

A Appendix

A.1 Local Advocacy and Public Goods Provision in Suharto-Era Indonesia

This appendix provides an overview of the local public goods decision making process during Suharto’s New Order period in Indonesia, as well as contextual evidence for key aspects of our spatial interdependence argument. That evidence comes primarily from in-depth qualitative studies published both during and since the New Order. Its primary purpose is to establish the underlying plausibility of our key claims and clearly illustrate the mechanisms through rich descriptive accounts. The appendix supplements, in other words, the statistical tests of the theory found in the main text of the paper.

We divide this appendix into three parts. The first section presents background on the political structure and process of public goods provision during Suharto’s New Order regime. It begins with a brief overview of the political context of Suharto’s New Order regime, establishing its centralized and generally top-down model of governance. It then describes the approach to development planning under the New Order.

The second section describes the administrative decision making process for local public goods provision, both in terms of formal procedure and of practice. We establish two key points. First, our theory requires that local level leaders represent the interests of their communities, rather than act exclusively as agents of the state accountable only to their superiors. We refer to several ethnographic studies to show that while village leaders at the lowest rung of the New Order administrative structure were accountable primarily to their administrative superiors, they were also responsive to the local communities in which they were embedded. In short, local leaders had dual roles as both agents of the state and community members, making them subject to formal and informal pressures from above and below when engaging with higher-level authorities. Second, our theory requires that local level leaders had the ability to shape the public goods decisions of higher level officials by

advocating for their community’s interests. While the New Order did not have a formal bottom up electoral mechanism for directly influencing policy and public goods decisions, we show that several informal mechanisms gave village leaders some influence over the public goods decisions of their superiors. This stems partially from the dependence of higher level officials on village leaders for information. Furthermore, higher level authorities depended on village leaders to mobilize local resources needed for successful implementation of development projects, as well as to ensure that local voters supported Suharto’s Golkar Party during elections. Decision makers faced professional sanctions for failure to deliver successful projects and votes for Golkar, providing them incentives to ensure that village leaders had the support of their communities, which required responsiveness to village demands.

The third section focuses on the role of ethnicity in public goods provision during the New Order era in Indonesia. We again establish two points that are important for our theoretical argument. First, our theory posits that locally homogeneous communities are more effective at advocating for increased provision of public goods. We support this assertion through an overview of anecdotal evidence from several qualitative studies. Second, our theory requires that public goods provision to a hypothetical village B within the same administrative area can create discontent in a hypothetical village A, thus triggering the sibling rivalry dynamic that drives the interdependence mechanism. We look towards several studies of inter-village dynamics in areas affected by the Transmigration program to show that perceived inequalities in public goods provision prompted protests and lobbying efforts from local leaders, and that high level officials responded to these demands by redistributing resources in a way that reduced the inequalities and mitigated the tensions.

We emphasize again that this supplemental material is not intended as a primary test of our theory. Rather, it provides rich contextual evidence that supports the plausibility of our theory, which we test in the main text through our statistical analysis.

A.1.1 Political Structure and Public Goods Provision under Suharto's New Order Regime

(1) Centralization and Authoritarian Control in Suharto's New Order Regime

Compared to the previous regime under Sukarno, Suharto's New Order significantly centralized control over local affairs in Indonesia. The consolidation occurred in a roughly top-down manner, beginning with the national, provincial, district, and subdistrict levels. Following this, the regime incorporated village-level administration – which was previously not an official part of the state apparatus – as the lowest level agents of the state. This yielded five levels of government: the national level; provincial level; district level – which included both districts (*kabupaten*) and more urbanized municipalities (*kotamadya*); the sub-district level; and the village level, which included both villages (*desa*) and urban neighborhoods (*kelurahan*). The corresponding executives at each of these levels were the president at the national level, governors at the provincial level, district heads (*bupati*) or mayors (*walikota*) at the district level, subdistrict heads (*camat*), and village heads known as *kepala desa* for rural villages and *lurah* for urban neighborhoods (*kelurahan*). Elections, which were held every five years, were used to fill legislatures at the national, provincial, and district levels. As described below, executives at each level – aside from rural villages – were appointed.

Suharto's Golkar party dominated elections during the New Order era: while early elections had some degree of competitiveness - opposition parties secured a non-trivial seat share and control of some lower level legislatures during the 1970s - Golkar thoroughly dominated later elections, leading some scholars to categorize the regime as a pseudo-democracy (Case 2002). Nonetheless, the presence of elections introduced some pressure on subnational executives, whose were expected to mobilize voters in support of Golkar in the areas under their control. Failure to deliver a good electoral performance for Golkar could result in substantial professional sanctions against them, which introduced incentives for them to be responsive to local preferences. Suharto used his personal control of Golkar to ensure that the national parliament would reappoint him as president following each election. As president,

Suharto enjoyed largely unchecked power to appoint senior Golkar officials as cabinet ministers. Formally, governors, district heads, and mayors were to be nominated by provincial and district legislatures. However, de facto, governors were appointed by Suharto and his Minister of Home Affairs, while district heads and mayors were appointed by the governors (Tuerah 1998, 211). District heads and mayors in turn appointed subdistrict heads and the heads of urban neighborhoods (*lurah*). Although the heads of rural villages (*kepala desa*) were elected, district heads prescreened candidates and had the final say in approving their appointment (Antlöv 1994, 86; Tuerah 1998, 211). Because of the ability of higher-level officials to appoint their subordinates, lower-ranking officials were largely beholden to their superiors in the government hierarchy. This strong upward accountability is the primary reason for the New Order's characterization as highly centralized.

(2) Government Planning and Public Facilities under the New Order

Here we provide a brief overview of development planning for local public goods such as infrastructure, schools, and health facilities. Reflecting the hierarchical structure of the Indonesian government, formal development planning was a largely top-down process that began with national level development goals set out by Suharto and his line ministries. Priorities were established through a national visioning exercise, and plans were made in 5 year increments as reflected by the Five-Year Development Plans (*Repelita*). The provincial governments took the national-level development plans and were expected to adapt them to conditions in their provinces, which would become both Five-Year and Annual Provincial Development Plans. In turn, district-level governments would incorporate provincial plans into their own Five-Year and Annual District Plans. Because of their roles in not just implementing the national plans, but also adapting them to local conditions, provincial governors, district heads, and mayors had considerable discretion over details of the planning process. Below the district level, however, subdistrict and village heads were largely viewed as implementers rather than decision-makers, particularly in the early New Order period.

The New Order regime viewed district governments as “too far removed from local con-

ditions” to accurately assess what kinds of projects would be useful and implementable, due to a lack of information (Rasyid 1982, 42). In effect, input from the village level was seen as vital for effective development, introducing a de facto bottom up channel of influence over public goods decision making. Thus, in 1982 the decision-making process for infrastructure and sectoral projects designated the subdistrict as the level at which such projects would be coordinated¹⁹ and stipulated that villages would provide information on village conditions and needs; propose potential projects and locations suitable for infrastructure projects; and secure contributions of village labor to assist in the implementation of projects (Rasyid 1982, 43-44). This planning model was laid out through Regulation No. 9 of 1982 of the Ministry of Home Affairs.

The annual planning process at the district level took into account the long-term plans known as the Basic Principles of Development (*Pola Dasar Pembangunan*) and five-year development plans (*Repelita*) at the national, provincial, and district levels. These long-term and five year plans essentially spelled out both longer-term priorities and project expenditures that spaned several years. It is at the district level that the development priorities for the district-level governments and above were merged with community aspirations that were mediated by either members of the local parliament or the village heads (Tuerah 1998: 245-46).

The annual planning process for districts and municipalities had four main stages. The planning process began at the village level in both rural villages (*desa*) and urban neighborhoods (*kelurahan*) with a village development consultation (*Musyawarah Pembangunan Tingkat Desa – Musbang*), which was established to give villagers an opportunity to provide input into their desired infrastructure projects. These meetings were convened by the Village Council for Development Planning and Guidance (*Lembaga Ketahanan Masyarakat Desa—LKMD*), the Village Consultative Council (*Lembaga Musyawarah Desa—LMD*), chaired by the village head, and supervised by the subdistrict head or a member of his office (Tuerah

¹⁹This was through the Local Development Working Unit (UDKP), which was chaired by the subdistrict head (*Camat*).

1998, 249). At the second stage was the Subdistrict Development Consultation (*Musyawarah Pembangunan Tingkat Kecamatan*), which was led by the subdistrict head and attended by all village heads and LKMD councils for both rural villages and urban neighborhoods. In addition, the district head or the head of the District Planning Agency (*Bappeda*) would attend these meetings. It was at this stage that the various proposals from the villages were presented and decisions were made on which projects to fund with key inputs on logistical issues from the Subdistrict Development Working Unit (*Unit Daerah Kerja Pembangunan—UDKP*). As part of the proposal, villages stipulated the amount of labor they would contribute to implement the projects. The selected proposals from the subdistrict were then discussed by the District/Municipality Development Consultation (*Musyawarah Pembangunan Tingkat Kabupaten/Kotamadya*), which was chaired by the head of the district planning agency under the guidance of the district head or mayor and included the participation of subdistrict heads and local agency heads. Projects were prioritized and then submitted to the Provincial Development Consultation (*Musyawarah Pembangunan Tingkat Propinsi*), which was chaired by the head of the Provincial Planning Agency, under the supervision of the governor and attended by the district heads, mayors, and provincial agency heads. The selected priorities were then integrated into a provincial development plan and integrated with regional and national level plans (Tuerah 1998, 250-51).

A.1.2 Decision-Making over Local Infrastructure during the Suharto Era

Government decision-making during Suharto's New Order regime has been described as a highly centralized process in which national level directives were transmitted to and implemented by the provincial, district, subdistrict, and village levels. While the level of centralization during the New Order was indeed greater than during other periods of Indonesian history – both before and after the New Order – it is important to emphasize, as noted above, that lower level governments retained significant discretion in many aspects of the process. In short, decision making did not fully exclude input at the village-level or from

society at large. Indeed, the seminal studies that established the highly centralized nature of governance during the New Order themselves note both discretion at the village level and responsiveness by district and provincial officials to the demands of village-level actors.²⁰ Specifically, district and provincial officials relied on village actors to provide information on local conditions and needs, to assist in the implementation of policy, and to mobilize political support for higher levels of government. By leveraging this co-dependence, villages and their leaders had the ability to influence decisions on resource allocations made by higher-level officials.

Below we first discuss the dual role that village-level officials played by acting both as the lowest rung of the administrative state and as embedded community members who advocated on behalf of their communities. We then illustrate how village leaders were able to influence the decision making of their superiors through several informal channels, thereby creating bottom-up influence that shaped public goods provision and enabled the theory we advance.

(1) Dual role of Village Officials

As established, the New Order operated through a top-down administrative structure with village leaders on the lowest rung. Despite this, it is incorrect to assume that village officials acted only as agents for higher level officials, while disregarding the preferences of their village. Indeed, Antlöv cautions “not to overestimate the authoritarian rule of village leaders...[who] are subject to moral norms that limit their practical power... Village leaders are often born in the village in which they work. They are thus not only village officials, but also members of a social community, maintaining responsibilities and allegiances with neighbours, kinsmen and friends” Antlöv (1994, 85). Similarly, Rasyid (1982) has argued that village heads “are under pressure to conform behavior to the existing rural norms and traditions. They particularly have to conform to those patterns that are symbolic of villageship, namely, the familiar and [egalitarian] character of village life” (Rasyid 1982, 20).

By virtue of their social embeddedness, Maurer (1994) argues that village officials “have

²⁰See Antlöv and Cederroth (1994)

a dual function in the State's organization chart. On the one hand, as local appointed representatives of the central administration, they are supposed to see to it that law and order prevail in the countryside and that the governmental development policy is efficiently implemented at the village level. On the other, as elected representatives of the rural population and members of the village communities, they are expected to listen to the people and be their spokesmen by forwarding their wishes and grievances to the upper levels of the administration" (Maurer 1994, 102). Indeed, the heads of rural villages were elected by fellow villagers and were therefore reliant on their support to win and maintain office. A village head that used his position for private gain at the expense of his village risked losing support within the village, which could undermine the ability to maintain his/her position as village head. For example, according to an ethnography of a village in Central Java, villagers "were decidedly unhappy with [the village head]. It was said that, if a new election were held, [the village head] would not be reelected (Keeler 1985, 121)." In West Java, another ethnography observed how displeasure with village heads could undermine their ability to be elected (Hikam 1995, 449). Moreover, beyond undermining their electoral chances, villagers could make it socially costly for village heads to not act sufficiently in the interests of the village by spreading rumors akin to the weapons of the weak that James Scott documented in Malaysian villages (Hikam 1995, 427-430).

The village heads' dual roles were intertwined since higher-level officials would rely on the authority and effectiveness of village heads to mobilize fellow villagers for village participation, particularly the provision of village labor, in the implementation of state policies and the construction of infrastructure projects. Although policies were decided at higher levels of the state, the "execution [of policies] rest[ed] entirely in the hands of the subordinates (Rasyid 1982, 21)." Village heads that lost their authority and ability to mobilize fellow villagers within the village were less useful to higher-level authorities. As Antlöv (1994) has observed:

"...village, hamlet and neighbourhood headmen are elected, and they must then

at least at that occasion be able to mobilize support for their candidacy... it is expected of village leaders that they carry out government programmes. If village leaders have distanced themselves from the village community to the degree that they have become un-popular, this most crucial task might be difficult to achieve. One of the implicit reasons behind state patronage is to mobilize the rural middle class and with them obtain the support of the great masses. If the masses no longer support the middle class, a problem arises. There is thus a limit to the rule of leaders.” (Antlöv 1994, 85)

Similarly, village heads were expected to mobilize voters within the village to ensure a strong Golkar victory during elections. Villagers that were discontent with the village head would express dissatisfaction by voting against Golkar (Hikam 1995, 406; Antlöv 2004, 123). This reduced the utility of the village leader for higher up officials, who were also tasked with ensuring Golkar support in their broader jurisdictions, and would face professional sanctions for failing to do so. Thus, in practice, while most executives were not directly elected, their professional survival depended on their ability to build popular support for Golkar at elections, as well as support for the execution of Golkar directives. In response, leaders sought to “gain... legitimacy mainly by the favours, material as well as immaterial, which they can deliver to their followers (Cederroth 1994, 139).” That is, even the non-elected *lurah* needed to build support in their communities in order to mobilize village support and retain their positions.

Another quote (Antlöv 2004, 123) clearly illustrates the dynamic of villages using the national vote as an endorsement of or protest against local leaders. It describes a conversation with officials following the 1997 election, where one hamlet with popular local officials voted almost exclusively for Golkar, while another nearby hamlet with unpopular local leaders delivered far fewer votes for Golkar.

“The hamlet with 96 per cent Golkar votes was Cilembur, the poor hamlet where Golkar had promised to build a mosque. Voters had heeded the enchanting

Golkar summons, and done as the hamlet chairman, a popular spiritual teacher, had asked them. He had even promised to sell his own house to build the mosque if Golkar did not meet its promise. The PDI did not receive a single vote, and the PPP only nine votes. In the neighbouring hamlet, Golkar received only 59 per cent. The hamlet chairman there was unpopular, being accused of corruption and authoritarianism, a chairman of Golkar's Board for Islamic Revival. Three other prominent village leaders also lived in the hamlet. What seems to have happened is that people voted against the local leadership of Golkar and other state clients. Villagers were dissatisfied with Golkar's local leadership style."

The importance of personal connections to subordinates, which could be strengthened through these favors, was especially pronounced in some areas due to Indonesia's large size and relatively low level of development, which meant that the official state hierarchy was not always perfectly institutionalized:

"Thus, if one looks at the Indonesian system of government and the way that it works on a day-to-day basis, one is acutely aware that beneath the formal structure of government that appears logical and rational, there are a wide range of complex personal relationships and connections that determine to a great extent decision making and, ultimately, how the government performs." (MacAndrews 1986, 32)

Finally, accounts of village heads as authoritarian figures in the village may be overstated due to misinterpretations of the village meetings over key decisions. Rasyid has observed that "The usual process for decision making in all public meetings is by consensus (*mufakat*) without voting. Lobbying by the headman occurs long before the meeting, in order to reduce the differences between conflicting viewpoints. This is one explanation why the headman often appears to determine everything in an authoritative manner, while the participants serve only to approve his decisions" (Rasyid 1982, 23).

(2) Village Advocacy of District Officials

An examination of the village development consultations reveals the entry points at which village heads could influence outcomes. We have established that village leaders had an incentive to serve the interests of their fellow villagers and have provided an overview of the decision-making processes during the New Order. We now examine how village leaders could influence the decisions made at the district level. We begin by showing how the government formally provided villages the opportunity to provide inputs into district infrastructure decision processes: through the strategic provision of information on village conditions and needs, they were able to shape decisions made by district level officials. We then provide examples of how villages lobbied district-level authorities, leveraging their roles as political mobilizers and project implementers.

Although much of Indonesia's stock of local infrastructure (such as roads, schools, and health centers) has been funded through central government funds, these policies formally integrated village heads into the decision-processes by soliciting proposals for local infrastructure from villages. In particular, the Presidential Instruction grants (*Inpres – Instruksi Presiden*) were Suharto's main means of building local infrastructure during his regime. There were various Inpres funds that were earmarked by the government for local infrastructure and particular types of public goods, which would be decided by specified subnational levels of government (i.e. provincial, district, or village) or specific agencies (i.e. Ministry of Education or Ministry of Health). With large flows of resources for local infrastructure through the Inpres mechanisms, there was also a practical reason for soliciting inputs from the village level for public goods: information. As discussions during the early New Order period revealed, "The district unit of administration which was considered responsible for coordinating all sectoral programs implemented in the villages was too far removed from local conditions to respond effectively to farmer needs" (Rasyid 1982, 42). That is, district officials based in district capitals often lacked the information about village-level conditions to know where infrastructure was needed. For this reason, village leaders were subsequently

relied upon by the state for providing information about the needs of their communities.

The process of disbursing village funds (*Bantuan Desa*) from the central government effectively began with proposals submitted by village leaders to subdistrict heads (*camat*). These specified the village needs in detail, including type and potential location of public goods. Following this, the *camat* would verify whether the proposals met the requirements of the funding source. Village proposals selected by the *camat* would then be funneled upward for approval by district heads and mayors, and later the provincial governor. These proposals would then be submitted to the central government sources for approval and funding (Rasyid 1982, 41-43). While village heads were certainly beholden to higher level authorities, they had an incentive to make proposals that would provide public goods to their own villages, again, given their need to secure and retain the support of the local population in which they were embedded.

Although these “annual grants-in-aid for rural improvement are accompanied by rigid regulations concerning how the money should be used... [t]here is still room for rural people to take part in decision making by carefully choosing which one of several program alternatives offered by the central government is appropriate for the local needs” Rasyid (1982, 22). For example, village officials have been documented exercising discretion over the location of primary schools funded by Inpres educational funds in West Java. After subdistrict officials announced the availability of these funds, village officials submitted proposals for schools in which the village indicated that they would supply both the labor and land necessary for the facilities (Antlöv 1994, 87-88). In this way, villages had significant input into the process of locating these facilities. Similarly, village officials have been found to have initiated requests for Inpres funds for local market infrastructure in North Sumatra by lobbying district officials that administered these central government funds. Village heads in several villages mobilized their communities to submit proposals for Inpres grants administered by district governments, which led to building of market facilities in each of their communities (Tuerah 1998, 166).

In addition to the official solicitation of village proposals for infrastructure, villagers and their leaders often engaged in lobbying subdistrict, district, and provincial officials. Indeed, in Tuerah's (1998) study of local development planning during the New Order, he found that "It often happens that local bureaucrats lobby to the [district legislature] in order to ensure that the draft [of the district development plan] has accommodated the majority of communities' aspirations and needs" (Tuerah 1998, 246). What factors, then, contributed to more effective lobbying efforts?

The literature on Indonesian governance indicates that district officials used the promise or withdrawal of infrastructure funds to incentivize village officials to mobilize support their fellow villagers to vote for Golkar. As mentioned earlier, higher-level officials benefited from village heads that were able to mobilize fellow villagers to vote for Golkar. It was the reliance of district officials on village leaders for mass political mobilization that allowed village heads to lobby for greater public goods as a reward. In East Java, Golkar officials were found to have tied the allocation of government infrastructure in some villages to high turnout in favor of the Party (Cederroth 1994, 148). Similarly, Galizia (1996, 146) observed in Bengkulu Province the following:

"Villagers can be influenced by promises of funds for new roads, mosques, irrigation systems, scholarships, etc. They can be threatened with the withdrawal of such funds or more directly by branding them as subversive elements or even as communists. On the other hand it is possible for persons and strategic groups from a village to exert some pressure. In exchange for personal and sometimes even communal advantages they might for instance promise to organise an overwhelming victory for the Golkar at general elections."

In this way, the ability of village heads to successfully lobby for public goods was tied to their ability to solve the collective action problem of ensuring votes for the ruling party. The comparative literature finds a strong negative association between ethnic diversity and public goods, which is theorized to occur due to a diversity penalty that more diverse communities

face in overcoming collective action problems (Habyarimana, et al 2007). In the next section, we will show how ethnic diversity affected the ability of villages to overcome this type of collective action problem.

A.1.3 Ethnicity and Interdependence

We now provide evidence to establish the plausibility of the interdependence mechanism. Our theory of interdependence rests of the claim that more ethnically homogeneous villages will be more effective at lobbying for their interests and that ethnic disparities in resources will lead to pressure to redress such imbalances. Thus, we provide anecdotal evidence that suggests the plausibility of this claim in New Order Indonesia. We then show how disparities across ethnic groups can lead to pressures on higher-level officials to rebalance resources and public goods. Together, the more effective lobbying efforts of homogeneous communities, resentment of ethnic disparities, and the willingness of higher-level authorities to redress these imbalances provide for the plausibility of the interdependence theory.

(1) The Diversity Penalty on Local Advocacy

The ethnographic literature in Indonesia suggests that more ethnically diverse communities have more difficulties overcoming collective action problems and, in particular, in lobbying for public goods from higher level authorities relative to more homogeneous communities. Studying the political economy of demographic changes in Sumatra, Liddle (1972) observed that “competition for scarce values and material goods” led individuals to identify themselves “as members of distinct ethnic groups, based on common language, culture, clan membership, and to some extent religious affiliation”, which they used to organize for collective interests (Liddle 1972, 172). That is, groups found advantages in cooperating along ethnic lines to advocate for shared interests against other ethnic groups.

In ethnically diverse villages in West Java, village heads relied on coethnics as their base of political support (Hikam 1995, 416). Thus, villages that were more homogeneous would plausibly have a greater base of support upon which village heads could draw to influence

political outcomes. Similarly, in ethnically mixed communities in North Sumatra, Hoshour (2000) found that non-coethnics within villages frequently stated “that they could never fully trust someone who does not share their own culture (*kebudayaan*). Relations, while cordial, tend to remain superficial.” (Hoshour 2000, 374). She documents a case in which ethnic diversity among Christians in Riau (including Bataks, Javanese, and Javanese Sumatrans) undermined their ability to lobby district officials effectively for public allocations of land for a church. Christians from these three ethnic groups began by holding services together, but soon split into Catholic, Pentecostal, and Batak Protestant groups. The split was precipitated in part because of the use of the Batak language for sermons rather than Bahasa Indonesia, the lingua franca of Indonesia. Following the split, district officials received competing, rather than unified proposals for the church (Hoshour 2000, 339-40).

In contrast to the ineffective case of lobbying of the ethnically divided Christians in Riau above, Hoshour (2000) describes a case of an ethnically homogeneous group, the Sakai of Riau, that was effective in lobbying district officials to act on their behalf. The comparison with the case of the Sakai is particularly informative since they are officially classified as an “isolated tribe” (*masyarakat terasing*), which is a classification shared by roughly 300 small ethnic groups in Indonesia, totalling around 1.5 million people (Hoshour 2000, 421). According to the Ministry of Social Welfare, an isolated tribe is defined as “a group or subgroup which inhabits an isolated and remote region in a widely dispersed manner, making social interaction with outside communities which are more progressive [advanced] extremely difficult” (Hoshour 2000, 421). Because this isolation also indicates that they are politically isolated, finding that this group was able to successfully lobby district officials to act on their behalf would be suggestive of the positive impacts of ethnic homogeneity on lobbying.

Hoshour describes how land claimed by the ethnic Sakai was confiscated by a rubber and palm oil company without compensation. Despite their presumed political isolation, they mobilized politically in 1993 by successfully lobbying the subdistrict head to advocate their position to the district head. Then, the district and subdistrict heads sent multiple letters

to the company to demand compensation to the Sakai. When the company did not respond favorably, the Sakai demonstrated against the company. Although the military ultimately intervened on behalf of the company, this case shows that even politically weak groups in Indonesia could pressure politicians, including subdistrict and district heads, to advocate on their behalf. This is strong evidence of the fact that local politicians were responsive to pressures from below, even by politically marginal groups, and suggestive of the strength that comes from unity in ethnic groups (Hoshour 2000, 425-32).

(2) Interdependence

Having provided anecdotal evidence from the New Order period that (a) village officials engaged in lobbying and could influence district officials, and (b) ethnic diversity could undermine their lobbying efforts, we now present anecdotal evidence establishing the plausibility of our interdependence mechanism by showing how segregation can ratchet up the provision of local public goods. We first show that differential provision of resources and public goods to one ethnic group over another can lead to ethnic resentments. We then provide anecdotal evidence in which resentment over ethnic disparities led to a redressing of imbalances. These examples are drawn from cases involving Indonesia's Transmigration Program, which resettled poor households from Java, Bali, and Madura to less densely populated islands in Indonesia, often in the close vicinity of indigenous communities. The transmigration program is by no means the only source of ethnic segregation in Indonesia, but it is an important contributor. Although we will establish the plausibility of the mechanism through these cases involving the Transmigration Program, there is no theoretical reason why the sibling rivalry dynamics that we find should be confined only to cases involving transmigration. Indeed, in our statistical analysis, we provide evidence for interdependence even when excluding areas that were recipients of transmigration, which indicates that this phenomenon was widespread.

Transmigration households were provided with a range of inducements in order to incentivize them to uproot from Indonesia's densely populated inner islands and relocate to the

distant outer islands. These included private incentives such as land, housing, and temporary food subsidies, as well as public goods built for transmigrant communities, including roads, irrigation, schools, and health facilities. As a result, transmigrant communities would receive significantly greater public goods than indigenous communities in the same administrative area. In a study of rural-urban linkages in North Sulawesi, Tuerah (1998) provides statistical and qualitative evidence of greater access to publicly provided infrastructure (irrigation and roads) and services (education) among migrants from Bali and Java compared to indigenous groups (Tuerah 1998, 121, 124). Similarly, the greater provision of public infrastructure in transmigrant communities has been documented in North Sumatra (Hoshour 2000, 365-377).

The disparities in public resources provided to transmigrant and indigenous communities have been found to produce ethnic resentments. Hoshour's (2000) study of transmigration in Riau in the late New Order finds that Sumatrans (both from North Sumatra and Riau) opposed the transmigration program, which gave priority to ethnic Javanese, with Sumatrans able to participate only at a much lower rate (Hoshour 2000, 305, 312). In her ethnographic work, she cites widespread resentment among Sumatrans of the heavy provision of land and public resources devoted to ethnic Javanese (Hoshour 2000, 375-380). Hoshour (1997) found that:

“Although tensions are highest in those communities directly affected by the settlements, criticism of the program as a formalized policy of favoritism benefiting the Javanese transmigrants - often referred to by these critics as ‘Suharto’s children’ - was pervasive throughout those areas of the province that I visited in the course of this research.” (Hoshour 1997, 572)

These tensions in Riau led to increasing salience of ethnic identity across Sumatran-Javanese cleavages. In response to the resentments of Javanese transmigrants by Sumatrans in Riau, the governor of Riau proposed increasing the proportion of local participants who could access the transmigration program and associated state resources from 20 percent to 50 percent. According to provincial officials in the Transmigration Agency, many of whom

strongly supported this policy, the rationale for this change was that “social jealousy” among Sumatrans of Javanese could seriously threaten interethnic relations (Hoshour 2000, 514). It can be surmised that Sumatrans applied political pressure on the governor and subordinate officials to communicate this source of discontent to the point that he expanded the allocation of Sumatran participants to be at parity with Javanese participants in the program.²¹

In this way, the ethnic disparities in access to state resources led to bottom-up pressures on a New Order era governor to redistribute resources in order to reduce disparities and mitigate ethnic tensions. Together with the evidence that homogeneous communities are more effective in lobbying for public goods, we have strong support for both key aspects of the interdependence mechanisms, strengthening its plausibility. We expect that there are other cases of this that have not been documented in the literature, especially at the district level, given that villages had greater access to district heads and legislatures than governors. Along these lines, Tuerah (1998) warned that disparities between migrants and nonmigrants in North Sulawesi could lead to political conflict if they were allowed to persist (Tuerah 1998, 161). Indeed, after the security forces became more constrained during Indonesia’s transition to democracy, many of these tensions between ethnic groups found expression in communal violence, including in Lampung Province, which was the biggest recipient of transmigrants and transmigration-related resources in Indonesia (Tajima 2014).

A.2 Summary Statistics

Table A1 presents descriptive statistics for public facilities, ethnicity variables, district controls, and village controls of the villages in our sample.

²¹Norms of equity, such as those found throughout Indonesia (Antlöv 1994, 159-160), are likely to strengthen the interdependence dynamics since decision-makers will be under social pressures to equalize disparities. However, our theory does not require these norms; as long as decision-makers are responsive to multiple ethnic groups, interdependence may obtain in theory.

Table A1: Summary Statistics

	Mean	SD
<i>Panel A: Public Facilities</i>		
Distance to Health Center	8.410	14.44
Distance to Health Subcenter	5.028	12.24
Distance Primary School	0.220	2.912
Distance Middle School	5.011	11.24
Distance High School	11.99	18.92
Asphalt Road	0.546	0.498
Asphalt/Stone Road	0.818	0.386
<i>Panel B: Heterogeneity Variables</i>		
Ethnic Fractionalization (District)	0.383	0.315
Ethnic Fractionalization (Village)	0.183	0.237
Ethnic Segregation	0.302	0.240
Coethnicity (District-Village)	0.764	0.425
Religious Fractionalization (D)	0.133	0.165
Religious Fractionalization (V)	0.0800	0.150
Religious Segregation	0.190	0.201
<i>Panel C: District Controls</i>		
District Population	797,386.9	648,428.5
Perc. Urban in District	0.0985	0.200
District Area (thousands hectares)	534.7	959.2
Poverty Rate (District)	0.0558	0.0484
<i>Panel D: Village Controls</i>		
Village Population	3,103.8	3,682.7
Poverty Rate (Village)	0.0611	0.226
Proportion Villages with Majority Agri. HHs	0.889	0.314
Hilly	0.212	0.409
Urban	0.0985	0.298
Distance to District Center	52.26	78.43
Village Area (thousands hectares)	1.804	6.915
Village Head Age	44.14	8.949
Years as Village Head	4.411	5.018
Village Head High School or Above	0.534	0.499
Village Head Tertiary School	0.121	0.326
Village Head Decides Poor Status	0.182	0.386
Voter Turnout	0.933	0.120
Golkar top votes	0.434	0.496
District Budget (millions Rupiah)	103,703.8	65,307.4

The unit of observation is village. Villages in Aceh, Papua, and Jakarta observations are excluded. There are 50,576 villages in the sample.

A.3 Full Results of Main Tables

In this section, we present the full results of the main tables (Tables 2 and 3).

Table A2: Ethnic Segregation and Public Goods

	Middle Schools (km)				High Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	0.811 (0.637)	0.539 (0.665)	2.495* (1.090)	1.430 (0.793)	2.783 (1.750)	1.916 (1.718)	6.156* (2.762)	3.963 (2.030)
EFV		0.520 (0.354)	-1.453** (0.552)	0.338 (0.350)		1.660** (0.638)	-1.911* (0.930)	1.241* (0.626)
Ethnic Segregation			-0.943* (0.468)	-1.048* (0.409)			-2.360* (1.120)	-2.410** (0.870)
Log District Population	0.692 (0.615)	0.693 (0.622)		0.557 (0.627)	-1.120 (1.156)	-1.118 (1.159)		-1.430 (1.187)
District Area	-1.884 (1.451)	-1.864 (1.441)		-1.851 (1.416)	-0.393 (2.514)	-0.330 (2.492)		-0.300 (2.445)
Poverty Rate (District)	-0.009 (0.157)	0.002 (0.155)		0.245 (0.186)	-0.485 (0.375)	-0.448 (0.374)		0.110 (0.444)
Perc. Urban in District	0.033 (1.864)	0.077 (1.851)		0.240 (1.808)	0.784 (3.832)	0.926 (3.794)		1.300 (3.752)
Log Village Population	-3.554** (0.546)	-3.698** (0.541)		-3.730** (0.543)	-3.079** (0.742)	-3.538** (0.711)		-3.612** (0.699)
Village Area	2.935** (0.748)	2.932** (0.749)		2.909** (0.740)	3.454* (1.693)	3.446* (1.696)		3.393* (1.674)
Poverty Rate (Village)	0.042 (0.088)	0.041 (0.087)		0.042 (0.087)	-0.259 (0.162)	-0.262 (0.163)		-0.261 (0.163)
Urban	-1.726** (0.337)	-1.778** (0.345)		-1.731** (0.343)	-5.466** (0.706)	-5.633** (0.725)		-5.525** (0.722)
Hilly	1.576** (0.297)	1.574** (0.297)		1.548** (0.298)	4.054** (0.489)	4.049** (0.491)		3.990** (0.490)
Dist District Ctr	6.701** (0.877)	6.707** (0.878)		6.717** (0.877)	13.886** (1.341)	13.905** (1.326)		13.927** (1.319)
Majority Agri	0.173 (0.203)	0.239 (0.214)		0.227 (0.213)	2.484** (0.439)	2.696** (0.456)		2.668** (0.455)
VH Age	-0.305** (0.117)	-0.312** (0.116)		-0.327** (0.117)	-1.046** (0.208)	-1.069** (0.207)		-1.103** (0.208)
VH Tertiary School	-0.535** (0.114)	-0.535** (0.115)		-0.537** (0.114)	-1.218** (0.218)	-1.219** (0.219)		-1.224** (0.218)
VH Poor Status	0.677 (0.367)	0.691 (0.365)		0.687 (0.366)	0.674 (0.570)	0.721 (0.567)		0.711 (0.569)
Constant	4.995** (0.267)	5.009** (0.264)	5.299** (0.186)	5.081** (0.268)	12.121** (0.584)	12.164** (0.580)	12.760** (0.408)	12.329** (0.585)
R-Squared	0.325	0.325	0.233	0.326	0.411	0.412	0.289	0.413
Observations	50576	50576	50581	50576	50576	50576	50581	50576

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$.

Table A2: Ethnic Segregation and Public Goods, *continued*

	Health Centers (km)				Asphalt Roads			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
EFD	1.731*	1.162	3.873**	2.474**	0.026	0.043	-0.124*	-0.055
	(0.739)	(0.758)	(1.265)	(0.891)	(0.038)	(0.040)	(0.055)	(0.044)
EFV		1.089**	-1.221*	0.821*		-0.031*	0.090**	-0.012
		(0.416)	(0.553)	(0.402)		(0.014)	(0.017)	(0.013)
Ethnic Segregation			-1.313*	-1.544**			0.107**	0.115**
			(0.629)	(0.512)			(0.030)	(0.029)
Log District Population	-0.128	-0.127		-0.327	-0.145**	-0.145**		-0.130**
	(0.680)	(0.685)		(0.715)	(0.040)	(0.039)		(0.037)
District Area	-0.915	-0.874		-0.855	-0.077	-0.078*		-0.079*
	(1.548)	(1.530)		(1.499)	(0.040)	(0.039)		(0.037)
Poverty Rate (District)	0.151	0.175		0.533	-0.008	-0.009		-0.036*
	(0.265)	(0.263)		(0.310)	(0.019)	(0.019)		(0.017)
Perc. Urban in District	4.357	4.450		4.689	-0.056	-0.059		-0.077
	(2.923)	(2.892)		(2.822)	(0.162)	(0.162)		(0.160)
Log Village Population	-2.663**	-2.965**		-3.012**	0.143**	0.152**		0.155**
	(0.497)	(0.499)		(0.492)	(0.025)	(0.024)		(0.022)
Village Area	2.947**	2.942**		2.908**	-0.026*	-0.026*		-0.023*
	(0.734)	(0.734)		(0.721)	(0.010)	(0.010)		(0.009)
Poverty Rate (Village)	-0.178	-0.180		-0.179	-0.009	-0.009		-0.009
	(0.104)	(0.105)		(0.105)	(0.006)	(0.006)		(0.006)
Urban	-3.638**	-3.747**		-3.678**	0.194**	0.197**		0.192**
	(0.544)	(0.560)		(0.556)	(0.017)	(0.017)		(0.017)
Hilly	1.934**	1.931**		1.893**	-0.068**	-0.068**		-0.065**
	(0.305)	(0.306)		(0.307)	(0.014)	(0.014)		(0.014)
Dist District Ctr	8.899**	8.912**		8.926**	-0.160**	-0.160**		-0.161**
	(0.947)	(0.944)		(0.952)	(0.028)	(0.028)		(0.028)
Majority Agri	0.896**	1.035**		1.017**	-0.181**	-0.186**		-0.184**
	(0.288)	(0.288)		(0.290)	(0.019)	(0.019)		(0.020)
VH Age	-0.672**	-0.686**		-0.708**	0.050**	0.050**		0.052**
	(0.136)	(0.135)		(0.135)	(0.006)	(0.006)		(0.006)
VH Tertiary School	-0.730**	-0.731**		-0.734**	0.049**	0.049**		0.049**
	(0.146)	(0.147)		(0.148)	(0.009)	(0.009)		(0.008)
VH Poor Status	0.725	0.755		0.749	-0.045**	-0.046**		-0.045**
	(0.443)	(0.441)		(0.443)	(0.012)	(0.011)		(0.011)
Constant	8.984**	9.012**	8.875**	9.118**	0.551**	0.550**	0.520**	0.542**
	(0.438)	(0.435)	(0.233)	(0.436)	(0.023)	(0.023)	(0.012)	(0.023)
R-Squared	0.315	0.315	0.227	0.316	0.160	0.161	0.086	0.165
Observations	50576	50576	50581	50576	50576	50576	50581	50576

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$.

Table A3: Ethnic Segregation and Public Goods Targeted by Presidential Instructions

	Health Centers/Subcenters (km)				Primary Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	-0.028 (0.353)	-0.111 (0.375)	0.643 (0.604)	0.098 (0.465)	0.147 (0.162)	0.115 (0.162)	0.029 (0.146)	0.223 (0.221)
EFV		0.160 (0.268)	-0.992** (0.352)	0.117 (0.263)		0.061 (0.073)	-0.077 (0.073)	0.039 (0.060)
Ethnic Segregation			-0.148 (0.336)	-0.246 (0.289)			-0.073 (0.104)	-0.127 (0.126)
Log District Population	0.915* (0.379)	0.915* (0.382)		0.883* (0.386)	0.128 (0.207)	0.128 (0.207)		0.112 (0.207)
District Area	-1.968 (1.108)	-1.962 (1.102)		-1.959 (1.097)	-1.484 (0.905)	-1.481 (0.903)		-1.480 (0.900)
Poverty Rate (District)	0.089 (0.128)	0.092 (0.128)		0.149 (0.146)	0.020 (0.052)	0.021 (0.053)		0.050 (0.070)
Perc. Urban in District	-0.905 (1.353)	-0.892 (1.348)		-0.853 (1.335)	-1.316* (0.591)	-1.311* (0.587)		-1.291* (0.571)
Log Village Population	-2.706** (0.352)	-2.750** (0.357)		-2.757** (0.357)	-0.412** (0.106)	-0.429** (0.112)		-0.433** (0.114)
Village Area	0.949** (0.259)	0.949** (0.259)		0.943** (0.257)	-0.054 (0.109)	-0.054 (0.109)		-0.057 (0.109)
Poverty Rate (Village)	-0.043 (0.050)	-0.043 (0.050)		-0.043 (0.050)	-0.015 (0.020)	-0.015 (0.020)		-0.015 (0.020)
Urban	-0.160 (0.201)	-0.176 (0.202)		-0.165 (0.202)	0.103* (0.040)	0.097* (0.039)		0.103* (0.041)
Hilly	0.815** (0.234)	0.814** (0.234)		0.808** (0.237)	0.024 (0.045)	0.024 (0.045)		0.021 (0.046)
Dist District Ctr	4.642** (0.679)	4.644** (0.681)		4.646** (0.682)	0.701** (0.243)	0.702** (0.243)		0.703** (0.243)
Majority Agri	-0.347* (0.170)	-0.326 (0.169)		-0.329 (0.169)	-0.064 (0.034)	-0.056 (0.037)		-0.057 (0.037)
VH Age	-0.261** (0.088)	-0.264** (0.088)		-0.267** (0.088)	-0.027 (0.025)	-0.028 (0.025)		-0.029 (0.026)
VH Tertiary School	-0.330** (0.083)	-0.330** (0.083)		-0.330** (0.083)	-0.039 (0.022)	-0.039 (0.022)		-0.039 (0.022)
VH Poor Status	0.610 (0.330)	0.615 (0.329)		0.614 (0.330)	-0.002 (0.087)	-0.000 (0.086)		-0.001 (0.087)
Constant	2.924** (0.185)	2.928** (0.184)	3.175** (0.113)	2.945** (0.184)	0.074 (0.060)	0.075 (0.059)	0.230** (0.039)	0.084 (0.057)
R-Squared	0.191	0.191	0.125	0.191	0.102	0.102	0.079	0.102
Observations	50576	50576	50581	50576	50576	50576	50581	50576

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$.

A.4 Empirical Results of Further Analyses and Robustness Tests

In this section, we present empirical results of robustness checks and additional analyses that we discuss in the main text.

A.4.1 Asphalt/Gravel Roads

As demonstrated in Table A4, the relationship between segregation and roads is still significant and in the predicted direction when we use the presence of asphalt or gravel roads, instead of just asphalt roads.

Table A4: Ethnic Segregation and Public Goods: Asphalt/Gravel Roads

	Asphalt or Gravel Roads			
	(1)	(2)	(3)	(4)
EFD	-0.007 (0.029)	-0.013 (0.031)	-0.098** (0.034)	-0.056 (0.034)
EFV		0.011 (0.014)	0.058** (0.016)	0.020 (0.014)
Ethnic Segregation			0.046** (0.018)	0.050* (0.020)
Baseline Controls	✓	✓		✓
R-Squared	0.257	0.257	0.216	0.259
Observations	50576	50576	50581	50576
$\tilde{\delta}$ needed for $\theta = 0$				n/a†

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level.

* $p < 0.05$, ** $p < 0.01$. †Coefficient for Segregation moves away from zero with the inclusion of controls. $\tilde{\delta}$ computed with R_{max} set at 2.2 times the R^2 of the controlled regression.

A.4.2 Segregation and Public Goods: *Kelurahan* versus *Desa*

We conduct a test comparing the evidence for interdependence on the sample of rural villages (which are led by elected village heads called *kepala desa*) versus the sample of urban neighborhoods (which are led by appointed neighborhood heads called *lurah*). We find evidence for interdependence in the sample of rural villages but not for the sample of urban neighborhoods (although the regression coefficients have the expected sign), implying that advocacy

is more effective when the village heads are elected, thereby facilitating the emergence of interdependence (Table A5).

Table A5: Segregation and Public Goods Kelurahan vs. Desa

	Middle Schools (km)		High Schools (km)		Health Centers (km)		Asphalt Roads	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Kelurahan	Desa	Kelurahan	Desa	Kelurahan	Desa	Kelurahan	Desa
EFD	0.211 (0.242)	1.529 (0.826)	1.140 (1.594)	4.084 (2.082)	1.575 (1.108)	2.632** (0.941)	0.029 (0.047)	-0.061 (0.045)
EFV	-0.150 (0.104)	0.359 (0.369)	-0.560 (0.618)	1.439* (0.662)	-0.790 (0.425)	0.943* (0.429)	0.046 (0.024)	-0.013 (0.014)
Ethnic Segregation	-0.259 (0.138)	-1.087* (0.419)	0.052 (0.626)	-2.524** (0.892)	-0.814 (0.553)	-1.657** (0.540)	0.040 (0.026)	0.119** (0.030)
Baseline Controls	✓	✓	✓	✓	✓	✓	✓	✓
R-Squared	0.132	0.329	0.144	0.416	0.081	0.319	0.234	0.147
Observations	2248	48328	2248	48328	2248	48328	2248	48328
$\tilde{\delta}$ needed for $\theta = 0$		n/a†		n/a†		n/a†		n/a†

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$. †Coefficient for Segregation moves away from zero with the inclusion of controls. $\tilde{\delta}$ computed with R_{max} set at 2.2 times the R^2 of the controlled regression.

A.4.3 Transmigration

As far back as the Dutch period in the early twentieth century, the government has sponsored communities from densely populated islands of Java and Bali to establish new settlements in the outer islands. As an incentive to migrate to other parts of Indonesia, the government's Transmigration program (*Transmigrasi*) provided land to sponsored migrants as well as a wide range of public facilities for these newly established migrant villages (Benoit, et al 1989). Because Javanese and Balinese communities that were established in the outer islands were also provided public goods, it is possible that the correlation between ethnic segregation and public goods is being driven by communities associated with the transmigration program that were granted greater public goods. The results excluding transmigration villages show that the coefficient on segregation is robust for this subsample (Table A6).

Table A6: Ethnic Segregation and Public Goods, Excluding Transmigrant Villages

	Middle Schools (km)				High Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	0.720 (0.628)	0.520 (0.651)	2.835** (1.050)	1.564 (0.799)	2.597 (1.751)	1.994 (1.714)	6.918* (2.697)	4.342* (2.066)
EFV		0.405 (0.385)	-1.769** (0.566)	0.198 (0.383)		1.219 (0.673)	-2.705** (0.952)	0.754 (0.668)
Ethnic Segregation			-1.172** (0.440)	-1.155** (0.417)			-2.750* (1.119)	-2.599** (0.909)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.334	0.334	0.246	0.335	0.422	0.422	0.298	0.424
Observations	46744	46744	46747	46744	46744	46744	46747	46744
$\tilde{\delta}$ needed for $\theta = 0$				0.445				0.740

	Health Centers (km)				Asphalt Roads			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
EFD	1.591* (0.716)	1.226 (0.733)	4.181** (1.218)	2.535** (0.878)	0.039 (0.040)	0.053 (0.041)	-0.107 (0.057)	-0.036 (0.047)
EFV		0.739 (0.465)	-1.770** (0.572)	0.480 (0.464)		-0.029* (0.014)	0.106** (0.016)	-0.011 (0.013)
Ethnic Segregation			-1.423* (0.594)	-1.449** (0.499)			0.094** (0.030)	0.099** (0.028)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.330	0.330	0.241	0.331	0.161	0.162	0.086	0.165
Observations	46744	46744	46747	46744	46744	46744	46747	46744
$\tilde{\delta}$ needed for $\theta = 0$				n/a†				n/a†

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$. †Coefficient for Segregation moves away from zero with the inclusion of controls. $\tilde{\delta}$ computed with R_{max} set at 2.2 times the R^2 of the controlled regression.

A.4.4 Coethnicity

Bates (1974) argued that rural ethnic groups sometimes support attempts by coethnics to enter positions of power in urban centers in order to claim greater benefits from the state and formal economy. To the extent that the association between public goods and ethnic segregation remains robust to inclusion of coethnicity, it would further strengthen our confidence in the advocacy and interdependence mechanism by ruling out the possibility that segregation is merely picking up the coethnicity effect. The models indicate that although *Coethnicity* is associated with greater health centers and middle schools in the controlled regressions as consistent with Bates (1974) and Ejdemyr, Kramon, & Robinson (2015), the

segregation results are robust to the inclusion of *Coethnicity* (Table A7).

Table A7: Ethnic Segregation and Public Goods, Controlling for Coethnicity

	Middle Schools (km)				High Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	0.296 (0.662)	0.132 (0.688)	1.679 (1.077)	1.033 (0.787)	1.882 (1.802)	1.264 (1.776)	4.782 (2.804)	3.321 (2.065)
EFV		0.381 (0.350)	-1.679** (0.570)	0.190 (0.348)		1.438* (0.637)	-2.291* (0.949)	1.002 (0.624)
Ethnic Segregation			-0.996* (0.466)	-1.076** (0.410)			-2.449* (1.110)	-2.455** (0.868)
Coethnicity	-0.804 (0.421)	-0.749 (0.421)	-1.556** (0.426)	-0.772 (0.422)	-1.407 (0.773)	-1.199 (0.772)	-2.621** (0.743)	-1.251 (0.771)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.325	0.326	0.236	0.326	0.412	0.413	0.291	0.414
Observations	50576	50576	50581	50576	50576	50576	50581	50576
$\tilde{\delta}$ needed for $\theta = 0$				0.804				2.443

	Health Centers (km)				Asphalt Roads			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
EFD	1.132 (0.781)	0.728 (0.797)	2.979* (1.272)	2.047* (0.893)	0.022 (0.039)	0.037 (0.041)	-0.109* (0.055)	-0.059 (0.045)
EFV		0.942* (0.416)	-1.469* (0.566)	0.662 (0.405)		-0.033* (0.014)	0.094** (0.017)	-0.013 (0.013)
Ethnic Segregation			-1.371* (0.628)	-1.574** (0.516)			0.108** (0.031)	0.114** (0.029)
Coethnicity	-0.935 (0.495)	-0.799 (0.498)	-1.706** (0.457)	-0.832 (0.500)	-0.006 (0.018)	-0.011 (0.018)	0.027 (0.020)	-0.008 (0.018)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.315	0.316	0.229	0.317	0.160	0.161	0.086	0.165
Observations	50576	50576	50581	50576	50576	50576	50581	50576
$\tilde{\delta}$ needed for $\theta = 0$				n/a†				n/a†

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$. †Coefficient for Segregation moves away from zero with the inclusion of controls. $\tilde{\delta}$ computed with R_{max} set at 2.2 times the R^2 of the controlled regression.

A.4.5 Political Controls

In this section, we first refer to the full results from the baseline model (Table A2) again with a focus on the characteristics of village heads that may be associated with greater advocacy effectiveness (Table A8). According to this result, the age of village heads and whether the village head has had tertiary schooling are associated with greater public goods, while the

village head ability to decide household on poverty status is associated with fewer public goods. The finding that village heads' age and attendance in tertiary school are associated with greater public goods lends some credence to the notion that there was variation in the degree to which villages could advocate for public goods from higher level decision-makers.

Next, we present the models with additional controls that may be associated with the effectiveness of the village in garnering patronage (Table A9). The additional proxies for patronage are the voter turnout of the village and whether Suharto's Golkar party received the most votes in the 1999 parliamentary election, the first in the post-Suharto period. We present these results separately due to some incompleteness in the data. The results remain robust with the inclusion of these controls.

Table A8: Ethnic Segregation and Public Goods, Controlling for Voter Turnout

	Middle Schools (km)				High Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	0.798 (0.642)	0.509 (0.666)	2.495* (1.090)	1.404 (0.798)	2.795 (1.770)	1.975 (1.737)	6.156* (2.762)	4.087* (2.053)
EFV		0.547 (0.366)	-1.453** (0.552)	0.362 (0.363)		1.553* (0.647)	-1.911* (0.930)	1.116 (0.633)
Ethnic Segregation			-0.943* (0.468)	-1.047* (0.411)			-2.360* (1.120)	-2.474** (0.877)
Voter Turnout	-0.061 (0.980)	-0.038 (0.980)		0.017 (0.984)	0.627 (1.137)	0.692 (1.132)		0.822 (1.118)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.316	0.317	0.233	0.317	0.403	0.404	0.289	0.405
Observations	49808	49808	50581	49808	49808	49808	50581	49808
$\tilde{\delta}$ needed for $\theta = 0$				n/a†				n/a†

	Health Centers (km)				Asphalt Roads			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
EFD	1.635* (0.733)	1.079 (0.757)	3.873** (1.265)	2.344** (0.882)	0.028 (0.037)	0.046 (0.038)	-0.124* (0.055)	-0.047 (0.042)
EFV		1.053* (0.423)	-1.221* (0.553)	0.791 (0.407)		-0.035* (0.014)	0.090** (0.017)	-0.016 (0.013)
Ethnic Segregation			-1.313* (0.629)	-1.481** (0.510)			0.107** (0.030)	0.109** (0.027)
Voter Turnout	-0.268 (1.051)	-0.224 (1.065)		-0.146 (1.062)	0.054 (0.039)	0.053 (0.039)		0.047 (0.037)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.315	0.316	0.227	0.317	0.159	0.159	0.086	0.163
Observations	49808	49808	50581	49808	49808	49808	50581	49808
$\tilde{\delta}$ needed for $\theta = 0$				n/a†				n/a†

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$. †Coefficient for Segregation moves away from zero with the inclusion of controls. $\tilde{\delta}$ computed with R_{max} set at 2.2 times the R^2 of the controlled regression.

Table A9: Ethnic Segregation and Public Goods, with Political Controls

	Middle Schools (km)				High Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	1.013 (0.665)	0.807 (0.672)	2.495* (1.090)	1.407 (0.809)	2.944 (1.861)	2.172 (1.811)	6.156* (2.762)	4.046 (2.200)
EFV		0.384 (0.325)	-1.453** (0.552)	0.262 (0.322)		1.433* (0.635)	-1.911* (0.930)	1.053 (0.616)
Ethnic Segregation			-0.943* (0.468)	-0.694 (0.371)			-2.360* (1.120)	-2.167* (0.874)
Voter Turnout	-0.192 (1.124)	-0.169 (1.124)		-0.137 (1.129)	0.458 (1.208)	0.544 (1.202)		0.644 (1.202)
Golkar top votes	0.185 (0.158)	0.184 (0.159)		0.169 (0.158)	0.126 (0.322)	0.124 (0.318)		0.077 (0.314)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.306	0.306	0.233	0.307	0.399	0.400	0.289	0.401
Observations	45497	45497	50581	45497	45497	45497	50581	45497
$\tilde{\delta}$ needed for $\theta = 0$				n/a				1.212

	Health Centers (km)				Asphalt Roads			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
EFD	1.666* (0.754)	1.104 (0.767)	3.873** (1.265)	2.069* (0.910)	0.029 (0.036)	0.042 (0.038)	-0.124* (0.055)	-0.044 (0.042)
EFV		1.043* (0.407)	-1.221* (0.553)	0.847* (0.395)		-0.024 (0.013)	0.090** (0.017)	-0.006 (0.013)
Ethnic Segregation			-1.313* (0.629)	-1.115* (0.453)			0.107** (0.030)	0.099** (0.028)
Voter Turnout	-0.039 (1.115)	0.023 (1.123)		0.075 (1.127)	0.043 (0.041)	0.042 (0.041)		0.037 (0.040)
Golkar top votes	0.254 (0.172)	0.253 (0.172)		0.229 (0.173)	-0.012 (0.012)	-0.012 (0.012)		-0.010 (0.011)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.308	0.308	0.227	0.309	0.156	0.156	0.086	0.159
Observations	45497	45497	50581	45497	45497	45497	50581	45497
$\tilde{\delta}$ needed for $\theta = 0$				4.515				18.432

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$. †Coefficient for Segregation moves away from zero with the inclusion of controls. $\tilde{\delta}$ computed with R_{max} set at 2.2 times the R^2 of the controlled regression.

A.4.6 District Funds

In order to account for the possibility that some districts are more sensitive to bottom-up appeals due to greater discretionary funds at the district level, we include district budget in the models. The results remain robust with the inclusion of the district budget (Table A10)

as well as with the inclusion of the political controls and the district budget (Table A11).

Table A10: Ethnic Segregation and Public Goods, with District Funds

	Middle Schools (km)				High Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	0.501 (0.607)	0.385 (0.619)	2.495* (1.090)	1.334 (0.776)	2.296 (1.767)	1.501 (1.720)	6.156* (2.762)	3.708 (2.062)
EFV		0.216 (0.353)	-1.453** (0.552)	0.015 (0.349)		1.482* (0.669)	-1.911* (0.930)	1.015 (0.642)
Ethnic Segregation			-0.943* (0.468)	-1.072** (0.397)			-2.360* (1.120)	-2.494** (0.861)
District Budget	-0.000** (0.000)	-0.000** (0.000)		-0.000** (0.000)	-0.000 (0.000)	-0.000 (0.000)		-0.000 (0.000)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.301	0.301	0.233	0.302	0.383	0.383	0.289	0.385
Observations	47192	47192	50581	47192	47192	47192	50581	47192
$\tilde{\delta}$ needed for $\theta = 0$				n/a†				n/a†

	Health Centers (km)				Asphalt Roads			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
EFD	1.345 (0.705)	0.885 (0.724)	3.873** (1.265)	2.417** (0.880)	0.042 (0.038)	0.060 (0.039)	-0.124* (0.055)	-0.041 (0.044)
EFV		0.859 (0.465)	-1.221* (0.553)	0.534 (0.442)		-0.035* (0.015)	0.090** (0.017)	-0.013 (0.014)
Ethnic Segregation			-1.313* (0.629)	-1.732** (0.514)			0.107** (0.030)	0.114** (0.028)
District Budget	-0.000 (0.000)	-0.000 (0.000)		-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)		0.000 (0.000)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.293	0.293	0.227	0.295	0.155	0.155	0.086	0.160
Observations	47192	47192	50581	47192	47192	47192	50581	47192
$\tilde{\delta}$ needed for $\theta = 0$				n/a†				n/a†

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$. †Coefficient for Segregation moves away from zero with the inclusion of controls. $\tilde{\delta}$ computed with R_{max} set at 2.2 times the R^2 of the controlled regression.

Table A11: Ethnic Segregation and Public Goods, with Political Controls and District Funds

	Middle Schools (km)				High Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	0.626 (0.618)	0.591 (0.615)	2.495* (1.090)	1.180 (0.768)	2.269 (1.845)	1.533 (1.788)	6.156* (2.762)	3.435 (2.205)
EFV		0.065 (0.305)	-1.453** (0.552)	-0.057 (0.306)		1.344* (0.632)	-1.911* (0.930)	0.950 (0.603)
Ethnic Segregation			-0.943* (0.468)	-0.657 (0.346)			-2.360* (1.120)	-2.124* (0.852)
Voter Turnout	1.063 (0.623)	1.067 (0.626)		1.096 (0.629)	0.986 (1.055)	1.075 (1.046)		1.168 (1.045)
Golkar top votes	0.211 (0.160)	0.210 (0.160)		0.192 (0.159)	0.102 (0.328)	0.099 (0.324)		0.038 (0.321)
District Budget	-0.000** (0.000)	-0.000** (0.000)		-0.000** (0.000)	-0.000 (0.000)	-0.000 (0.000)		-0.000 (0.000)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.282	0.282	0.233	0.282	0.374	0.374	0.289	0.375
Observations	43124	43124	50581	43124	43124	43124	50581	43124
$\tilde{\delta}$ needed for $\theta = 0$				n/a				0.794

	Health Centers (km)				Asphalt Roads			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
EFD	1.290 (0.716)	0.842 (0.723)	3.873** (1.265)	2.042* (0.887)	0.047 (0.037)	0.059 (0.039)	-0.124* (0.055)	-0.033 (0.044)
EFV		0.817 (0.434)	-1.221* (0.553)	0.569 (0.416)		-0.023 (0.014)	0.090** (0.017)	-0.004 (0.013)
Ethnic Segregation			-1.313* (0.629)	-1.339** (0.447)			0.107** (0.030)	0.103** (0.029)
Voter Turnout	1.012 (0.752)	1.066 (0.762)		1.125 (0.764)	0.044 (0.043)	0.043 (0.043)		0.038 (0.042)
Golkar top votes	0.210 (0.172)	0.209 (0.172)		0.170 (0.172)	-0.010 (0.012)	-0.010 (0.012)		-0.007 (0.012)
District Budget	-0.000 (0.000)	-0.000 (0.000)		-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)		0.000 (0.000)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.283	0.283	0.227	0.284	0.152	0.153	0.086	0.156
Observations	43124	43124	50581	43124	43124	43124	50581	43124
$\tilde{\delta}$ needed for $\theta = 0$				n/a†				5.628

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$. †Coefficient for Segregation moves away from zero with the inclusion of controls. $\tilde{\delta}$ computed with R_{max} set at 2.2 times the R^2 of the controlled regression.

A.4.7 District Area and Segregation Interaction

As an additional test of the theory, we should expect the interdependence effect to be stronger where districts are large in area since villages can benefit from public goods placed in nearby villages, but would not be able to access facilities in other parts of the district. Thus, we should see the interaction between district area and segregation to be associated with greater public goods. The results in Table A12 show that the interaction is significant and in the predicted direction, indicating that interdependence is stronger in more geographically disperse districts.

Table A12: Ethnic Segregation and Public Goods, with District Area Interaction

	Middle Schools (km)				High Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	0.811 (0.637)	0.539 (0.665)	2.542* (1.106)	1.083 (0.630)	2.783 (1.750)	1.916 (1.718)	5.906* (2.730)	3.316* (1.668)
EFV		0.520 (0.354)	-1.472** (0.542)	0.043 (0.352)		1.660** (0.638)	-1.812 (0.928)	0.690 (0.629)
Ethnic Segregation			-0.897 (0.491)	1.009 (0.618)			-2.608* (1.147)	1.436 (1.235)
Eth. Seg. x Area (District)			-0.286 (1.606)	-11.609** (3.821)			1.507 (2.593)	-21.712** (7.028)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.325	0.325	0.233	0.331	0.411	0.412	0.289	0.421
Observations	50576	50576	50581	50576	50576	50576	50581	50576

	Health Centers (km)				Asphalt Roads			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	1.731* (0.739)	1.162 (0.758)	3.769** (1.273)	2.097** (0.718)	0.026 (0.038)	0.043 (0.040)	-0.108* (0.053)	-0.046 (0.042)
EFV		1.089** (0.416)	-1.180* (0.547)	0.501 (0.406)		-0.031* (0.014)	0.083** (0.016)	-0.004 (0.013)
Ethnic Segregation			-1.416* (0.646)	0.694 (0.592)			0.122** (0.032)	0.064 (0.034)
Eth. Seg. x Area (District)			0.624 (1.578)	-12.632** (3.539)			-0.095* (0.039)	0.283* (0.134)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.315	0.315	0.227	0.321	0.160	0.161	0.089	0.167
Observations	50576	50576	50581	50576	50576	50576	50581	50576

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$.

A.5 Additional Analyses

In this section, we discuss and present empirical results of further analyses in addition to what we discuss in the main text: independence across different types of public goods, dichotomous public goods variables, and religious heterogeneity. .

A.5.1 Interdependence Across Different Types of Public Goods

Nothing in our interdependence theory excludes the possibility of linkages between different types of public goods. For example, the provision of a health center in one village may be used to justify demands for a middle school in another village by invoking the expectations of equity that drive the sibling rivalry mechanism. The mechanism, in other words, is agnostic to type of public good.

To illustrate, the provision of a middle school in village 2 can be used to justify village 1's demands for a middle school, high school, asphalt road, health center, or any other type of public good over which the district-level official has discretion. Thus the individual goods we test for in our measurement strategy constitute a subset of the total potential public goods outcomes associated with the interdependence mechanism, making them a hard test of the theory; if we find evidence of the interdependence mechanism within the provision of individual goods, it is likely that this constitutes the lower bound of the effect, with the overall effect being larger.

Our main results in the text show that segregation leads to a greater provision of middle schools, high schools, health centers, and asphalt roads individually. We take this as evidence of the interdependence mechanism from a hard test of the theory. To test the effect of segregation on the broader total provision of public goods, we also construct an index that proxies for the stock of total public goods in a given village, which is treated as a latent variable.

We use the procedures set out by Anderson (2008) to construct the new variable. It takes information from the provision of middle schools, high schools, asphalt roads, and

health clinics, which is weighted by the inverse of the covariance matrix to maximize the information that is gleaned from each component. We interpret it as the aggregate provision of public goods in a given village. The results, which we report in Table A13, indicate that segregation is strongly correlated with the index of aggregate public goods.

Table A13: Ethnic Segregation and Index of Public Goods

	(1)	(2)	(3)	(4)
EFD	0.014 (0.082)	-0.031 (0.084)	0.325** (0.122)	0.169 (0.092)
EFV		0.085** (0.029)	-0.184** (0.039)	0.045 (0.028)
Ethnic Segregation			-0.218** (0.060)	-0.235** (0.054)
Baseline Controls	✓	✓		✓
R-Squared	0.295	0.296	0.177	0.301
Observations	50576	50576	50581	50576
$\tilde{\delta}$ needed for $\theta = 0$				n/a†

Index of Public Goods uses distance to health centers, distance to middle schools, distance to high schools, and no asphalt road in the village as components, which are then weighted by the inverse of the covariance matrix, which accounts for multiple inference problems (Anderson 2008). Higher values of the index of public goods corresponds with lower access to public goods similar to distance to public goods. Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$. †Coefficient for Segregation moves away from zero with the inclusion of controls. $\tilde{\delta}$ computed with R_{max} set at 2.2 times the R^2 of the controlled regression.

A.5.2 Dichotomous Public Goods Variables

One may be concerned that access to public goods is relevant for villagers living locally and not for those that live too far from those public goods. As an additional robustness test, we create dichotomous variables from the variables that measure distance to health centers, middle schools, and high schools. Villages that were farther than the mean distance to these public facilities were given a value of 1; otherwise, they were given a value of 0. The results in Table A14 show that the segregation coefficient remains statistically significant at p-values

of less than 0.01 for high schools and health centers. The coefficient for middle schools has a p-value of 0.052, just below the 0.05 threshold. In other words, our main conclusion is largely robust for different measures of public goods access.

Table A14: Ethnic Segregation and Public Goods

	Middle Schools (km)				High Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	0.043 (0.032)	0.028 (0.032)	0.060 (0.060)	0.058 (0.036)	0.055 (0.035)	0.033 (0.035)	0.078 (0.063)	0.072 (0.042)
EFV		0.029* (0.012)	-0.045** (0.015)	0.023 (0.012)		0.042** (0.013)	-0.022 (0.017)	0.034** (0.013)
Ethnic Segregation			-0.027 (0.034)	-0.036 (0.018)			-0.035 (0.037)	-0.046* (0.019)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.198	0.199	0.240	0.199	0.266	0.267	0.293	0.268
Observations	50576	50576	57518	50576	50576	50576	57518	50576
$\tilde{\delta}$ needed for $\theta = 0$				n/a†				n/a†

	Health Centers (km)				Asphalt Roads			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
EFD	0.078** (0.026)	0.071** (0.026)	0.109 (0.059)	0.111** (0.031)	0.026 (0.038)	0.043 (0.040)	-0.124* (0.055)	-0.055 (0.044)
EFV		0.013 (0.010)	-0.047** (0.014)	0.005 (0.010)		-0.031* (0.014)	0.090** (0.017)	-0.012 (0.013)
Ethnic Segregation			-0.037 (0.033)	-0.047* (0.018)			0.107** (0.030)	0.115** (0.029)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.238	0.238	0.282	0.239	0.160	0.161	0.086	0.165
Observations	50576	50576	57518	50576	50576	50576	50581	50576
$\tilde{\delta}$ needed for $\theta = 0$				n/a†				n/a†

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$. †Coefficient for Segregation moves away from zero with the inclusion of controls. $\tilde{\delta}$ computed with R_{max} set at 2.2 times the R^2 of the controlled regression.

A.5.3 Religious Heterogeneity

We examine whether the interdependence theory extends to religious heterogeneity in Indonesia. We present the results in Table A15. We find that, although religious segregation in the uncontrolled regressions is significantly correlated with greater access to middle schools and health centers, these are not robust to the inclusion of the control variables.

Table A15: Religious Segregation and Public Goods

	Middle Schools (km)				High Schools (km)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
RFD	-0.868 (0.660)	-1.115 (0.695)	-2.239 (1.251)	-1.211 (0.746)	-1.480 (1.419)	-1.416 (1.498)	-2.707 (2.217)	-1.596 (1.586)
RFV		0.351 (0.300)	0.416 (0.459)	0.378 (0.303)		-0.090 (0.678)	0.153 (0.782)	-0.040 (0.683)
Relig. Segregation			1.264** (0.485)	0.270 (0.352)			2.250 (1.165)	0.508 (0.951)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.325	0.325	0.232	0.325	0.410	0.410	0.286	0.410
Observations	50576	50576	50581	50576	50576	50576	50581	50576

	Health Centers (km)				Asphalt Roads			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
RFD	-1.512* (0.666)	-1.906** (0.706)	-2.904* (1.206)	-2.146** (0.736)	0.055 (0.052)	0.055 (0.051)	0.046 (0.043)	0.029 (0.051)
RFV		0.560 (0.285)	0.708 (0.490)	0.627* (0.292)		-0.001 (0.017)	0.033* (0.014)	0.006 (0.015)
Relig. Segregation			1.647* (0.649)	0.679 (0.508)			0.021 (0.037)	0.073 (0.038)
Baseline Controls	✓	✓		✓	✓	✓		✓
R-Squared	0.315	0.315	0.226	0.315	0.161	0.161	0.081	0.162
Observations	50576	50576	50581	50576	50576	50576	50581	50576

Province dummies included, but not reported. Standard errors are in parentheses and are cluster robust at the district level. * $p < 0.05$, ** $p < 0.01$.

We believe there are two main reasons for this result. First, reflecting the fact that 87 percent of the Indonesian population is Muslim, with minority Christians concentrated in specific eastern provinces, there is considerably less religious diversity in villages and districts as well as religious segregation at the district level. The mean district religious fractionalization (0.133) is significantly lower than district ethnic fractionalization (0.383); mean village religious fractionalization (0.080) is lower than village ethnic fractionalization (0.183); and mean district religious segregation (0.190) is significantly lower than ethnic segregation (0.302). Moreover, there is significantly less variation for each of the religious heterogeneity measures than ethnic heterogeneity measures (See Table A1). Taken together, these should attenuate the interdependence effect for religious heterogeneity.

Second, religious cleavages may have been less salient than ethnic cleavages at both the

village and district level, particularly for overcoming collective action problems associated with local advocacy. In the anecdote described in the main text in *The Diversity Penalty and Interdependence: An Illustration* of Christians in Riau, a pan ethnic Christian group broke down along ethnic lines due to different linguistic preferences. If the insights from this anecdote can be generalized, it is plausible that the characteristics of ethnic homogeneity (such as shared linguistic or cultural material, which Habyarimana et al 2007 term “efficacy”) may be more useful for advocacy than the characteristics associated with religious homogeneity, thereby further weakening the interdependence effect for religious identity.

References for Appendix

- Antlöv, Hans. 1994. “Village Leaders and the New Order.” in Hans Antlöv and Sven Cederroth (eds) *Leadership on Java: Gentle Hints, Authoritarian Rule*. Nordic Institute of Asian Studies.
- Antlöv, Hans. 2004. “National elections, local issues: the 1997 and 1999 national elections in a village on Java.” in Hans Antlöv and Sven Cederroth (eds) *Elections in Indonesia: The New Order and beyond*. London and New York: RoutledgeCurzon.
- Antlöv, Hans and Sven Cederroth (eds). 1994. *Leadership on Java: Gentle Hints Authoritarian Rule*. Nordic Institute of Asian Studies.
- Benoit, Daniel, Patrice Levang, Marc Pain, and Olivier Sevin. 1989. *Transmigration et Migrations Spontanees En Indonesie*. Bondy, France: Orstom.
- Case, William. 2002. *Politics in Southeast Asia: Democracy or Less*. Curzon Press.
- Cederroth, Sven. 1994. “New Order Modernization and Islam: Village Officials and Religious Teachers.” In Hans Antlöv and Sven Cederroth (eds). *Leadership on Java: Gentle Hints Authoritarian Rule*. Nordic Institute of Asian Studies.

- Galizia, Michele. 1996. "Village institutions after the law no. 5/1979 on village administration. The case of Rejang-Lebong in South-Western Sumatra." *Archipel*, 51(1): 135-160.
- Hoshour, Cathy Ann. 2000. *Relocating development in Indonesia: a look at the logic and contradictions of state directed resettlement*. PhD thesis. Cambridge: Harvard University.
- Keeler, Ward. 1985. "Villagers and the Ex-emplary Center in Java." *Indonesia*, 39(2): 111-48.
- Liddle, William. 1972. "Ethnicity and Political Organization: Three East Sumatran Cases," in Claire Holt, Benedict Anderson, and James Siegel (eds.) *Culture and Politics in Indonesia*, Ithaca: Cornell University Press.
- Maurer, Jean-Luc. 1994. "Pamong Desa or Raja Desa?: Wealth, Status and Power of Village Officials." In *Leadership on Java: Gentle Hints, Authoritarian Rule*, Surrey: Curzon Press, 97-118.
- MacAndrews, Colin (ed). 1986. *Central government and local development in Indonesia*. Singapore: Oxford University Press.
- Rasyid, Muhammad Yunus. 1982. "Farmers' Participation in Rural Development Programs, Municipalities of Samarinda, East Kalimantan, Indonesia." *LSU Historical Dissertations and Theses*. 3819.
- Shah, Anwar et al. 1994. "Intergovernmental Fiscal Relations in Indonesia: Issues and Reform Options." *World Bank Discussion Papers*, 239. Washington, DC: World Bank.
- Slater, Dan. 2008. "Can Leviathan Be Democratic? Competitive Elections, Robust Mass Politics, and State Infrastructural Power." *Studies in Comparative International Development* 43(3-4): 252-72.

Tuerah, Noldy. 1998. *Rural-Urban Linkages and Development: A case study of North Sulawesi, Indonesia*. PhD thesis, Faculty of Graduate Studies, University of British Columbia.