the intensity of expropriation.

Note, however, that the reform used three different cutoffs at 50, 250, and 400 people/km^2, as discussed above. Unfortunately, we do not have enough power to estimate separate discontinuities at each cutoff since our variation comes at the level of 1963 districts, of which there are 188 in our data.[26] As a baseline, for the RD component of the research design, we focus on the maximum threshold of 400 people/km^2. We do this for two reasons. First, this was the only relevant threshold on the island of Java, which was the main target for mass redistribution under the BAL, and where only 7 districts (out of 81) had a density under 250 people/km^2. Indeed, knowledge and implementation of the reform was

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[25]Several districts are missing data for the 1955 elections. We therefore supplement the 1955 national legislative election data with data from the 1957 district legislative elections that were held in select districts. We digitize the latter from raw electoral report files shared with us by Donald Hindley. There are still some historic districts outside Java and Bali with no voting data from the 1950s, and for these 20 districts, we impute the vote shares for neighboring districts so as to retain the largest possible sample of districts when including this potentially important control. See Appendix B.5 for full details on the electoral data.

[26]There are 58 historic districts in the > 400 people/km^2 category, 27 districts with 251–400, 42 with 51–250, and 61 with ≤50.

much weaker outside Java (see Huizer, 1972). Second, this is one of only two thresholds that allows a clean comparison between districts with a higher reform intensity (all districts above 400 people/km^2) and districts with a lower reform intensity (districts below 400 people/km^2). Districts between 251–400 people/km^2 can be considered both "treated" with respect to the 250 cutoff and "untreated" with respect to the 400 cutoff. For robustness, we additionally consider the other such threshold at 50 people/km^2. In particular, we pool two separate RD specifications at the 50 and 400 cutoffs, restricting the former to the districts with density above and below 50 but less than 250 and restricting the latter to districts with density above and below 400 but greater than 250 (see Section 6.7). This specification is richer but also subject to greater noise given that reform efforts around the 50 cutoff were more limited.

To identify areas most threatened by the reform, we introduce the *difference*-in-discontinuity based on districts with a large number of wetland holdings between 5–7.5 hectares and of dryland holdings between 6–9 hectares. These are the marginal landholdings at the 400 people/km^2 threshold since holdings above 7.5 hectares of irrigated land and above 9 hectares of dry land would also be confiscated in districts above 250 people/km^2. The areas we define as most affected by the land reform are therefore the districts with a density above 400 people/km^2, and a large number of holdings between 5–7.5 hectares of wetland and 6–9 hectares of dryland. In other words, the difference on top of the discontinuity helps to identify areas where the land reform was likely to bind; districts above 400 people/km^2 would have limited exposure to redistribution if there are few large landholders.

We estimate variants of the following equation:

$$
\begin{aligned}
y_{ij} \;=\;& \alpha + \gamma Above400_j + \delta LH_j + \beta Above400_j \times LH_j \\
& + \mathbf{g}(\mathbf{D_j})'\boldsymbol{\eta_1} + (\mathbf{g}(\mathbf{D_j}) \times Above400_j)'\,\boldsymbol{\eta_2} + (\mathbf{g}(\mathbf{D_j}) \times LH_j)'\,\boldsymbol{\eta_3} + \mathbf{X}'_{ij}\boldsymbol{\Omega} + \varepsilon_{ij},
\end{aligned}
\tag{1}
$$

where i denotes village and j denotes 1960 district; $Above400_j$ is a dummy variable for districts above 400 people/km^2; LH_j is a dummy variable for districts above the sample median in the number of large expropriable landholdings at the onset of the land reform;[27] $\mathbf{g}(\mathbf{D_j})$ is a polynomial in population density estimated separately on either side of the 400 people/km^2 cutoff, and interacted with LH_j. We use a third-order polynomial as a baseline but consider other values for robustness. $\mathbf{X}_{ij}$ is a vector of controls also interacted with $Above400_j$ and LH_j. In addition to six island fixed effects, these controls, discussed in Section 6, are either measured at baseline (prior to the land reform) or are time-invariant. Our baseline specification includes all districts, and in robustness checks in Section 6.7, we vary the bandwidth around the 400 cutoff. We cluster standard errors by 1960 district, the level of variation of the land reform, and inference is robust to the Young (2016) effective degrees of freedom adjustment, which is reassuring given the relatively small sample.[28]

The main coefficient of interest in equation (1) is β, the coefficient on the interaction of $Above400_j$ with

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[27]The binary definition eases interpretation, but for robustness, we also consider a continuous measure of the number of large landholdings (see Section 6.7).

[28]The Young (2016) adjustment accounts for the potentially more limited empirical variation across districts than implied by their unique values. This approach routinely delivers very similar inference as clustering by 1960 district, and hence we maintain the latter throughout. The Young (2016) procedure also suggests that we have around 20 effective degrees of freedom to identify β in regressions with the full set of controls.

LH_j. This coefficient captures differential effects of the reform by comparing districts with more versus less large landholdings among those exposed to greater expropriation under the land reform. $Above400_j$ and D_j are the equivalent of the treatment dummy and the running variable in a standard regression discontinuity (RD) framework, while LH_j plays the role of the interacted variable in a difference-in-differences (DID) setup.

Illustration of Identification Strategy. Before turning to results, we illustrate in Figure 2 the intuition behind our identification strategy. The figure plots the prevalence of *awqaf* as a fraction of zoned land at the level of historical districts, above and below the 400 people/km^2 and for two groups of districts: districts with a large number of marginal landholdings (in blue) and with a small number of marginal landholdings (in red). We highlight four districts to illustrate the discontinuous change in outcomes between both groups of districts at the cutoff. On the left side of the cutoff, Sampang and Malang have historical population densities of 395.8 and 399.3 people/km^2, respectively. Sampang has a relatively low number of estimated marginal landholdings (57), and Malang has a high number (300). *Awqaf* represent 1.95% and 3.79% of zoned land in Sampang and Malang (300), respectively. On the right side, two districts close to the cutoff are Klungkung (413.9 people/km^2) and Bogor (415 people/km^2). Klungkung has a low number of marginal landholdings (21), and Bogor has a high number (228). The gap in *awqaf* as a fraction of zoned land on this side of the cutoff is 2.3% (Klungkung) versus 9.2% (Bogor). Our specification in equation (1) captures the difference in differences (i.e., (9.2-2.3) - (3.79-1.95)) at the 400 people/km^2 cutoff, controlling flexibly for population density as in a standard RD specification.

Figure 2 also illustrates why we do not use a simple RD around the 400 people/km^2 cutoff to estimate the long-term effects of the BAL. There is no discontinuous jump in this variable when looking across the entire sample. This particular feature of the data is consistent with the fact that the 400 people/km^2 cutoff was only relevant for landowners with expropriable holdings. For other landowners (i.e, those with holdings under 5 ha or above 9 ha), the intensity of expropriation was orthogonal to population density in the district. In other words, these landowners should not have perceived a differential (higher) threat of expropriation at this particular cutoff.

Yet, districts without a large number of marginal holdings provide a useful comparison group for our analysis. By definition, these districts also had a larger landed elite prior to the reform.[29] Our argument is that the long-term effects of the reform materialized from the targeting of this particular group. The BAL cemented the position of existing elites by providing them with an incentive to collude with religious leaders. Thus, by design, our estimation framework does not simply capture a discontinuous jump in the threat of expropriation at the 400 people/km^2 cutoff. Rather, it identifies the differential effects of this threat faced by two groups of districts: those with and without a large landed elite pre-reform.

Identification Checks. To provide a valid causal estimate of the effect of the land reform, this design requires the main identifying assumptions of both RD and DID to hold: namely, (i) potential outcomes must be continuous at the 400 people/km^2 threshold, and (ii) the parallel trends assumptions must be satisfied for districts above and below the median in large landholdings.

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[29]Among districts on the right-hand side of the 400 people/km^2 cutoff, 5 have 0 marginal landholdings and 30 have less than 100 marginal landholdings.

On (i), in Appendix Table A.2, we regress baseline covariates on a standard RD specification testing for discontinuities at the 400 people/km^2 cutoff (with a third-order polynomial in the running variable, population density, estimated separately on each side of the cutoff). These are the same variables we use as controls in equation (1), as discussed in Section 6.1. We also regress these covariates on our differences-in-discontinuity (RDID) specification. Out of 32 coefficients in this table, 5 are significant at conventional levels—4 in the standard RD specification, and 1 in our baseline RDID specification. Importantly, we find small null effects of the RD and RDID terms on the vote share for Islamic parties in the 1955/57 elections, which is reassuring since any pre-trends in terms of support for Islamist movements would likely have been captured by this variable. Nevertheless, since the number of significant coefficients in Appendix Table A.2 is slightly more than what we would expect to find as a result of chance, throughout the analysis we show that our main results are robust to including this entire set of controls, appropriately interacted with the RDID terms. In Appendix Figure A.1, we also implement a McCrary (2008) test of manipulation of the running variable, population density. We find no evidence of such manipulation. On (ii), we show that the significant effects of the land reform (β) on the prevalence of *waqf* disappear when using a placebo cutoff of 300 or 500 people/km^2 instead of the actual cutoff of 400 people/km^2. Together, these results and other robustness checks below bolster the causal interpretation of our findings.

6   Empirical Results: Long-Run Effects of the Land Reform

This section presents our core empirical results linking land reform exposure to *waqf* prevalence, related Islamic institutions, and Islamist politics and policies. We consider alternative explanations and present a battery of robustness checks before concluding.

6.1   Effects on *Waqf*

Table 1 reports our estimates of the effect of the aborted land reform on contemporary *waqf* presence, measured in 2003. We look at hectares (cols. 1-2) and log hectares (cols. 3-4) of *waqf*, as well as the fraction of total land (cols. 5-6) and zoned land (cols. 7-8) under *waqf*.

In addition to the coefficients reported in this table, all specifications include a 3rd order polynomial in 1960 population density interacted (i) a dummy for districts above the 400 people/km^2 and (ii) a dummy for districts above the sample median in large landholdings. Odd-numbered columns report estimates without controls, while even-numbered columns include a set of predetermined controls. These controls include island fixed effects as well as a vector of pre-land reform characteristics ($\mathbf{X}_{ij}$), including the total male and female populations, the total amount of farms, irrigated land, and agricultural land (all measured in the early 1960s at the district-level). We also include in $\mathbf{X}_{ij}$ time-invariant geographic controls—altitude, distance to the nearest district and subdistrict capital, and whether the village is located on a hill or on the coast—as well as the vote share received by Islamic parties in the 1955 and 1957 elections. These were the last elections conducted before the land reform, and the last free and fair elections conducted until 1999. These controls help ensure that the long-run effects of the land reform that we identify are not confounded by underlying political preferences that predate the reform. We

further interact the controls in $\mathbf{X}_{ij}$ with $Above400_j$ and LH_j. Reassuringly, though, our key findings are generally not sensitive to the inclusion of these controls.

Across most specifications in Table 1, we find that villages in districts heavily targeted by the land reform—districts with high population density and large landholdings—have significantly more land under *waqf* in 2003, whether land is measured in hectares or as a fraction of land. In columns 5-6, we find that the fraction of total land under *waqf* is 0.6–1.1 percentage points higher in districts targeted by the reform. Consistent with the historical accounts discussed above, we interpret these estimates as evidence that in anticipation of the land reform, big landowners sought to protect their land from expropriation by placing it under *waqf*. The inalienable nature of the *waqf* meant that even when redistributed lands were eventually reclaimed by their original owners in the late 1960s, lands designated *awqaf* could not be reclaimed.[30] These *waqf* estates persisted to the modern period.

6.2   Effects on Islamic Boarding Schools (*Pesantren*)

In Table 2, we test the hypothesis that the land reform also led to an increase in the prevalence of other Islamic organizations. In columns 1-2 and 3-4, we show that villages in districts targeted by the reform have more Islamic boarding schools (*pesantren*) and more mosques in 2003. Districts most exposed to the reform have around 1.5 more *pesantren* relative to the mean of 0.5 and 6 more mosques relative to the mean of 3.1. This effect does not hold for another type of Islamic organization that does not require the existence of a *waqf*, i.e. *zakat* organizations (cols. 5-6). The intensity of the land reform also does not lead to a greater Muslim share of the population in 2000 (cols. 7-8).

Overall, Table 2 provides evidence that the land reform increased the prevalence of Islamic organizations typically held in *waqf* (*pesantren* and mosques), but had no effect on the general practice of Islam or the presence of other types of Islamic organizations. With this deeper reach of Islamic institutions comes stronger support for Islamist politics.

6.3   Effects on Electoral Support for Islamism

We show in Table 3 that districts targeted by the 1960 land reform provide greater subsequent electoral support for Islamist parties in the first democratic election of 1999. Columns 1–4 examine outcomes for the two moderate Islamic parties with no interest in pushing for an Islamic state or *sharia* law. The National Mandate Party (*Partai Amanat Nasional*) or PAN and the National Awakening Party (*Partai Kebangkitan Bangsa*) or PKB both initially adopted the national pluralistic ideology of *Pancasila* prior to the 1999 election, when parties could for the first time choose whether or not to embrace this ideology.[31]

Conversely, columns 5-10 of Table 3 examine outcomes for three hardline Islamist parties that advocate for a central role of Islam in government: the United Development Party (*Partai Persatuan Pem-*

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[30]We further validate these findings by exploiting additional variation induced by the BAL, which, recall from Section 2.2, stipulated that no individual could hold more than 20 hectares of land. Using the estimated number holdings implied by the Pareto distribution for each district, we find a strong positive correlation between the number of holdings above 20 ha in early 1960 and the prevalence of *awqaf* land in 2003.

[31]These two parties are closely affiliated with the two largest and longstanding Muslim non-governmental organizations in Indonesia (*Muhammidiyah* for PAN and *Nahdlatul Ulama* for PKB).

bangunan) or PPP, the Prosperous Justice Party (*Partai Keadilan Sejahtera*) or PKS, and the Moon and Star Party (*Partai Bulan Bintang*) or PBB. All three parties advocated for Islamic law and rejected *Pancasila*, including the PPP which was forced to accept *Pancasila* when it was the only Islamic party allowed to run during the authoritarian Suharto era. In all columns, the dependent variable is a dummy variable indicating whether the given party was among the top 3 parties in the village in the 1999 election.[32]

Looking across columns of Table 3, we find robust evidence that the land reform increased long-term electoral support for Islamist parties at the expense of more moderate parties, Islamist or otherwise. This is seen most clearly in comparing the large positive effects of land reform intensity on the likelihood of a top 3 finish for the PPP (cols. 5–6) relative to the large negative effects on the likelihood of a top 3 finish for the PKB (cols. 3–4). This difference is telling as the PKB is the successor to a political bloc that disbanded from the PPP in 1984 on account of ideological differences over the role of conservative ideology in the party's future. The effect on the smaller Islamist parties is more limited, though PKS, a new party in the post-Suharto era, would prove an important player over subsequent elections especially as the PPP moderated part of its Islamist platform.

Islamist Party Performance in the Democratic Era.   The 1999 election was especially important since it was the first of the democratic era and hence offered an early indication of underlying preferences long dormant in the Suharto era of political repression. However, being the first election, it was also subject to uncertainty and limited information about the nature and credibility of party platforms. In this period of abrupt political change, it is possible that party fortunes would have changed in subsequent elections as parties matured and a realignment of policies and preferences took hold.

In Table 4, we investigate whether the effects of land reform intensity on electoral outcomes changed over time.[33] We do so using data on electoral outcomes at the district level, which allows us to identify the effects on vote shares. We follow the grouping from Table 3, putting together the vote shares for the moderate Islamic parties and the hardline Islamist parties. Looking across columns 1–4, the results line up closely with the village-level party rankings. Turning to columns 5–8, we see that even a decade after the first democratic election, Islamist parties continue to significantly outperform non-Islamist, moderate Islamic parties in districts most heavily exposed to the attempted land reform in the early 1960s.[34] This outperformance is consistent with qualitative work by Hamayotsu (2011), who argues that increasing support for PKS over the first few democratic elections is likely to have come at the expense of support for PKB, which increasingly finds itself in competition locally with PKS-influenced *pesantren* and other Islamic schools.

Overall, these results suggest that an important legacy of the land reform was to shift the population of those voting for Islamic parties towards more hardline Islamist parties. This initially took the form of support for the PPP and over time expanded to include the new PKS. The sustained support for

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[32]Looking at first and second place parties delivers similar, albeit noisier results given the more limited variation.

[33]We also investigate voting for Islamic parties during the authoritarian, Suharto era and find some evidence, albeit weak, of differential support for Islamist parties in areas most affected by the attempted land reform. However, these results are not easy to interpret given that elections were not free and fair, and the Suharto regime severely limited the ability of Islamist movements to organize politically.

[34]We find similar patterns for the election in 2004.

Islamist parties (within the set of Islamic parties) may be due in part to the important role of mobilization through various social networks affiliated with *pesantren* and specific mosques. This is a recurring theme in the rich qualitative literature on religious politics in Indonesia (see, among others, Buehler, 2016; Hamayotsu, 2011; Hilmy, 2010; Permata, 2008; Sukmajati, 2011). Buehler (2016) in particular provides a deep and compelling look at the role of Islamist activists in shaping local politics through the lens of efforts to implement *sharia*-inspired laws, an outcome we turn to below.

6.4   Effects on Policy: Voter Preferences, *Sharia* Regulations, and Local Governance

The long-run effects of the land reform on electoral outcomes are suggestive of effects on voter preferences. In Table 5, we provide direct evidence on voter preferences in line with Islamists' success at the polls. We measure these preferences using the questions from the IFLS on the importance of a candidate's religion and religiosity in influencing voting decisions. We report estimates from equation (1) using two different variables from the IFLS as the dependent variable: whether respondents say a candidate's religion makes it very likely to vote for him/her (cols. 1-2), and whether a candidate's religiosity makes it very likely to vote for him/her (cols. 3-4). We find large and significant effects on both of these variables. In addition to supporting Islamist parties, voters in districts targeted by the land reform are more likely to support religious candidates, even if such candidates don't necessarily run on Islamist party tickets. This is an important finding, as previous research identifying an Islamist "advantage" in Indonesia relies on party and not individual characteristics (Pepinsky et al., 2012).

If the individual characteristics and preferences of candidates translate into different policy choices (a key prediction of citizen-candidate models; see Besley and Coate, 1997; Chattopadhyay and Duflo, 2004; Osborne and Slivinski, 1996), then these effects of the land reform should also have an impact on local government policy. We test for this in Table 6, which investigate effects of the land reform on the adoption of *sharia* law at the district level between 1998-2013. This policy outcome is particularly relevant in the Indonesian context after the introduction of democracy in 1998 and decentralization in 2000. We look at the adoption of any regulations in columns 1–2, the log number of regulations adopted by district executives (mayors) in columns 3–4, and the log number of regulations adopted by district legislature in columns 5–6, and the log total number of regulations in columns 7–8. Importantly, many of these regulations were not adopted by Islamist parties, but by local governments and assemblies controlled by secular parties (Buehler, 2016). Hence, these measures reflect the political influence of the Islamist movement beyond that reflected solely in their vote share.

We find sizable positive long-term effects of land reform intensity on *sharia* regulations adopted since 1998. The estimates are somewhat imprecise but significant at the 10 percent level in most specifications. While these results must be interpreted with caution, they tell a story consistent with the estimates reported in Tables 1–4. Districts targeted for expropriation under the Basic Agrarian Law exhibit higher concentrations of *waqf* and *pesantren* in the contemporary period, and they provide greater support for Islamist parties and religious candidates that translate into a consequential policy outcome—the adoption of more pervasive *sharia* laws. This result is particularly significant in the context of Indonesia, since the struggle between advocates and opponents of *sharia* law has divided the Indonesian political

spectrum since the dawn of independence (Lee, 2004).

Looking beyond *sharia* law, it is also plausible that the increased role of the Islamist movement at the local level fosters competition between the state and civil society. In Table 7, we provide indirect evidence consistent with this possibility by examining the effects of the land reform on the composition of village-level government revenue. We show that villages in districts with greater exposure to the land reform are less likely to draw on public land (col. 1) as a source of revenue and more likely to draw on revenue from informal social or community organizations (cols. 2-3). These village governments in exposed districts are also slightly more likely to draw a larger share of revenue from private sources such as individuals and firms (col. 4). While the latter estimate is imprecise, the pattern is clear: local government tends to be much more tightly connected with private social revenue streams than with public revenue streams in areas differentially affected by the land reform. What's more, these social revenue streams are highly correlated with the prevalence of *awqaf* and *pesantren*.[35] Together, these patterns provide further evidence of the link between the initial land reform, the strength of Islamist-leaning organizations, and broader policy ramifications.

6.5   Summary: Land Reform and the Islamization of Politics

Our findings thus far suggest that the land reform of 1960 led exposed regions to embrace a deeper role for Islam in political life as seen through electoral outcomes, voter preferences, and policy implementation. Although Islamist parties do not dominate elections, they can exert significant impacts on politics across the administrative hierarchy. By commanding significant and in some cases pivotal voting blocs, these parties are able to influence the direction of policy. We saw this at the local level where many districts have implemented *sharia* laws even when local legislatures and mayorships are not controlled by Islamist parties. This can also potentially arise at the national level where newly elected presidencies, led by secular parties, have typically appointed at least one if not more members of Islamist parties to cabinet-level positions where they have considerable scope for affecting the political orientation of certain ministries or aspects of governance.[36]

6.6   Alternative Explanations

We argued above that the link between exposure to land redistribution in the 1960s and political Islam today is shaped by the transfer of land wealth from local elites to religious institutions via the *waqf*. With available sources of identification, it is not possible to definitively isolate this particular channel of mediation above all others. However, we are able to rule out several alternative explanations for this link that do not necessarily run through *awqaf*-endowed institutions prone to political capture. We present

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[35]Regressing the share of land under *waqf* status on the four revenue share variables (and our baseline controls) suggests a strong negative correlation with the public land share and a strong positive correlation with the social organization shares. The same holds with even greater precision when looking at the number of *pesantren* as the dependent variable.

[36]Some examples of this include (i) the ascendence of PPP Chairman Hamzah Haz to the vice presidency in 2001, (ii) the awarding of several cabinet positions to PPP leaders in the administration of Susilo Bambang Yudhoyono elected president in 2004, and (iii) the election of PKS leader Hidayat Our Wahid to the Speaker of Parliament after the party's strong performance in the 2004 legislative election.

these results here.

Residual Land Inequality.   One concern is that the land reform affected the land distribution in targeted districts. This would be a concern for our theoretical argument if land inequality increases support for Islamism. In columns 1-3 of Table 8, we test whether reform intensity affects the change in land inequality between 1963 and 1980, 1985, and 1990 using district-level estimates of the Pareto dispersion parameter (λ) from large-scale population census and survey data. The results suggest limited systematic effects of the land reform on inequality in the countryside in the first few decades after the reform. Column 1 of Table 9, estimated at the village-level in 2003, paints a similar picture. Together, these null results are consistent with the studies mentioned in Section 2.3 arguing that the land redistribution efforts were largely undone by the early 1970s.

Demographic Changes from the 1965–66 Mass Violence.   Another, potentially significant challenge to our interpretation is that the widespread massacre of purported Communists closely followed the land reform. While the data limitations concerning this episode of potential genocide are well known (Cribb, 1990), we address this issue in columns 4–5 of Table 8, where we test for effects of the land reform on two measures of demographic changes after the mass murders: population growth between 1961–71 (col. 4), and changes in male-to-female sex ratios between 1961 and 1971 (col. 5). The latter is a useful check as men were the primary targets of the mass murders.

We find little evidence that reform intensity predicts significantly slower overall population growth or differential growth of men versus women.[37] This has two implications for our main results. First, the effects we find on contemporary support for Islamism are not likely to be explained by changes in the underlying voting population. Second, even if Islamist groups organized around *pesantren* contributed to the mass violence in 1965-66 (Fealy and McGregor, 2010; van Bruinessen, 2004), the locations targeted for expropriation—and where the alliance between rural elites and Islamist groups was eventually solidified—may not have been where the mass killings disproportionately took place. Overall, these results provide further support to the particular channels we highlight in Section 4: the land reform contributed to contemporary support for Islamism through its effect on specific Islamic institutions, namely *waqf*, *pesantren*, and mosques.

Economic Development and Public Goods.   While there is considerable debate about the long-run consequences of the *waqf* for economic development, there is a strong argument that the *waqf*'s inflexibility made it increasingly inefficient, especially after the introduction of the corporation. This perspective argues that the perpetual alienation of property inevitably becomes inefficient as modes of production and technologies change. Because the terms of the *waqf* cannot be changed, the *waqf* "locks" land to inefficient modes of production and unlike a corporation, cannot be easily dissolved when it is no longer viable (Kuran, 2001, 2011). In this account, the uptake of *waqf* in response to the land reform contributed

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[37]These null findings are in line with a consensus view among demographers of Indonesia that there is little evidence of missing people in Population Censuses conducted after the violence during the 1960s. We confirmed this view in several lengthy email discussions in 2013 with Terrence Hull and Peter McDonald, leading demographers with decades of experience working on the Population Census in Indonesia.

to Islamist dominance in affected districts because these districts became systematically less developed than those where there was no increase in the *waqf* and more flexible institutions were adopted.

In Table 9, we do not find significant evidence for this adverse economic effect of the land reform. Column 1 reports the abovementioned null effect on the long-run village-level distribution of land, proxied by λ, as measured in the same year and enumeration cycle as the *Podes* data from which we observe *waqf* land. We then examine several proxies for local development: the extent of irrigation in 2003 (col. 2), an index of public goods provided by the village such as local garbage collection in 2003 (col. 3), a weighted index of agricultural productivity across all crops in 2003 (col. 4), rice productivity in 2003 (col. 5), the share of the village with any nighttime light intensity in 2000 (col. 6), average household expenditures per capita averaged across available rounds of the *Susenas* household survey from 1994 to 2010 (col. 7), an indicator for whether the village has a high school in 2003 (col. 8); and the share of households with any post-primary education in 2000 Population Census (col. 9). Across seven out of eight columns, we find insignificant effects of the land reform intensity on local development.[38] It is of course possible that the land reform affected other aspects of development and local public goods that we do not observe. Yet, these largely null results suggest that the legacy of the land reform for Islamist prevalence today is likely to operate through an institutional channel by which the *waqf* (and affected establishments) helped solidify a prominent role in local society for Islamic leaders and their constituents.

6.7 Further Robustness Checks

Before concluding, we discuss several additional robustness checks on the core outcomes in Tables 1–3. The results, reported in Appendix A.3, are as follows. First, we show in A.3.1 that our main results are mostly robust to an alternative parametrization of the RD where we pool the 50 and 400 people/km² cutoffs following the approach described in Section 5.3.[39] Second, we show in A.3.2 that our results are not sensitive to the definition of large landholdings as a continuous measure rather than our baseline choice of splitting the sample between above and below the median. Third, A.3.3 demonstrates for those same core outcomes that our results are not driven solely by the fully specified difference-in-discontinuity (diff-in-disc) specification but mostly arise for even simpler difference-in-difference (diff-in-diff) specifications that omit the $\mathbf{g}(\mathbf{D_j})$ terms in equation (1).

We further probe the RD component of the diff-in-disc. Appendix A.3.4 shows that the results mostly

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[38]The positive and significant effect in column 8 may be an artifact of the different sample due to the fact that many villages were not covered by the survey.

[39]In this alternative specification, the density ranges 51-250 people/km² and over 400 people/km² are considered treated, and the density ranges under 50 people/km² and between 251-400 people/km² are considered untreated. Marginal holdings at the 50 people/km² cutoff are defined as holdings between 10 and 15 hectares of wetland and between 12 and 20 hectares of dryland, following the discussion in section 2.2. The controls in even-numbered columns are important in this specification because the island fixed effects help ensure that comparisons across threshold are made within-island. This matters given that Java/Bali has very few districts at the 50 threshold, and the Outer Islands have very few districts at the 400 threshold. Indeed, the parts of Indonesia that fall below the 50 threshold are mostly large and low density, forested areas of Sumatra and Kalimantan as well as outlying islands, where the reach of the central Indonesian state at the time of the land reform was limited. Hence, we would expect that this additional treatment effect adds considerable, relative to the effects around the 400 threshold, which are mostly on Java, home to the majority of the population and strong government institutions.

disappear when examining a placebo discontinuity in density at 300 or 500 people/km^2. These tables help validate the identifying assumptions of the discontinuity input to our difference-in-discontinuity strategy. Finally, A.3.5 demonstrates robustness to alternative polynomials in 1960 population density (linear, quadratic, and quartic) besides the cubic specification used in the baseline estimates. Sixth, A.3.6 varies the bandwidth around the population density cutoff of 400 people/km^2, ranging from 100 to 300. At the lower end, we see the limits of the identifying variation afforded by the policy as we are left with too few districts (45 out of 188) to conduct statistically well-powered difference-in-discontinuity regressions with the required controls and associated interactions. We view these results not as illustrating the fragility of our findings but rather the limits of the available identifying variation in this historical setting. Overall, the stability of results points to the robustness of our findings and interpretation of the long-run pathway from the attempted land reform to Islamic institutions and Islamist politics today.

7   Conclusion

This paper provides causal evidence of the effects of Islamic institutions on religious politics and the spread of Islamism. Our results suggest that a major Islamic institution, the waqf, played a disproportionately important role at a critical juncture in Indonesian history. The 1960 land reform exempted religious lands from redistribution, prompting rural landowners to transfer their holdings to *waqf* estates to avoid seizure by the government. Since *waqf* lands are primarily used for religious purposes, this episode cemented the social standing of Indonesian rural elites and solidified the alliance between these elites and the Islamist movement, despite the fact that waqf were and remain a small fraction of rural land. We show that *waqf* lands as well as Islamic boarding schools (*pesantren*) are found in much greater numbers in areas targeted by the 1960 land reform, and we argue that this local variation in the density of *pesantren* is important for understanding contemporary variation in support for Islamist movements, voters' preferences for religious candidates, and adoption of *sharia* legal regulations by legislators across Indonesia.

Our findings may also have generalizable implications for our understanding of the relationship between religious institutions and the rise of religious politics in other societies. This pertains, first and foremost, to support for political Islam in the Muslim World. While *waqf* estates represent a small fraction of land in Indonesia, they are more intensively used in the Middle East, North Africa, and India, where their impacts on the local organization of political Islam deserves further exploration. Beyond Islamist politics, the literature on the economics of religion has generally not focused on the impact that specific institutions play in shaping political activism by religious actors and organizations. In the same way that *waqf* estates created as a result of the 1960 Indonesian land reform continue to influence the course of Indonesian politics, institutions specific to other religious traditions may also condition the ways in which religious actors engage in politics in the West, or in other parts of the developing world.

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Figures

Figure 1: Creation of *waqf* in East Java Province, reproduced from Djatnika (1985)
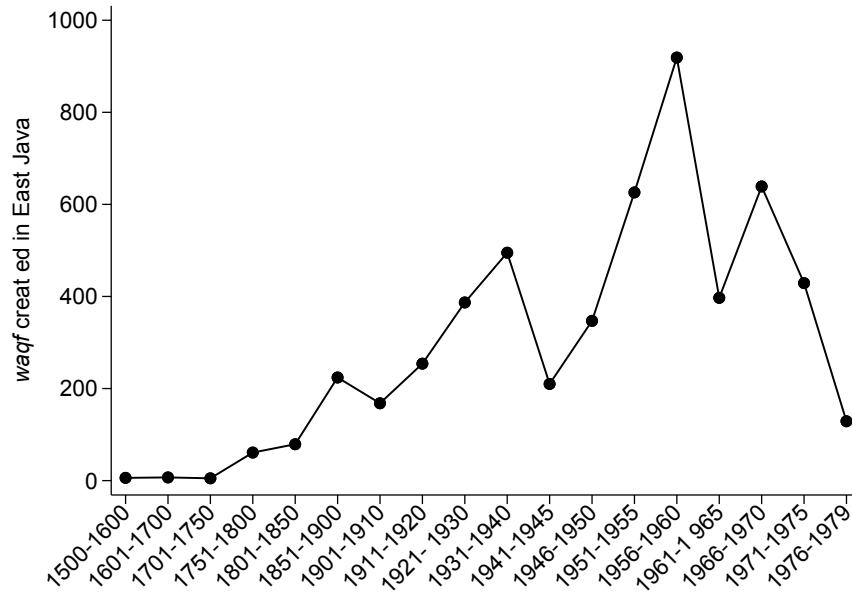
Notes: This figure illustrates the number of *waqf* created in one of Indonesia's largest provinces through 1979. The data are collected by Djatnika (1985) from local Ministry of Religion archival records.

Figure 2: Illustration of the Differences-in-Discontinuity Design
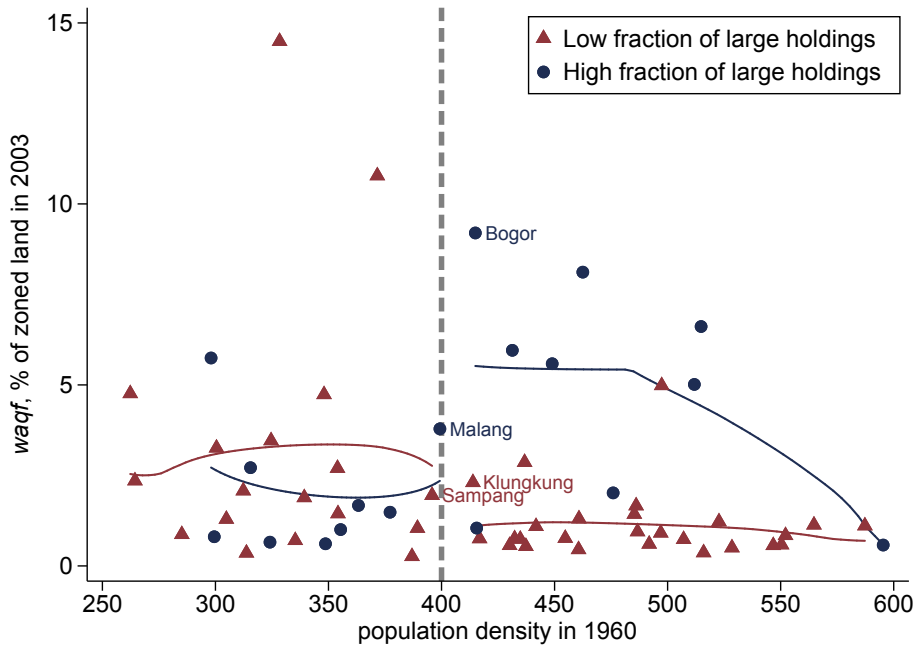
Notes: This figure illustrates how the difference in outcomes, here *waqf* land shares, between districts with high and low numbers of marginal landholdings changes at the 400 people/km² cutoff. We restrict attention to districts in the 250–600 people/km² range for presentational purposes. The curves are local linear regressions with an Epanechnikov kernel and bandwidth of 50. See Section 5.3 for details.

Tables

Table 1: Prevalence of *waqf* after the Land Reform

	Hectares		Log Hectares		% Total Land		% Zoned Land	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above threshold*Large landholdings	4.496***	5.333**	0.487***	0.993***	0.636***	1.115***	6.059**	0.983
	(1.339)	(2.414)	(0.141)	(0.237)	(0.231)	(0.369)	(2.919)	(5.653)
Above 400 threshold	-1.298	-0.556	-0.268	0.086	-0.178	0.132	-1.429	-4.550
	(1.231)	(2.250)	(0.163)	(0.208)	(0.242)	(0.311)	(4.097)	(5.206)
Large landholdings	-1.841**	-5.115*	-0.114	-0.253	-0.281**	-0.139	-0.500	-9.146*
	(0.927)	(2.800)	(0.109)	(0.225)	(0.137)	(0.245)	(2.915)	(5.360)
R^2	0.00	0.00	0.01	0.05	0.00	0.01	0.03	0.05
Dep. Var. Mean	3.450	3.450	0.672	0.672	0.520	0.520	6.133	6.133
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188
Observations	54339	54339	54339	54339	54743	54743	54518	54518

Notes: This table reports estimates of equation (1). Land under *waqf* status in 2003 is measured in hectares (ha) in columns 1-2, log ha in columns 3-4, as % of total land in columns 5-6, and as % of legally zoned land in columns 7-8. *Above 400 threshold* is an indicator equal to one for districts above 400 people/km^2 in 1960, and *Large landholdings* is an indicator equal to one for districts with above median number of landholders in the size categories subject to redistribution according to the 1960 laws. Odd-numbered columns include a cubic polynomial interacted separately with the two land reform exposure variables, *Above 400 threshold* and *Large landholdings*. Even-numbered columns additionally include six island fixed effects and predetermined *Controls* ($\mathbf{X}_{ij}$), which include (i) pre-land reform measures of the total male and female populations, the total amount of farms, irrigated land, and agricultural land (all measured in the early 1960s at the district-level), (ii) time-invariant controls, including altitude, distance to the nearest district and subdistrict capital, and whether the village is located on a hill or on the coast, and (iii) the vote share received by Islamic parties in the 1955 and/or 1957 elections. We further interact the $\mathbf{X}_{ij}$ vector of controls with the two land reform exposure variables.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table 2: Prevalence of Other Islamic Institutions

	# Pesantrens		# Mosques		Any Zakat Org.		% Muslim	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above threshold*Large landholdings	1.564**	2.061***	6.120***	6.549***	-0.055	-0.115	0.055	0.037
	(0.652)	(0.595)	(2.283)	(2.026)	(0.106)	(0.154)	(0.067)	(0.113)
Above 400 threshold	-0.790	-0.402	-2.082	0.002	0.066	0.416**	-0.066	0.011
	(0.632)	(0.658)	(1.471)	(2.454)	(0.108)	(0.190)	(0.061)	(0.148)
Large landholdings	-0.430	-1.148***	-1.760	-7.917***	0.045	-0.137	-0.093	-0.407***
	(0.530)	(0.415)	(1.418)	(1.910)	(0.080)	(0.131)	(0.058)	(0.116)
R^2	0.16	0.28	0.21	0.33	0.04	0.19	0.12	0.57
Dep. Var. Mean	0.524	0.524	3.316	3.316	0.742	0.742	0.868	0.868
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	187	187
Observations	54339	54339	54339	54339	54744	54744	45784	45784

Notes: This table reports estimates of equation (1) for the number of Islamic boarding schools (*pesantren*) in the village in 2003 (columns 1-2), the number of mosques in 2003 (columns 3-4), the presence of any formal Islamic alms and charity (*Zakat*) organization in 2003 (columns 5-6), and the share of the Muslim population in 2000 (columns 7-8). The sample size drops in columns 7-8 as the data come from the 2000 Population Census and could not be linked to the baseline 2003 data for certain villages as a result of changes in administrative codes and boundaries. See the notes to Table 1 for additional details on the specification.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table 3: Islamist Party Support, First Democratic Election in 1999 for National Legislature

| | Moderate Islamic, pro-*Pancasila* | | | | Islamist, anti-*Pancasila* | | | | | |
| | PAN | | PKB | | PPP | | PKS | | PBB | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Above threshold*Large landholdings	0.056	-0.032	-0.540**	-0.614**	0.499**	0.664***	0.006**	0.005	0.009	-0.012
	(0.050)	(0.115)	(0.246)	(0.268)	(0.205)	(0.240)	(0.003)	(0.007)	(0.011)	(0.024)
Above 400 threshold	-0.062	-0.377*	0.100	-0.455**	-0.078	-0.200	-0.004	-0.005	0.001	-0.044
	(0.060)	(0.192)	(0.148)	(0.220)	(0.152)	(0.316)	(0.003)	(0.007)	(0.009)	(0.036)
Large landholdings	-0.084***	-0.268**	0.206	-0.010	-0.280**	-0.747***	-0.005**	-0.013**	-0.002	-0.046
	(0.030)	(0.133)	(0.135)	(0.177)	(0.122)	(0.260)	(0.002)	(0.006)	(0.008)	(0.028)
R^2	0.03	0.07	0.30	0.37	0.03	0.12	0.00	0.00	0.01	0.03
Dep. Var. Mean	0.145	0.145	0.354	0.354	0.501	0.501	0.004	0.004	0.020	0.020
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188	188	188
Observations	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744

Notes: This table reports estimates of equation (1) for an indicator of whether a given political party finished in the top 3 in the 1999 national legislative elections as reflected in the village vote share. *Podes* 2003 does not report these shares, but it does report top 3 rankings. The National Mandate Party (PAN) is in columns 1-2, and the National Awakening Party (PKB) is in columns 3-4. These two parties have pluralistic ideologies that embrace *Pancasila*, the secular-inclusive doctrine of the Indonesian state. These parties shun any desire for Islamic law, unlike the hardline Islamist parties in subsequent columns, which rejected *Pancasila* in 1999 and had platforms pushing for Islamic law as part of the Constitution. These include the United Development Party (PPP) in columns 5-6, the Prosperous Justice Party (PKS) in columns 7-8, and the Crescent Star Party (PBB) is in columns 9-10. See the notes to Table 1 for additional details on the specification.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table 4: Islamist Party Support, District-Level Vote Shares in 1999 and 2009 National Legislative Elections

| | 1999 Election | | | | 2009 Election | | | |
| | Islamist | | Moderate Islamic | | Islamist | | Moderate Islamic | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above threshold*Large landholdings	0.075	0.165**	-0.133	-0.273**	0.111**	0.144**	-0.072*	-0.160**
	(0.056)	(0.070)	(0.100)	(0.122)	(0.047)	(0.068)	(0.043)	(0.062)
Above 400 threshold	-0.040	-0.095	-0.043	-0.288**	-0.079	-0.239**	-0.038	-0.185**
	(0.053)	(0.120)	(0.073)	(0.123)	(0.056)	(0.099)	(0.028)	(0.076)
Large landholdings	-0.043	-0.058	0.044	-0.027	-0.076**	-0.150**	0.005	0.093
	(0.034)	(0.077)	(0.068)	(0.101)	(0.032)	(0.063)	(0.027)	(0.057)
R^2	0.05	0.49	0.36	0.74	0.14	0.56	0.27	0.60
Dep. Var. Mean	0.117	0.117	0.172	0.172	0.125	0.125	0.113	0.113
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	184	184	184	184	187	187	186	186

Notes: This table reports estimates of equation (1) for Islamist party vote shares at the district level in 1999 and 2009. See the notes to Table 1 for additional details on the specification and the notes to Table 3 for details on the party groupings.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors. Clustering by province leads to more significant results.

Table 5: Effects on Religious Political Preferences, Individual-Level Survey Data

| | *Is Candidate's [...] Important in Determining Vote for Mayor?* | | | |
| | Religion | | Religiosity | |
	(1)	(2)	(3)	(4)
Above threshold*Large landholdings	0.196**	0.230***	0.205**	0.287***
	(0.077)	(0.081)	(0.085)	(0.083)
Above 400 threshold	-0.047	-0.023	-0.029	-0.029
	(0.063)	(0.099)	(0.066)	(0.101)
Large landholdings	-0.069	-0.171**	-0.053	-0.204***
	(0.062)	(0.073)	(0.066)	(0.074)
R^2	0.01	0.04	0.01	0.04
Dep. Var. Mean	0.392	0.392	0.409	0.409
Controls	No	Yes	No	Yes
Observations	46044	46044	46044	46044

Notes: This table reports estimates of equation (1) for: columns (1-2) whether respondents in the IFLS survey say the religion of a candidate is important in their decision to vote for him/her; (3-4) whether they say the religiosity of a candidate is important in the respondent's decision to vote for him/her.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table 6: Effects on Policy: Sharia Regulations by District Governments

| | Any Regulation | | Legislative Regulations | | Executive Regulations | | Total Regulations | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above threshold*Large landholdings	0.574*	0.471	0.682*	0.700	0.449*	0.972***	0.863**	1.174*
	(0.315)	(0.548)	(0.384)	(0.625)	(0.238)	(0.355)	(0.435)	(0.707)
Above 400 threshold	-0.202	0.902	-0.143	1.000	0.062	0.810	-0.117	1.383
	(0.244)	(0.674)	(0.249)	(0.750)	(0.172)	(0.495)	(0.289)	(0.848)
Large landholdings	-0.386*	-0.215	-0.360	-0.645	-0.132	-0.334	-0.407	-0.725
	(0.206)	(0.537)	(0.218)	(0.529)	(0.160)	(0.265)	(0.263)	(0.583)
R^2	0.07	0.33	0.12	0.38	0.10	0.34	0.12	0.40
Dep. Var. Mean	0.521	0.521	0.475	0.475	0.104	0.104	0.528	0.528
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Observations	188	188	188	188	188	188	188	188

Notes: This table reports estimates of equation (1) for: columns (1-2) whether any *Sharia* regulations were adopted by local government in the district between 1998-2013; (3-4) the log of one plus the number of *Sharia* regulations adopted by local legislature in the district between 1998-2013; (5-6) the log of one plus the number of *Sharia* regulations adopted by the local executive (*bupati* or mayor) between 1998-2013; and (7-8) the log of one plus the total number of regulations adopted between 1998-2013.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table 7: Effects on Village Revenue from Different Sources (State vs. Civil Society)

	% Public Land	% Social Orgs.	% Self-Help Groups	% Private Taxes
	(1)	(2)	(3)	(4)
Above threshold*Large landholdings	-0.393**	0.176**	0.123**	0.107
	(0.181)	(0.085)	(0.050)	(0.117)
Above 400 threshold	0.188	-0.054	-0.026	-0.153*
	(0.130)	(0.098)	(0.069)	(0.086)
Large landholdings	0.260**	-0.108	0.069	-0.296***
	(0.125)	(0.102)	(0.070)	(0.089)
R^2	0.45	0.08	0.17	0.10
Dep. Var. Mean	0.201	0.316	0.206	0.186
Controls	Yes	Yes	Yes	Yes
Clusters	188	188	188	188
Observations	46258	46258	46258	46258

Notes: This table reports estimates of equation (1) based on the full control (even-numbered) specification used in Table 1 for the share of village government revenue in 2003 (*Podes* data) from publicly owned land (column 1), social organizations (column 2), self-help groups (column 3), and private taxation (column 4). See the notes to Table 1 for additional details on the specification.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table 8: Alternative Explanations (I): Land Inequality and Demographic Change

	Changes in Landholdings Dispersion			Missing People	
	$\Delta\lambda$ '63-'80	$\Delta\lambda$ '63-'85	$\Delta\lambda$ '63-'90	Δpop., '61-'71	Δsex ratio, '61-'71
	(1)	(2)	(3)	(4)	(5)
Above threshold*Large landholdings	-0.296	0.026	-0.430	0.184	0.544
	(0.920)	(0.819)	(0.752)	(0.619)	(0.806)
Above 400 threshold	-0.682	0.554	-0.723	0.005	-0.551
	(0.879)	(1.063)	(0.832)	(0.942)	(1.008)
Large landholdings	0.672	1.515	1.235	0.663	-0.629
	(0.815)	(0.945)	(0.815)	(0.989)	(0.658)
R^2	0.51	0.56	0.51	0.31	0.76
Controls	Yes	Yes	Yes	Yes	Yes
Observations	188	188	188	165	165

Notes: This table reports estimates of equation (1) based on the full control (even-numbered) specification used in Table 1 for the following district-level outcomes, all of which are normalized to have mean zero and standard deviation one: changes in district-level land dispersion between 1963–1980 (i.e., estimated Pareto parameters for total agricultural land, higher λ means less dispersion/inequality) (column 1); 1963–1985 (column 2); 1963–1990 (column 3); district-level population growth between 1961 and 1971 (column 4); and district-level growth in the sex ratio between 1961 and 1971 (column 5). The sample size is smaller in columns 4–5 due to uncovered districts in the 1971 Census. See the notes to Table 1 for additional details on the specification.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table 9: Alternative Explanations (II): Development and Public Goods

	λ: land dispersion	shr. irrigated land	pub. goods	ag. productivity	rice productivity	lights	HH exp./capita	High Schools	Post-Prim. Shr.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Above threshold*Large landholdings	-0.280	-0.350	-0.118	-0.146	-0.045	-0.075	0.526**	0.037	0.062
	(0.239)	(0.297)	(0.197)	(0.187)	(0.078)	(0.140)	(0.258)	(0.044)	(0.284)
Above 400 threshold	-0.275	1.327***	1.102***	-0.034	-0.114	0.151	0.865***	0.011	1.486***
	(0.256)	(0.350)	(0.279)	(0.225)	(0.159)	(0.217)	(0.301)	(0.073)	(0.407)
Large landholdings	0.302	0.026	0.010	-0.845***	-0.133	0.377	0.090	-0.098	0.174
	(0.236)	(0.319)	(0.256)	(0.258)	(0.083)	(0.245)	(0.314)	(0.074)	(0.387)
R^2	0.41	0.32	0.40	0.18	0.00	0.73	0.11	0.01	0.28
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	174	188	184	188	187	184	185	188	187
Observations	35736	46427	40653	47014	45695	40667	33728	54744	45784

Notes: This table reports estimates of equation (1) based on the full control (even-numbered) specification used in Table 1 for the following village-level outcomes, all of which are normalized to have mean zero and standard deviation one: the estimated Pareto dispersion parameter λ for agricultural land using the universal 2003 Agricultural Census (column 1, higher λ means less dispersion/inequality); the share of land with irrigation based on the 2003 *Podes* (column 2); an average of indicators for whether the village has 5 public goods including trash collection and all-wheel road access in the 2003 *Podes* (column 3); crop-specific, revenue-weighted total agricultural productivity in tons/ha based on the 2003 *Podes* (column 4); rice tons/ha in 2003 (column 5); share of the village with any nighttime light intensity in 2010 (column 6); average household expenditures/capita across all households surveyed in the village in *Susenas* rounds from 1994 to 2011 (column 7); an indicator for whether the village has a high school in 2003 (column 8); the share of households with any post-primary education in 2000 Population Census (column 9). The sample size varies across columns in this table as a result of different coverage across some of the data sources (e.g., the Agricultural Census is not fielded in urban areas) as well as difficulties merging villages over time due to changes in administrative codes.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Appendix

A   Further Empirical Results

A.1   Descriptive Statistics

Table A.1: Summary Statistics

	Mean	SD	N
Historic Population density	254.26	407.44	54,744
Above 400 ppl/sq km threshold	0.282	0.450	54,744
Above median in large holdings	0.507	0.500	54,744
Holdings between 5-7.5 Ha	357.71	443.64	54,744
Holdings between 6-9 Ha	357.71	443.64	54,744
Male population (thousands)	235.36	151.03	54,744
Female population (thousands)	241.64	158.47	54,744
Farms(thousands)	68.86	41.58	54,744
Sawah area (Ha, thousands)	25.19	16.84	54,744
Agric. area (Ha, thousands)	77.58	51.83	54,744
Village located on hill	0.291	0.454	54,744
Altitude	290.11	1801.6	54,744
Village located on beach	0.101	0.301	54,744
Dist. to subdistrict office (km)	10.04	21.89	54,744
Distance to district office (km)	46.50	56.37	54,744
Islamic vote 1955-57	0.457	0.230	54,744
Waqf land in village (Ha)	3.450	39.79	54,339
Waqf land in village (Log Ha)	0.672	0.821	54,339
Waqf in village (% total land)	0.520	2.96	54,743
Waqf in village (% zoned land)	6.133	20.82	54,518
Pesantrens in village	0.524	1.254	54,339
Mosques in village	3.316	4.236	54,339
Zakat Group in village	0.742	0.437	54,744
% Muslim	0.868	0.298	45,784
PPP among top 3 parties	0.501	0.500	54,744
PKB among top 3 parties	0.354	0.478	54,744
PKS among top 3 parties	0.004	0.061	54,744
PBB among top 3 parties	0.020	0.142	54,744
Local sharia regulations	0.913	1.319	54,744
Executive sharia regulations	0.180	0.744	54,744
Total sharia regulations	1.093	1.689	54,744

Notes: This table reports summary statistics for dependent and independent variables used in the regression analysis. For a full elaboration of sources and variable construction, see Appendix B.

A.2 Identification Checks

Figure A.1: Population Density: McCrary (2008) Test
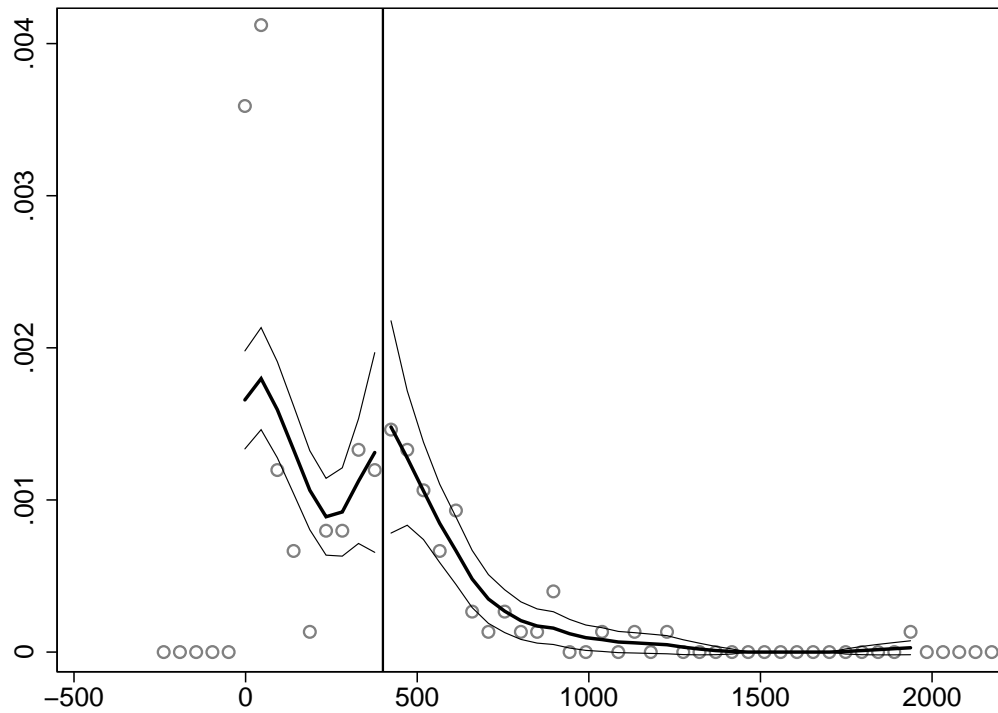
Notes: This figure reports the McCrary (2008) test for manipulation of the running variable, population density in 1960. The graph reveals no evidence of such manipulation. The figure excludes Jakarta, which has a population density above 2000 people/km^2, for presentational purposes.

Table A.2: Balance on Time-Invariant and Pre-Reform Covariates

	Mean	RD	RDID
Male population (thousands)	235.36	-97.666	134.571
		(92.343)	(98.451)
Female population (thousands)	241.637	-114.122	125.608
		(95.338)	(99.819)
Farms (thousands)	68.858	-37.24*	12.669
		(21.063)	(25.406)
Wetland area (ha, thousands)	25.187	7.126	22.009***
		(7.089)	(8.696)
Agricultural area (ha, thousands)	77.58	-24.2	9.712
		(21.316)	(13.859)
Village located on hill	.291	-.097	-.019
		(.066)	(.116)
Altitude	290.108	201.424	-165.089
		(263.227)	(238.543)
Village located on beach	.101	-.033	.062
		(.033)	(.051)
Dist. to subdistrict office (km)	10.043	4.386***	.957
		(1.766)	(1.351)
Distance to district office (km)	46.497	11.278	2.499
		(8.346)	(7.029)
Islamic vote 1955-57	.457	-.145	.066
		(.108)	(.118)
Village in Sumatra	.331	-.209*	.011
		(.109)	(.079)
Village in Java	.416	-.003	-.027
		(.071)	(.086)
Village in Bali	.051	.036	-.003
		(.043)	(.071)
Village in Kalimantan	.092	.134***	-.025
		(.059)	(.039)
Village in Sulawesi	.11	.041	.044
		(.055)	(.059)

Notes: This table reports balance checks on baseline covariates (either time invariant or measured prior to the 1960 land reform). Each cell reports estimates from a separate regression. Column (2) reports the mean of each dependent variable. In column (3) we report the RD estimate from a standard RD specification where we regress the relevant variable on a treatment dummy and a 3rd order polynomial in the running variable (historic population density) estimated separately on each side of the cutoff. In column (3), we report a similar check using our baseline differences-in-discontinuity specification in equation (1).

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

A.3 Further Robustness Checks

A.3.1 Pooling Land Reform Intensity Discontinuities at 50 and 400 people/km^2

The next three tables reproduce our three core Tables 1, 2, and 3 using two cutoffs used in the land reform (50 and 400 people/km^2) rather than only the 400 cutoff to define the discontinuity in equation (1). Here the treatment and comparison groups for the 50 cutoff are districts with densities between 51-250 people/km^2 and under 50 people/km^2, respectively. The treatment and comparison groups for the 400 cutoff are districts with densities above 400 people/km^2 and between 251-400 people/km^2, respectively.

The results in even-numbered columns are larger and more precisely estimated as they remove cross-island variation. This is important given that outside Java/Bali, there are very few districts for which the 400 threshold applies, and on Java/Bali, there are no districts for which the 50 threshold applies.

Table A.3: Combining RD Cutoffs (50 and 400 people/km^2) – *Waqf*

	Hectares		Log Hectares		% Total Land		% Zoned Land	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above threshold*Large holdings	1.750*	2.601*	0.094	0.320**	0.024	0.447***	1.314	2.149
	(1.017)	(1.330)	(0.110)	(0.142)	(0.138)	(0.158)	(2.606)	(2.769)
Above relevant threshold (50 or 400)	-2.954**	-7.019***	-0.156	-0.222	0.233	-0.482***	4.657*	8.833**
	(1.473)	(2.467)	(0.112)	(0.158)	(0.154)	(0.170)	(2.706)	(3.809)
Large landholdings	-0.377	-1.674	-0.077	-0.022	-0.263***	-0.083	-1.437	-2.049
	(1.191)	(2.093)	(0.078)	(0.126)	(0.055)	(0.113)	(2.096)	(1.940)
R^2	0.00	0.00	0.01	0.04	0.00	0.01	0.02	0.06
Dep. Var. Mean	3.450	3.450	0.672	0.672	0.520	0.520	6.133	6.133
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188
Observations	54339	54339	54339	54339	54743	54743	54518	54518

Notes: This table reports estimates of the specifications in Table 1 based on pooling the RD cutoffs at 50 and 400 according to the procedure described above. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.4: Combining RD Cutoffs (50 and 400 people/km^2) – Other Islamic Institutions

	Pesantrens		Mosques		Zakat group		% Muslim	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above threshold*Large holdings	0.546	0.847***	2.428**	3.485***	-0.216**	0.085	-0.129	0.056
	(0.332)	(0.300)	(1.066)	(0.950)	(0.107)	(0.082)	(0.097)	(0.069)
Above relevant threshold (50 or 400)	-0.411*	-0.457	-2.477***	-1.995*	0.049	-0.058	0.126	-0.080
	(0.220)	(0.318)	(0.901)	(1.157)	(0.124)	(0.121)	(0.130)	(0.129)
Large landholdings	-0.350**	-0.042	-1.278*	-2.714***	-0.031	-0.178*	-0.042	-0.318***
	(0.154)	(0.205)	(0.764)	(0.912)	(0.086)	(0.097)	(0.089)	(0.086)
R^2	0.13	0.27	0.17	0.32	0.06	0.19	0.13	0.56
Dep. Var. Mean	0.524	0.524	3.316	3.316	0.742	0.742	0.868	0.868
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	187	187
Observations	54339	54339	54339	54339	54744	54744	45784	45784

Notes: This table reports estimates of the specifications in Table 2 based on pooling the RD cutoffs at 50 and 400 according to the procedure described above. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.5: Combining RD cutoffs (50 and 400 people/km^2)– Islamist Party Support, 1999 Election

| | Moderate Islamic, pro-*Pancasila* | | | | Islamist, anti-*Pancasila* | | | | | |
| | PAN | | PKB | | PPP | | PKS | | PBB | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Above threshold*Large holdings	-0.039	-0.021	-0.207**	-0.204**	0.122	0.287**	-0.002	-0.001	0.019	0.014
	(0.069)	(0.066)	(0.098)	(0.102)	(0.162)	(0.115)	(0.003)	(0.004)	(0.015)	(0.017)
Above relevant threshold (50 or 400)	0.008	-0.043	0.027	0.011	-0.191	0.173	0.002	0.007	-0.044	-0.049
	(0.096)	(0.127)	(0.085)	(0.126)	(0.194)	(0.193)	(0.003)	(0.005)	(0.032)	(0.041)
Large landholdings	0.009	-0.118*	0.142***	-0.113*	-0.067	-0.139	0.001	0.002	-0.055**	-0.068**
	(0.049)	(0.070)	(0.044)	(0.067)	(0.099)	(0.103)	(0.002)	(0.004)	(0.026)	(0.030)
R^2	0.02	0.07	0.28	0.36	0.02	0.13	0.00	0.00	0.02	0.03
Dep. Var. Mean	0.145	0.145	0.354	0.354	0.501	0.501	0.004	0.004	0.020	0.020
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188	188	188
Observations	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744

Notes: This table reports estimates of the specifications in Table 3 based on pooling the RD cutoffs at 50 and 400 according to the procedure described above. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

A.3.2 Continuous Large Landholdings

The next three tables reproduce our three core Tables 1, 2, and 3 respectively, redefining the large land-holdings measure to be continuous number of holders rather than the above median indicator.

Table A.6: Continuous Measure of Large Landholdings – *Waqf*

	Hectares		Log Hectares		% Total Land		% Zoned Land	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above threshold*Large landholdings	1.665**	3.619	0.315***	0.896***	0.292**	1.089***	5.780***	-0.619
	(0.806)	(2.570)	(0.076)	(0.239)	(0.145)	(0.369)	(2.097)	(5.844)
Above 400 threshold	-0.205	0.904	-0.202	0.149	-0.051	0.189	-1.354	-0.738
	(1.046)	(2.071)	(0.127)	(0.208)	(0.192)	(0.282)	(2.854)	(4.787)
Large landholdings	0.001	0.002	0.000	0.000	-0.000**	-0.000	-0.001	-0.002
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.002)
R^2	0.00	0.00	0.01	0.05	0.00	0.01	0.03	0.05
Dep. Var. Mean	3.450	3.450	0.672	0.672	0.520	0.520	6.133	6.133
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188
Observations	54339	54339	54339	54339	54743	54743	54518	54518

Notes: This table reports a robustness check on Table 1 by allowing the large landholdings measure to be continuous rather than binary above median.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.7: Continuous Measure of Large Landholdings – Other Islamic Institutions

	Pesantrens		Mosques		Zakat group		% Muslim	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above threshold*Large landholdings	1.003***	1.712***	3.716**	4.497**	0.009	-0.126	-0.081*	-0.005
	(0.271)	(0.537)	(1.753)	(1.927)	(0.056)	(0.155)	(0.042)	(0.123)
Above 400 threshold	-0.579	-0.045	-1.174	2.752	0.041	0.485**	-0.015	0.213
	(0.436)	(0.656)	(1.102)	(2.562)	(0.095)	(0.193)	(0.049)	(0.147)
Large landholdings	-0.000	0.000	0.000	0.001	-0.000	-0.000	0.000	-0.000**
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
R^2	0.16	0.28	0.20	0.32	0.04	0.19	0.12	0.56
Dep. Var. Mean	0.524	0.524	3.316	3.316	0.742	0.742	0.868	0.868
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	187	187
Observations	54339	54339	54339	54339	54744	54744	45784	45784

Notes: This table reports a robustness check on Table 2 by allowing the large landholdings measure to be continuous rather than binary above median.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.8: Continuous Measure of Large Landholdings – Islamist Party Support, 1999 Election

| | Moderate Islamic, pro-*Pancasila* | | | | Islamist, anti-*Pancasila* | | | | | |
| | PAN | | PKB | | PPP | | PKS | | PBB | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Above threshold*Large landholdings	-0.043	-0.054	-0.286*	-0.576**	0.157	0.517**	-0.000	0.002	0.010	-0.023
	(0.038)	(0.127)	(0.158)	(0.251)	(0.132)	(0.240)	(0.002)	(0.007)	(0.010)	(0.027)
Above 400 threshold	-0.025	-0.245	0.006	-0.417**	0.048	0.099	-0.002	0.001	0.000	-0.027
	(0.056)	(0.171)	(0.140)	(0.205)	(0.143)	(0.289)	(0.003)	(0.007)	(0.007)	(0.030)
Large landholdings	-0.000	-0.000*	0.000	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000**	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
R^2	0.03	0.07	0.30	0.38	0.03	0.11	0.00	0.00	0.02	0.03
Dep. Var. Mean	0.145	0.145	0.354	0.354	0.501	0.501	0.004	0.004	0.020	0.020
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188	188	188
Observations	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744

Notes: This table reports a robustness check on Table 3 by allowing the large landholdings measure to be continuous rather than binary above median. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

A.3.3 Simple Diff-in-Diff without the RD Terms

The next three tables reproduce our three core Tables 1, 2, and 3 respectively, using a simple difference-in-difference specification that omits the discontinuity polynomial terms in $\mathbf{g}(\mathbf{D})$ from equation (1).

Table A.9: Standard Diff-in-Diff – *Waqf*

	Hectares		Log Hectares		% Total Land		% Zoned Land	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above threshold*Large landholdings	1.298	2.709*	0.218**	0.504***	0.545***	0.663**	2.224	4.544
	(0.842)	(1.629)	(0.090)	(0.190)	(0.135)	(0.300)	(1.836)	(3.055)
Above 400 threshold	-2.172***	-2.374	-0.187***	-0.175	-0.030	-0.045	-5.517***	-2.017
	(0.484)	(1.713)	(0.048)	(0.157)	(0.088)	(0.204)	(0.885)	(3.141)
Large landholdings	0.393	-0.381	0.017	0.034	-0.298***	0.023	0.551	-5.324*
	(0.610)	(2.250)	(0.052)	(0.134)	(0.070)	(0.137)	(1.500)	(3.128)
R^2	0.00	0.00	0.01	0.04	0.00	0.01	0.01	0.05
Dep. Var. Mean	3.448	3.448	0.672	0.672	0.519	0.519	6.108	6.108
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	193	193	193	193	193	193	193	193
Observations	54832	54832	54832	54832	55242	55242	55013	55013

Notes: This table reports estimates of the specifications in Table 1, omitting the discontinuity terms and estimating a simpler difference-in-difference specification.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.10: Standard Diff-in-Diff – Other Islamic Institutions

	Pesantrens		Mosques		Zakat group		% Muslim	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above threshold*Large landholdings	0.939***	1.044*	2.412	1.457	0.083	0.148	0.116**	0.160**
	(0.284)	(0.609)	(1.672)	(1.654)	(0.059)	(0.116)	(0.053)	(0.079)
Above 400 threshold	0.122	-1.427***	1.287**	-1.263	0.129***	0.311***	0.089**	0.017
	(0.188)	(0.370)	(0.601)	(1.428)	(0.042)	(0.105)	(0.037)	(0.096)
Large landholdings	-0.162	-0.415*	-0.371	-3.599***	-0.037	-0.233**	-0.089*	-0.383***
	(0.190)	(0.239)	(0.624)	(0.929)	(0.052)	(0.098)	(0.051)	(0.108)
R^2	0.04	0.25	0.06	0.30	0.03	0.18	0.07	0.56
Dep. Var. Mean	0.520	0.520	3.311	3.311	0.743	0.743	0.867	0.867
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	193	193	193	193	193	193	192	192
Observations	54832	54832	54832	54832	55243	55243	46241	46241

Notes: This table reports estimates of the specifications in Table 2, omitting the discontinuity terms and estimating a simpler difference-in-difference specification.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.11: Standard Diff-in-Diff – Islamist Party Support, 1999 Election

| | Moderate Islamic, pro-*Pancasila* | | | | Islamist, anti-*Pancasila* | | | | | |
| | PAN | | PKB | | PPP | | PKS | | PBB | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Above threshold*Large landholdings	0.056	-0.032	-0.540**	-0.614**	0.499**	0.664***	0.006**	0.005	0.009	-0.012
	(0.050)	(0.115)	(0.246)	(0.268)	(0.205)	(0.240)	(0.003)	(0.007)	(0.011)	(0.024)
Above 400 threshold	-0.062	-0.377*	0.100	-0.455**	-0.078	-0.200	-0.004	-0.005	0.001	-0.044
	(0.060)	(0.192)	(0.148)	(0.220)	(0.152)	(0.316)	(0.003)	(0.007)	(0.009)	(0.036)
Large landholdings	-0.084***	-0.268**	0.206	-0.010	-0.280**	-0.747***	-0.005**	-0.013**	-0.002	-0.046
	(0.030)	(0.133)	(0.135)	(0.177)	(0.122)	(0.260)	(0.002)	(0.006)	(0.008)	(0.028)
R^2	0.03	0.07	0.30	0.37	0.03	0.12	0.00	0.00	0.01	0.03
Dep. Var. Mean	0.145	0.145	0.354	0.354	0.501	0.501	0.004	0.004	0.020	0.020
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188	188	188
Observations	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744

Notes: This table reports estimates of the specifications in Table 3, omitting the discontinuity terms and estimating a simpler difference-in-difference specification. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

A.3.4 Placebo Cutoffs for the RD Terms

The next six tables reproduce our three core Tables 1, 2, and 3 respectively, using placebo cutoffs at 300 and 500 people/km^2 rather than 400 to define the discontinuity in equation (1).

Table A.12: Placebo Density Cutoff (300 people/km^2) – *Waqf*

	Hectares		Log Hectares		% Total Land		% Zoned Land	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above 300 (Placebo)*Large holdings	1.279	3.063	0.003	0.274	0.156	0.339	-6.122	-4.140
	(1.785)	(1.957)	(0.213)	(0.258)	(0.204)	(0.274)	(7.183)	(4.139)
Density above 300/km^2	0.707	-3.595*	0.246	0.237	-0.235	-0.263	6.756	-1.027
	(1.321)	(2.159)	(0.190)	(0.222)	(0.185)	(0.256)	(5.769)	(4.679)
Large landholdings	-0.614	-6.072*	0.154	-0.102	-0.172	-0.108	6.407	-8.197
	(1.461)	(3.126)	(0.165)	(0.249)	(0.142)	(0.260)	(6.326)	(5.805)
R^2	0.00	0.00	0.01	0.04	0.00	0.01	0.03	0.06
Dep. Var. Mean	3.450	3.450	0.672	0.672	0.520	0.520	6.133	6.133
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188
Observations	54339	54339	54339	54339	54743	54743	54518	54518

Notes: This table reports estimates of the specifications in Table 1 based on a placebo RD cutoff at 300 rather than the policy-relevant one at 400.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.13: Placebo Density Cutoff (500 people/km^2) – *Waqf*

	Hectares		Log Hectares		% Total Land		% Zoned Land	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above 500 (Placebo)*Large holdings	-0.926	-2.081	-0.047	0.082	-0.316	-0.172	1.028	2.754
	(1.883)	(2.542)	(0.193)	(0.275)	(0.350)	(0.481)	(3.702)	(5.241)
Density above 500/km^2	0.380	-1.988	-0.028	-0.254	-0.103	-0.390	-1.713	-5.587
	(0.595)	(1.670)	(0.098)	(0.191)	(0.148)	(0.309)	(1.292)	(3.397)
Large landholdings	1.108	-1.285	0.138	0.014	0.280	0.227	1.776	-8.027*
	(1.105)	(2.826)	(0.113)	(0.250)	(0.183)	(0.335)	(1.743)	(4.815)
R^2	0.00	0.00	0.01	0.04	0.00	0.01	0.03	0.05
Dep. Var. Mean	3.450	3.450	0.672	0.672	0.520	0.520	6.133	6.133
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188
Observations	54339	54339	54339	54339	54743	54743	54518	54518

Notes: This table reports estimates of the specifications in Table 1 based on a placebo RD cutoff at 500 rather than the policy-relevant one at 400.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.14: Placebo Density Cutoff (300 people/km^2) – Other Islamic Institutions

	Pesantrens		Mosques		Zakat group		% Muslim	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above 300 (Placebo)*Large holdings	-0.594	-0.197	-4.055	-4.046**	-0.076	-0.469***	0.194	-0.104
	(0.785)	(0.510)	(2.878)	(1.611)	(0.183)	(0.153)	(0.150)	(0.102)
Density above 300/km^2	1.097*	0.415	4.583**	4.437**	0.020	0.379***	-0.173	0.142
	(0.580)	(0.564)	(1.983)	(2.142)	(0.172)	(0.127)	(0.105)	(0.118)
Large landholdings	0.776	0.256	3.951*	-1.459	0.006	-0.064	-0.231*	-0.298**
	(0.566)	(0.355)	(2.142)	(1.828)	(0.147)	(0.128)	(0.118)	(0.128)
R^2	0.15	0.28	0.19	0.33	0.04	0.20	0.13	0.58
Dep. Var. Mean	0.524	0.524	3.316	3.316	0.742	0.742	0.868	0.868
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	187	187
Observations	54339	54339	54339	54339	54744	54744	45784	45784

Notes: This table reports estimates of the specifications in Table 2 based on a placebo RD cutoff at 300 rather than the policy-relevant one at 400.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.15: Placebo Density Cutoff (500 people/km^2) – Other Islamic Institutions

	Pesantrens		Mosques		Zakat group		% Muslim	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Above 500 (Placebo)*Large holdings	0.554	0.506	6.591	5.484*	-0.147	0.245*	-0.124	-0.013
	(0.626)	(0.930)	(4.827)	(2.918)	(0.116)	(0.144)	(0.082)	(0.103)
Density above 500/km^2	-0.036	-0.367	1.764**	4.380*	0.012	0.233	-0.003	-0.078
	(0.262)	(0.573)	(0.864)	(2.488)	(0.066)	(0.200)	(0.039)	(0.110)
Large landholdings	0.092	-0.299	-1.851	-5.915***	0.138**	-0.153	0.051	-0.372***
	(0.385)	(0.554)	(1.581)	(2.101)	(0.064)	(0.149)	(0.049)	(0.120)
R^2	0.14	0.26	0.20	0.33	0.04	0.18	0.12	0.56
Dep. Var. Mean	0.524	0.524	3.316	3.316	0.742	0.742	0.868	0.868
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	187	187
Observations	54339	54339	54339	54339	54744	54744	45784	45784

Notes: This table reports estimates of the specifications in Table 2 based on a placebo RD cutoff at 500 rather than the policy-relevant one at 400.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.16: Placebo Density Cutoff (300 people/km^2) – Islamist Party Support, 1999 Election

| | Moderate Islamic, pro-*Pancasila* | | | | Islamist, anti-*Pancasila* | | | | | |
| | PAN | | PKB | | PPP | | PKS | | PBB | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Above 300 (Placebo)*Large holdings	0.025	-0.157	0.146	0.142	0.075	-0.057	0.004	-0.006	-0.026	-0.058**
	(0.079)	(0.117)	(0.197)	(0.147)	(0.223)	(0.234)	(0.004)	(0.005)	(0.019)	(0.027)
Density above 300/km^2	-0.087	-0.230*	-0.404***	-0.716***	0.336*	0.230	0.001	-0.005	0.019	-0.013
	(0.082)	(0.137)	(0.118)	(0.166)	(0.171)	(0.244)	(0.003)	(0.006)	(0.016)	(0.030)
Large landholdings	-0.065	-0.118	-0.179*	-0.412***	-0.071	-0.315	-0.004	-0.010*	0.014	-0.009
	(0.068)	(0.111)	(0.093)	(0.152)	(0.161)	(0.241)	(0.003)	(0.006)	(0.016)	(0.030)
R^2	0.03	0.07	0.30	0.39	0.04	0.15	0.00	0.00	0.01	0.03
Dep. Var. Mean	0.145	0.145	0.354	0.354	0.501	0.501	0.004	0.004	0.020	0.020
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188	188	188
Observations	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744

Notes: This table reports estimates of the specifications in Table 3 based on a placebo RD cutoff at 300 rather than the policy-relevant one at 400.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.17: Placebo Density Cutoff (500 people/km^2) – Islamist Party Support, 1999 Election

| | Moderate Islamic, pro-*Pancasila* | | | | Islamist, anti-*Pancasila* | | | | | |
| | PAN | | PKB | | PPP | | PKS | | PBB | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Above 500 (Placebo)*Large holdings	0.051	0.139	0.059	0.390	-0.180	-0.301	-0.006*	-0.013***	0.046*	0.032
	(0.074)	(0.104)	(0.334)	(0.282)	(0.267)	(0.329)	(0.003)	(0.005)	(0.025)	(0.021)
Density above 500/km^2	-0.007	0.165	-0.095	-0.449**	0.100	-0.529**	0.001	-0.002	-0.007	-0.037
	(0.048)	(0.146)	(0.119)	(0.226)	(0.116)	(0.248)	(0.002)	(0.007)	(0.008)	(0.023)
Large landholdings	-0.086**	-0.170	-0.053	-0.075	0.056	-0.623***	0.001	-0.008	-0.014*	-0.052**
	(0.037)	(0.111)	(0.172)	(0.184)	(0.151)	(0.235)	(0.002)	(0.005)	(0.008)	(0.024)
R^2	0.03	0.07	0.29	0.37	0.02	0.11	0.00	0.00	0.01	0.03
Dep. Var. Mean	0.145	0.145	0.354	0.354	0.501	0.501	0.004	0.004	0.020	0.020
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Clusters	188	188	188	188	188	188	188	188	188	188
Observations	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744

Notes: This table reports estimates of the specifications in Table 3 based on a placebo RD cutoff at 500 rather than the policy-relevant one at 400.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

A.3.5 Alternative Polynomial Specification in the RD

The next three tables reproduce our three core Tables 1, 2, and 3 respectively, using different degrees of the polynomial in the running variable (historic population density). Our baseline specification (equation (1) controls for a third-order polynomial in population density. Here we report alternative specifications that control for a linear, quadratic, and quartic polynomial estimated separately on each side of the 400 people/km^2 cutoff, and interacted with large landholdings.

Table A.18: Alternative Polynomials of the Running Variable – *Waqf*

	Hectares			Log Hectares			% Total Land			% Zoned Land		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Above threshold*Large landholdings	4.885***	5.605***	5.262*	0.605***	0.665***	0.998***	0.776**	0.822**	1.323***	6.028	6.453	1.559
	(1.745)	(1.863)	(3.115)	(0.211)	(0.216)	(0.293)	(0.326)	(0.329)	(0.388)	(3.688)	(3.976)	(6.618)
Above 400 threshold	-0.941	-1.855	-2.225	-0.033	-0.018	-0.043	-0.015	-0.018	-0.156	-1.800	-0.513	-6.959
	(1.943)	(1.963)	(2.785)	(0.187)	(0.194)	(0.267)	(0.246)	(0.261)	(0.369)	(3.750)	(4.100)	(5.219)
Large landholdings	-2.603	-5.101*	-4.357	-0.085	-0.292	-0.215	-0.086	-0.164	-0.354	-6.674*	-7.918	-8.858
	(2.144)	(2.644)	(3.243)	(0.173)	(0.227)	(0.258)	(0.169)	(0.236)	(0.280)	(3.718)	(5.376)	(6.375)
R^2	0.00	0.00	0.00	0.04	0.05	0.05	0.01	0.01	0.01	0.05	0.05	0.06
Dep. Var. Mean	3.450	3.450	3.450	0.672	0.672	0.672	0.520	0.520	0.520	6.133	6.133	6.133
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	188	188	188	188	188	188	188	188	188	188	188	188
Polynomial in Density	1	2	4	1	2	4	1	2	4	1	2	4
Observations	54339	54339	54339	54339	54339	54339	54743	54743	54743	54518	54518	54518

Notes: This table reports estimates of the specifications in Table 1 based on alternative polynomials (1, 2, 4) of the running variable in population density in 1960. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.19: Polynomial of the running variable – Other Islamic Institutions

	Pesantrens			Mosques			Zakat group			% Muslim		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Above threshold*Large landholdings	1.167*	1.365**	2.253***	4.139**	4.948***	7.888***	0.071	0.069	-0.202	0.124	0.123	-0.012
	(0.593)	(0.558)	(0.654)	(1.772)	(1.800)	(2.275)	(0.124)	(0.132)	(0.179)	(0.087)	(0.093)	(0.148)
Above 400 threshold	-1.050**	-0.988**	-0.574	-2.974*	-3.111*	-1.596	0.375***	0.366**	0.478**	-0.004	0.047	0.004
	(0.428)	(0.494)	(0.686)	(1.655)	(1.814)	(2.510)	(0.140)	(0.150)	(0.220)	(0.116)	(0.121)	(0.159)
Large landholdings	-0.588*	-1.312***	-1.313***	-6.393***	-8.373***	-9.315***	-0.166	-0.119	-0.026	-0.358***	-0.385***	-0.331**
	(0.338)	(0.427)	(0.491)	(1.277)	(1.910)	(2.215)	(0.101)	(0.140)	(0.174)	(0.098)	(0.112)	(0.147)
R^2	0.27	0.27	0.28	0.31	0.32	0.33	0.18	0.18	0.19	0.56	0.57	0.57
Dep. Var. Mean	0.524	0.524	0.524	3.316	3.316	3.316	0.742	0.742	0.742	0.868	0.868	0.868
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	188	188	188	188	188	188	188	188	188	187	187	187
Polynomial in Density	1	2	4	1	2	4	1	2	4	1	2	4
Observations	54339	54339	54339	54339	54339	54339	54744	54744	54744	45784	45784	45784

Notes: This table reports estimates of the specifications in Table 2 based on alternative polynomials (1, 2, 4) of the running variable in population density in 1960. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

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Table A.20: Polynomial of the running variable– Islamist Party Support, 1999 Election

	Moderate Islamic, pro-*Pancasila*						Islamist, anti-*Pancasila*								
	PAN			PKB			PPP			PKS			PBB		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Above threshold*Large landholdings	-0.027	0.001	-0.015	-0.260	-0.302	-0.745***	0.514**	0.596***	0.798***	0.006	0.008	0.005	-0.017	-0.020	-0.000
	(0.071)	(0.083)	(0.127)	(0.237)	(0.240)	(0.272)	(0.234)	(0.227)	(0.289)	(0.005)	(0.005)	(0.008)	(0.018)	(0.020)	(0.030)
Above 400 threshold	-0.245	-0.327**	-0.434**	-0.278	-0.306	-0.256	-0.273	-0.280	-0.452	-0.001	-0.002	-0.006	-0.054	-0.065*	-0.041
	(0.155)	(0.165)	(0.187)	(0.170)	(0.194)	(0.267)	(0.236)	(0.269)	(0.360)	(0.006)	(0.006)	(0.008)	(0.033)	(0.037)	(0.042)
Large landholdings	-0.253**	-0.242*	-0.273*	-0.041	0.047	0.097	-0.441**	-0.767***	-0.833**	-0.005	-0.012**	-0.013*	-0.059**	-0.050*	-0.065*
	(0.121)	(0.128)	(0.161)	(0.130)	(0.175)	(0.196)	(0.196)	(0.252)	(0.326)	(0.005)	(0.006)	(0.007)	(0.027)	(0.028)	(0.037)
R^2	0.06	0.07	0.07	0.36	0.37	0.38	0.11	0.11	0.12	0.00	0.00	0.00	0.03	0.03	0.03
Dep. Var. Mean	0.145	0.145	0.145	0.354	0.354	0.354	0.501	0.501	0.501	0.004	0.004	0.004	0.020	0.020	0.020
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	188	188	188	188	188	188	188	188	188	188	188	188	188	188	188
Polynomial in Density	1	2	4	1	2	4	1	2	4	1	2	4	1	2	4
Observations	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744	54744

Notes: This table reports estimates of the specifications in Table 3 based on alternative polynomials (1, 2, 4) of the running variable in population density in 1960. * p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

A.3.6 Alternative Bandwidth in the RD

The next three tables reproduce our three core Tables 1, 2, and 3 respectively, using a local linear specification with 3 alternative bandwidths around the 400 people/km^2 threshold in population density: 100, 200, 300 people/km^2 on either side of the cutoff.

Table A.21: Alternative Bandwidth – *Waqf*

	Hectares			Log Hectares			% Total Land			% Zoned Land		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1960 Pop. Density Bandwidth, people/km^2	100	200	300	100	200	300	100	200	300	100	200	300
Above threshold*Large landholdings	-1.517	1.046	6.165***	0.227	0.131	0.629**	0.540	0.670*	1.080***	7.979**	5.894*	2.833
	(1.443)	(2.373)	(1.992)	(0.338)	(0.259)	(0.252)	(0.376)	(0.391)	(0.338)	(3.242)	(3.332)	(5.066)
Above 400 threshold	9.921***	7.230***	0.637	0.492*	0.463*	0.321	1.440***	0.867**	0.024	6.047*	2.250	4.722
	(1.456)	(2.130)	(1.947)	(0.268)	(0.266)	(0.227)	(0.383)	(0.343)	(0.338)	(3.187)	(2.237)	(4.503)
Large landholdings	12.556***	1.386	-2.687	1.249***	0.589**	0.205	1.589***	0.706*	-0.110	3.393	1.492	-1.666
	(1.417)	(2.704)	(2.964)	(0.300)	(0.268)	(0.312)	(0.300)	(0.388)	(0.423)	(3.111)	(2.528)	(4.053)
R^2	0.01	0.01	0.00	0.09	0.10	0.09	0.01	0.01	0.01	0.05	0.19	0.14
Dep. Var. Mean	2.685	2.543	2.655	0.688	0.651	0.667	0.650	0.619	0.608	2.697	3.732	4.710
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	45	70	96	45	70	96	45	70	96	45	70	96
Observations	12010	18623	24269	12010	18623	24269	12019	18631	24295	12016	18629	24284

Notes: This table reports estimates of the specifications in Table 1 based on alternative bandwidth in the RD specification around the 400 people/km^2 cutoff, including 100, 200, and 300 people/km^2 in 1960.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.22: Alternative Bandwidth – Other Islamic Institutions

1960 Pop. Density Bandwidth, people/km²	# Pesantrens			# Mosques			Any Zakat Org.			% Muslim		
	(1) 100	(2) 200	(3) 300	(4) 100	(5) 200	(6) 300	(7) 100	(8) 200	(9) 300	(10) 100	(11) 200	(12) 300
Above threshold*Large landholdings	-0.230	3.125***	1.583**	1.763	7.372**	3.308	0.055	0.009	-0.085	-0.092	0.053	0.062
	(1.267)	(1.068)	(0.616)	(3.271)	(3.543)	(2.168)	(0.285)	(0.209)	(0.160)	(0.190)	(0.129)	(0.118)
Above 400 threshold	-2.863**	-0.863	-0.281	-1.368	-0.753	-2.026	0.246	0.175	0.144	0.125	0.224	0.079
	(1.255)	(0.899)	(0.713)	(4.441)	(3.105)	(1.929)	(0.302)	(0.286)	(0.166)	(0.256)	(0.170)	(0.099)
Large landholdings	0.796	-0.920	-0.691	-1.289	-1.951	-0.581	-0.153	-0.096	-0.053	-0.148	-0.100	-0.152
	(0.943)	(0.862)	(0.658)	(4.613)	(3.457)	(2.626)	(0.405)	(0.250)	(0.188)	(0.265)	(0.166)	(0.135)
R^2	0.27	0.27	0.26	0.30	0.37	0.35	0.14	0.13	0.14	0.68	0.67	0.70
Dep. Var. Mean	1.178	1.076	0.968	5.165	5.398	4.957	0.818	0.816	0.807	0.969	0.955	0.947
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	45	70	96	45	70	96	45	70	96	45	70	96
Observations	12010	18623	24269	12010	18623	24269	12019	18632	24296	11940	18261	23680

Notes: This table reports estimates of the specifications in Table 2 based on alternative bandwidth in the RD specification around the 400 people/km² cutoff, including 100, 200, and 300 people/km² in 1960.

* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

Table A.23: Alternative Bandwidth – Islamist Party Support, 1999 Election

	Moderate Islamic, pro-*Pancasila*						Islamist, anti-*Pancasila*								
	PAN			PKB			PPP			PKS			PBB		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1960 Pop. Density Bandwidth, people/km^2	100	200	300	100	200	300	100	200	300	100	200	300	100	200	300
Above threshold*Large landholdings	-0.238	-0.025	0.014	-1.328*	-1.447***	-0.765***	0.286	1.224***	0.566***	0.022***	0.015**	0.010	0.012	-0.018	-0.010
	(0.153)	(0.119)	(0.081)	(0.659)	(0.353)	(0.277)	(0.577)	(0.265)	(0.194)	(0.008)	(0.007)	(0.007)	(0.030)	(0.020)	(0.018)
Above 400 threshold	-0.013	-0.052	-0.040	-0.515	-0.050	-0.278	0.135	0.302	0.421	0.015**	0.007	0.012	-0.035	0.003	0.010
	(0.131)	(0.100)	(0.106)	(0.453)	(0.325)	(0.293)	(0.380)	(0.313)	(0.256)	(0.007)	(0.008)	(0.007)	(0.027)	(0.019)	(0.013)
Large landholdings	0.052	0.113	-0.017	-0.274	0.116	0.073	0.721	0.116	0.100	0.015	0.002	0.003	-0.019	0.026	0.033*
	(0.141)	(0.114)	(0.082)	(0.556)	(0.270)	(0.260)	(0.444)	(0.260)	(0.243)	(0.010)	(0.007)	(0.007)	(0.025)	(0.018)	(0.018)
R^2	0.09	0.06	0.06	0.36	0.39	0.35	0.27	0.24	0.21	0.01	0.01	0.01	0.02	0.02	0.01
Dep. Var. Mean	0.079	0.087	0.100	0.655	0.615	0.562	0.498	0.481	0.522	0.003	0.002	0.003	0.011	0.010	0.011
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clusters	45	70	96	45	70	96	45	70	96	45	70	96	45	70	96
Observations	12019	18632	24296	12019	18632	24296	12019	18632	24296	12019	18632	24296	12019	18632	24296

Notes: This table reports estimates of the specifications in Table 3 based on alternative bandwidth in the RD specification around the 400 people/km^2 cutoff, including 100, 200, and 300 people/km^2 in 1960.
* p<0.1, ** p<0.05, *** p<0.01. Robust standard errors clustered by 1960 district.

B   Data Sources and Construction

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

B.1   Historic Population Density

We measure historic district-level population density using tabulations from the 1961 Population Census available in island-level hard-bound report, Sensus Penduduk 1961 in the Central Bureau of Statistics (*Badan Pusat Statistik* or BPS) library in Jakarta. The specific table that we use is titled "Sensus Penduduk Republik Indonesia 1961. Angka Sementara Penduduk Indonesia Menurut Jenis Kelamin. Per Daerah Tingkat II." We use ArcGIS to construct the area of historical 1961 districts by amalgamating later districts back to their 1961 boundaries. Using the resulting population density, we classify districts into the four categories discussed in the paper.

B.2   Historic Landholdings

We measure the historic landholdings distribution and number of large holders using the 1963 Agricultural Census conducted for the purposes of assessing landholdings in order to implement the stipulated reform. We digitized district-level tabulations available in a report by BPS, Sensus Pertanian 1963, with the table "Number of farms by size of area" ("Banjaknja usaha pertanian rakjat menurut golongan luas tanah"). While the raw data from the Agricultural Census are no longer available, these tabulations provide sufficient granularity to estimate (with noise) the number of large landholders in each district that would be affected by the land reform. For each district, we observe the number of holders with 0.1–0.49 hectares (ha), 0.5–0.99 ha, 1–1.49 ha, 1.5–1.99 ha, 2–2.99 ha, 3–3.99 ha, 4–4.99 ha, and greater than or equal to 5 ha.

As detailed in Section 5.2, assuming that landholdings L follow a Pareto distribution with probability density function $\lambda \underline{L}^{\lambda} L^{-\lambda-1}$, we can estimate the number of landholders in different bins above 5 ha. Given the Pareto formulation, the distribution parameter λ holds over all truncated segments of the distribution. As such, we can use the bins below 5 ha to recover the shape of the distribution above 5 ha where we do not know the number of landholders in each affected size bin subject to redistribution based on the four density cutoffs.

We proceed in two steps. First, we estimate the Pareto shape parameter, λ, for each district using a maximum likelihood procedure for landholdings $L \in [0.1, 5)$ ha. Second, we use $\widehat{\lambda}$ to back out the number of landholders with 5–7.5 ha, 7.5–10 ha, 10–15 ha, and > 15 ha (for irrigated land) and 6–9 ha, 9–12 ha, 12–20 ha, and > 20 ha (for dry land), following the stipulated cutoffs. Concretely, we multiply the number N_5 of landholders in the ≥ 5 ha bin by the share of the district's total landholding distribution in the given range based on the Pareto cumulative distribution function (e.g., for 5–7.5 ha, this is given by $[1 - \left(\frac{5}{7.5}\right)^{\widehat{\lambda}}] \times N_5$). Note that the Pareto distribution happens to imply that, for a given λ, the number of holders in the 5–7.5 ha range is equal to the number of holders in the 6–9 ha range as seen in Appendix Table A.1.

Although we are not able to estimate these marginal landholdings separately by wetland and dryland, we are able to control for the total number of farms, total wetland area (ha), and total dryland area (ha) using district-level tabulations elsewhere in the Sensus Pertanian 1963 report under the table titled "Farm area, average size of Farm and Paddy area" ("Luas tanah Pertanian Rakjat dan luas panenan padi").

We measure the post-land reform distribution of landholdings using the 1980 and 1990 Population Censuses as well as the 1985 Intercensal Survey (*Supas*). These are the first three Census/Inter-census

rounds that include measures of total landholdings owned by each household. We use the samples available on IPUMS International and estimate the Pareto landholdings dispersion parameter λ, for all landholdings above 0.1 ha. These estimates are at the district-level, at which the population summary statistics are representative, and hence directly comparable with the tabulations from 1963.

B.3 Contemporary Landholdings, Including *Awqaf*

We measure contemporary landholdings using the 2003 Agricultural Census. We use this universal census data to estimate Pareto shape parameters, λ, for every village and also to construct a measure capturing the share of all households with greater than 0.1 ha over which λ is estimated. See Bazzi (2017) for details on the data and estimation procedure, which differs from that used for the coarser, binned 1963 Agricultural Census data.

We use the 2003 administrative village census (*Potensi Desa* or *Podes*) to measure the total land area under *waqf* status overall, as a share of total land, and as a share of zoned land.

B.4 Contemporary Islamic Institutions

We use the *Podes* 2003 data to construct village-level measures of Islamic institutions, including the number of Islamic boarding schools (*pesantren*), the number of mosques, and the existence of a formal group that collects *zakat* alms.

We use data compiled by Buehler (2016) to measure the number of Shari'a law-based regulations implemented by the district government from 1998 to 2013. In particular, his Appendix 1 includes a table breaking down the number of local Shari'a regulations of different types (originating in the legislature versus executive or otherwise).

B.5 Electoral Outcomes

We draw upon several sources to measure historic and contemporary electoral outcomes.

First, we draw upon district-level vote shares by party from the national legislative elections in 1955, 1999, and 2009. These data were graciously shared with us by individuals that worked with Dwight King. Several districts are missing data for the 1955 elections. We therefore supplement the 1955 legislative election data with data from the 1957 district legislative elections that were held in select districts. We digitize the latter from raw electoral reports obtained from files shared with us by Donald Hindley.

Second, we use the 2003 *Podes*, which records the top 1, 2, and 3 ranked parties at the village-level in the first post-Suharto legislative election held in 1999. Unfortunately, the vote shares themselves are not reported.

We categorize parties based on conventions put forward in the political science literature on Indonesia, including numerous works by Dwight King and R. William Liddle as well as a seminal article by Baswedan (2004) aligning parties in the post-Suharto era along a spectrum of Islamist leanings. In 1955 and 1957, we define Islamic parties as Masyumi, the Indonesian Islamic Union Party (*Partai Serikat Islam Indonesia* or PSII), the Islamic Educators Association (*Perhimpunan Tarbiyah Islamiyah* or Perti), and Nahdlatul Ulama (NU). While the first post-Sukarno election in 1971 saw several Islamic parties (NU, PSII, Perti, and the Muslim Party of Indonesia), thereafter the Suharto regime allowed only a single Islamic party in the United Development Party (*Partai Persatuan Pembangunan* or PPP).

From 1999 onward, we follow Baswedan (2004) in classifying Islamic parties along an Islamist spectrum ranging from the non-Islamist National Mandate Party (*Partai Amanat Nasional* or PAN) and the National Awakening Party (*Partai Kebangkitan Bangsa* or PKB), both of which initially adopted the national ideology of *Pancasila* prior to the 1999 election when parties were allowed to choose whether or

not to embrace this for the first time in the post-Suharto era. The PKB is the successor to a large part of the former NU political wing, which disbanded from the PPP in 1984. The Islamist parties include the PPP, the Prosperous Justice Party (*Partai Keadilan Sejahtera* or PKS), and the Crescent Star Party (*Partai Bulan Bintang* or PBB). All three parties rejected *Pancasila*, including the PPP which was forced to accept *Pancasila* during the Suharto era. PBB claimed to be the heir to the Masyumi party, which was banned in the late 1950s for its association with more radical Islamist uprisings, and PKS was newly founded in 1998.

In sum, the PPP, PBB, and PKS can be seen as traditional Islamist parties whereas the PKB and PAN are Islamic albeit inclusive and non-Islamist in their orientation. While the particular leanings of these parties change over time and until today, this rough breakdown lines up with most historical and contemporary accounts by political observers.

B.6 Contemporary Religious Preferences

We use the *Indonesia Family Life Survey* (IFLS) rounds 4–5 in 2007 and 2014/15, respectively, to measure individual-level religious political preferences. These include the following questions: (i) In an election, having a candidate with the same religion as yours makes it [...] to vote for him/her. (... is a 1 to 5 scale ranging from very likely to very unlikely; and (ii) In an election, if the candidates have the same religion as yours, how important is the religiosity of a candidate in influencing your decision to vote for him/her? A more religious candidate make [...] to vote for him/her. (... is the same scale as (iv)).

B.7 Sharia Regulations

We use data from Buehler (2016), Appendix 1, pp. 215–220 on the number of Sharia regulations adopted by district between 1998 and 2013. We use all three variables provided in this dataset, namely the number of local regulations (adopted by local parliaments), ii) the number of executive instructions and decrees (adopted by local governments), and the total number of regulations, all of which are reported at the district level.

B.8 Historic Demographics

We use the Sensus Penduduk 1961 report noted above to control for the total number of men and women in each district as of 1960 before the land reform. We use the 1971 Population Census to construct age-specific male-to-female sex ratios. The data come from IPUMS International, and we use the population weights to go from the sample constructed by IPUMS to the historic district-level total male and female population. We also construct district population growth between 1961 and 1971 using this data.

B.9 Contemporary Demographics

We use the universal coverage 2000 Population Census to capture the share of the population reporting Muslim identity and the share with post-primary education.

B.10 Contemporary Governance

We use the *Podes* 2003 to measure the share of village revenue coming from four different sources: public land, social organizations, self-help groups, and private taxes.

B.11 Contemporary Development and Public Goods

We use the 2003 *Podes* construct several village-level proxies for development and public goods. These include the share of total agricultural land with any irrigation, the total number of high schools per 1,000 people, rice productivity measured in output per hectare, and a potential-revenue-weighted measure of total agricultural productivity (with price weights coming the FAO, see Bazzi et al. (2016) for details). We also construct an index of locally provided public goods using all six *Podes* rounds from 1999 to 2014 and covering clean water access, garbage collection, paved road access, kerosene cooking oil access, and road lighting. This index is based on that used in Martinez-Bravo (2017). Following Henderson et al. (2012), we capture a summary measure development based on the share of the village with any nightlights as observed from NOAA satellites in 2000. Finally, we use the annual National Socioeconomic Survey (*Susenas*) to measure household expenditures per capita for each village in each year when that village happens to be included in the roughly 15 percent of sampled villages from 1994 to 2011.

B.12 Geographic Controls

We use the *Podes* 2003 data to construct the following geographic controls: indicators for whether the village is located on a hill or on a beach, the altitude in meters, and the distance to subdistrict and district capitals in kilometers.