State Capacity, Local Governance, and Economic Development in Vietnam*

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Abstract: There has been a large divergence in economic prosperity between Northeast and Southeast Asia since the mid-20th century, and the governance organizations and norms of Asian societies plausibly help explain this divergence. This study examines the impacts of different historical governance norms on development using Vietnam as a laboratory. Northern Vietnam (Dai Viet) was ruled by a bureaucratic state inherited from China. It governed through a centralized, competitively selected bureaucracy, and the village was the fundamental administrative unit. Southern Vietnam was a peripheral tributary of the Khmer (Cambodian) Empire. It followed a patron-client model with weaker, more personalized power relations and no village intermediation. The Khmer region was not brought under Vietnam's control until just prior to French colonization. We use a regression discontinuity design across the Dai Viet-Khmer boundary to compare villages that had a bureaucratic state to nearby areas that had a patron-client state. We find that areas historically under the bureaucratic state have higher living standards today. Using rich data from South Vietnam and the unified Socialist Republic of Vietnam, we document that in villages with a bureaucratic historical state, citizens have been better able to organize for public goods and redistribution through stronger local governments and civil society. However, today foreign companies are less likely to invest in historically bureaucratic areas, which have a long history of being relatively closed towards outsiders. Overall the study suggests that the bureaucratic state in East Asia - deeply embedded in civil society - played a central role in this region's growth.

Keywords: State capacity, governance, economic development

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1 Introduction

There has been a massive divergence in economic prosperity within the developing world since the mid-20th century. In particular, initially poor economies in Northeast Asia, such as Taiwan and South Korea, have on average developed much more rapidly than economies in Southeast Asia, such as the Philippines and Cambodia. While the former have reached OECD levels of income, the latter remain in the bottom half of the global income distribution. The long-run governance organizations and norms of these regions plausibly play a role in explaining this divergence. This study provides robust causal evidence about the impacts of the historical state on local governance and economic development, using Vietnam - which lies at the intersection between Northeast and Southeast Asia - as a laboratory.

The Chinese, Korean, and Japanese states of Northeast Asia governed historically through a competitively selected bureaucracy. The central government set village quotas for taxes and military recruits and established legal codes, whereas competitively selected village heads and councils exercised considerable discretion in implementing policies, subject to the constraint of meeting the centrally determined quotas. Northern Vietnam (Dai Viet) was governed by China during the first millennium CE and maintained a bureaucratic system following its independence. The Vietnamese state subsequently expanded southward, establishing bureaucratic norms in what is now central Vietnam.

In contrast, Southeast Asian states - such as Cambodia and the polities of the Indonesian and Filipino archipelagos - followed a more decentralized patron-client model. Power relations were personalized, with peasants paying tribute and receiving protection from landowning patrons, who in turn had their own network of relations with higher level patrons. The village was not a central unit of administrative organization. The southernmost part of modern Vietnam was historically a peripheral tributary of the Cambodian state of Khmer and was not administratively organized under Vietnam until 1833, mere decades before the French colonial occupation of Saigon in 1859. The Khmer Empire had been in decline since the 15th century and had a weak control in its periphery, which historians have likened to Zomia in James Scott's seminal work *The Art of Not Being Governed*, a region where peasants could escape the state (McHale, 2013). Table 1 provides a summary of key characteristics of the Khmer and Vietnamese historical states.

Historical evidence discussed in Section 2 suggests that French colonial rule reinforced the distinct traditional governance norms in areas that had previously been controlled by Dai Viet versus by Khmer. Our study region is well within South Vietnam - the western-backed state below the 17th parallel that existed between 1954 and 1975 - and U.S. personnel there noted differences between villages historically under Dai Viet - which were more oriented towards village authorities - and villages previously governed by the Khmer (Land to Tiller

Office, 1969).

In this study, we use a regression discontinuity design to estimate how the history of the state conditions local governance and economic development more recently. Specifically, we compare villages that were part of Dai Viet for over 150 years prior to French colonization to nearby villages that belonged to the Khmer Empire until just prior to colonization. The Khmer-Dai Viet boundary is denoted by a thick line in Figure 1. Geographic characteristics are balanced across this boundary, and the historical literature, discussed in section 2.2, suggests that its determination was not due to underlying exogenous factors that could affect long-run productivity.

Using the RD approach and household survey data, we estimate that a robust long-run impact of the Dai Viet bureaucratic state increases equivalent household consumption by around 26 percent today. Results are robust to trimming the data for migration and to examining a variety of different samples and RD polynomials. Economic differences are also evident in the late 1960s and early 1970s. At that time, villages with a bureaucratic historical state were more likely to have non-rice food stuffs and manufactures available, were more likely to have a market, and were less likely to be agricultural. These historical economic effects are similar when we limit to years of high or low Vietnam War conflict. They are consistent with the well-known result that the organization of pre-colonial states affects long-run prosperity in Africa (Michalopoulos and Papaioannou, 2013; Gennaioli and Rainer, 2007), suggesting that the findings on pre-colonial states of the seminal studies on Africa generalize to a much broader array of contexts. The results are also consistent with a rich body of evidence indicating that the organization of historical states in Europe and Latin America has long-run effects (Acemoglu et.al., 2015; Boeckh et al., 2014; Bukowski, 2015; Oto-Peralias and Romero-Avila, 2014; Guiso et al., 2013).

After considering contemporary living standards, we use data from South Vietnam and the unified Socialist Republic of Vietnam to examine channels of persistence. While a number of channels could be relevant, to construct a parsimonious yet informative picture we focus on three that are suggested as particularly important by the historical literature: local governance, civil society, and insurgency.

We begin by examining the South Vietnamese period. Data from this era, collected through a collaboration between the U.S. and South Vietnamese governments, provide unusually rich details about local governance, civil society, and security conditions at the village and neighborhood level. Moreover, the late 1960s and early 1970s are a particularly informative period in which to study village governance as a potential mechanism since South Vietnam was highly decentralized at this time. A major constitutional reform in 1967 granted villages expansive budgetary powers and public goods provision responsibilities. Village citizens were to elect village councils and shape participatory local development projects.

Villages with a long history of organizing through the bureaucratic state for local governance and public goods provision also organize better to meet these ends more recently. Specifically, we document using an RD design that during the late 1960s and early 1970s, the local government was more likely to collect taxes in villages historically belonging to Dai Viet, and the village committee - which was tasked with coordinating local public goods provision - was more likely to have all its positions filled. Moreover, village chiefs were more likely to be present in the village and to control village bureaucrats. In terms of public goods provision, there were more likely to be neighborhood primary schools in historically bureaucratic villages, and the primary school completion rate was higher. Health services were more likely to be available, there was more likely to be a health clinic in the village, and mobile health workers were more likely to visit all neighborhoods. Finally, self-development projects were more likely to be underway and village information cadre - who disseminated propaganda - were more likely to carry out their responsibilities of visiting all neighborhoods regularly. These results survive using a latent class analysis to address multiple hypothesis testing. More recently, we continue to observe effects of the historical bureaucratic state on access to secondary schools and human capital more generally, whereas access to primary school and a basic health clinic is now nearly universal.

The historical state also exerts long-run impacts on social capital and participatory governance. Dai Viet's villages elected their leaders through universal male suffrage during the pre-colonial period and were responsible as a village unit for providing redistribution and public goods. During the South Vietnamese period, they had higher levels of social capital and participatory governance as well. Specifically, citizens in historically bureaucratic villages were significantly more likely to participate in village civic organizations. While 20% of citizens in formerly Khmer areas participated in such organizations, 50% of citizens in historically bureaucratic areas did. Moreover, there were more likely to be civic organizations that provided voluntary welfare assistance to needy households. The study also documents substantial impacts on participatory governance. Village councils were more likely to discuss development projects with villagers in historically bureaucratic areas, and villagers were more likely to participate in these projects once implemented.

These results suggest that participatory governance reforms, such as the South Vietnamese 1967 constitutional reform, plausibly work best in areas with a history of participatory governance. Moreover, in this context local governance and social capital are compliments. This is consistent with the hypothesis of sociologist Peter Evans (1995), who argues that in the bureaucratic states that predominated in East Asia, a capable bureaucracy and an active civil society were compliments that provided an engine for growth.[1]

[1]Evans contrasts this to so-called predatory states - such as the Democratic Republic of the Congo - where stronger states may attempt to crush civil society since it could threaten their monopoly on power.

Finally, we use data from the South Vietnamese period to examine Viet Cong (Vietnam Communist) insurgency. The Viet Cong fought against the South Vietnamese state and their western allies. In historically bureaucratic areas, the law was more likely to be enforced by the local government, and the Viet Cong were less likely to tax residents. Moreover, data from the South Vietnamese Secret Police show that Viet Cong suspects were less likely to operate in historically bureaucratic areas. We cannot quantify how much these effects are due to a more effective government and civic society - with citizens less likely to support the Viet Cong because the traditional village structures provided public goods and security - and how much they are due to higher levels of prosperity reducing incentives to support insurgents. Both channels appear plausible. In contrast, we find no differential effect of the historical state on U.S. bombings.

On balance the bureaucratic historical state in Vietnam has increased long-run prosperity. However, a bureaucratic state is clearly not a sufficient condition for achieving economic growth. Strong states may abuse their power to extract resources or may interfere in the functioning of markets. In the context of Vietnam, there is also extensive evidence that villages with a historically bureaucratic state are more closed towards outsiders, potentially restricting their access to secure property rights and other local public goods (Popkin, 1979, p. 89). These attitudes could become increasingly relevant as the economy integrates.

We examine whether there are ways in which the historically bureaucratic state may be a double edged sword using a variety of rich data sources. Data from the Vietnam Household Living Standards Survey show that in historically bureaucratic villages, a lower share of land is formally titled. Traditional de facto property right protection by strong local governments and civil society networks plausibly plays a more central role in protecting property rights in historically bureaucratic villages than formal titles introduced relatively recently by the central government in Hanoi. While villagers' property may be de facto secure, limiting the role of formal titles could provide a mechanism through which local incumbents can protect their interests by not extending de facto protections to outsiders. Citizens in historically bureaucratic villages have a long history of using these types of strategies to restrict the protections available to outsiders (Popkin, 1979); and data from the 2011 Enterprise Survey, the 2002-2008 Vietnam Household Living Standards Survey, and 1999-2004 provincial yearbooks consistently show that the percentage of employment and output in the foreign owned sector is indeed lower in historically bureaucratic areas. In contrast, the percentage of employment and output in the Vietnamese owned private sector is higher. In 2011, RD estimates document that the historically bureaucratic state reduces employment in the foreign sector by 17 percentage points, as compared to a baseline rate of foreign employment of 23% in formerly Khmer villages. While it is complicated to disentangle how much of the FDI effect is driven by wage versus governance differentials,

given that wages are an equilibrium outcome, these results are consistent with qualitative evidence that historically bureaucratic areas are less open to outsiders.

Overall, the evidence suggests that the bureaucratic historical state plays an important role in long-run development through its persistent impacts on local governance and civil society. While care must be taken with external validity, this study supports the hypothesis that the bureaucratic state in East Asia - deeply embedded in civil society - played a central role in the 20th century divergence between this region and much of the rest of the developing world (see for example Evans, 1995). At the same time, evidence suggests that villages with a bureaucratic historical state in Vietnam may be more closed towards outsiders and more hostile towards impersonal markets. Historical state capacity in Asia does appear to facilitate long-run development but is unlikely to be a substitute for pursuing sound economic policies.

In the next section, we provide an overview of the historical context. Section 3 discusses identification and section 4 tests whether the historical state impacts contemporary living standards. Section 5 empirically examines the mechanisms through which the historical state matters. Finally, Section 6 offers concluding remarks.

2 Historical Background

2.1 Historical Introduction

For most of the first millennium, the northern part of modern Vietnam was subject to Chinese overlordship. After gaining independence, the Vietnamese state of Dai Viet - whose original borders are shown by the northernmost polygon in Figure 1 - adopted the general political form of the Chinese state, over time modifying it to Vietnamese needs. At the heart of the state was a competitive bureaucratic tradition, with an exam system used to select village heads and other bureaucrats (Haines, 1984; Porter, 1993, p.4-5; Lieberman, 2003, p.381-384; Woodside, 1971 p.156-157; Thien, 2003, p.53). In 1461 the system was reformed so that village heads were elected by villagers through universal male suffrage, while many other officials continued to be selected through competitive exams (Nguyen 2003, p.103). These policies made Vietnamese governance unusually participatory, by global standards and relative to the original Chinese model (Cotter 1968, p.16; Cooke 1995, p.749-750).[2]

Detailed legal codes institutionalized the relationship between the central state - which served as the impetus and enforcer for most policies - and local functionaries - who were responsible for implementation (Haines, 1984, p.309; Yu, 2001, p.165; Lierberman, 2002, p.382;

[2]As noted by Samuel Popkin, the political economy "problems of integrating the region into a single political framework firmly controlled by the emperor were severe. These problems of stability and integration were reflected in politics toward village government" (1979, p.86).

Porter, 1993, p. 4-5). The central state imposed tax and military recruitment quotas on the village, leaving village chiefs and councils authority to allocate tax burdens within their jurisdiction (Lieberman, 2003, p. 393; Zottoli, 2011, p.10; Woodside, 1971; Porter 1993, p. 5-6). Taxation relied on sophisticated record-keeping systems maintained by local authorities (Haines, 1984; Porter, 1993, p. 4-5; Lieberman, 2003, p. 381-384). Cadastral records allowed for periodic land redistributions, as well as the collection of property taxes beginning in the 1690s.[3] The population census rolls were imperative for head taxes and military recruitment. The key role of the village in implementation is reflected in the Vietnamese proverb: "the power of the state stops at the bamboo hedge of the village" (Wolf, 1969, p.172). Yet village chiefs were held accountable for providing revenues and manpower by higher-level officials, who also audited their record keeping (Nguyen, 1960; Nguyen, 2003).[4]

Over hundreds of years, Dai Viet expanded southward (Figure 1). Through its conquests it sought to make conquered territories integral to the Vietnamese state. While conquered areas were initially settled as military colonies, they were ultimately converted into Vietnamese administrative villages, whose citizens had the same rights and obligations as areas that had been part of Dai Viet for much longer (Nguyen 1985, p.8-9). The Vietnamese first conquered the fragmented, patron-client state Champa, which ruled central Vietnam through a system of loose personalistic alliances (Lieberman, 2003, p. 393). The Cham had been fully absorbed by the late 17th century (see Figure 1), bringing the Vietnamese into conflict with the larger and more militarily powerful Khmer (Cambodian) empire to the south. The next section discusses the location of the boundary between Dai Viet and Khmer, which persisted until just prior to French colonization and is the focus of this study.

Historical consensus holds that Dai Viet state capacity was "exceptionally penetrating by Southeast Asian standards" (Lieberman, 2003, p. 382). Comparing Vietnam to Cambodia, Laos, and Thailand, Victor Lieberman - a leading historian on early modern Southeast Asia - sums up the key differences: "Chinese bureaucratic norms...tended to encourage in that country [Vietnam] a more impersonal, territorially uniform, and locally interventionist system than was found in Indianized polities to the west (Lieberman, 1993, p.484).

Dai Viet left behind a rich paper trail that historians have used to develop a nuanced understanding of local and national political economy. In contrast, the absence of a record-keeping state in the Khmer periphery has resulted in very little quantifiable knowledge about life on the Khmer frontier prior to Vietnamese invasion. Nevertheless the general features of Khmer society are reasonably well-understood.

The Khmer lacked a centralized bureaucracy, and the state's control over the periphery

[3]Li (1998) discusses the public finance technology of the Nguyen Dynasty and utilizes detailed analysis of Nguyen Dynastic records (p.49-56). See Lieberman (2003) for a related discussion.

[4]Even religion reflected an institutionalized balance of power between villages and the central state, with the village reliant on the central state to certify their village spirit (Nguyen, 2003, p.110).

was weak (Tarling; 1999, p.231-234). Southeast Asian historian Shawn McHale argues that the Khmer periphery in Vietnam was the lowland equivalent of highland Zomia in James Scott's *The Art of Not Being Governed*: an area with limited state capacity where peasants could escape the exactitudes of oppressive states and in turn actively worked to prevent the emergence of a strong state (McHale, 2013). In Khmer, political appointments and land distribution were personalistic, and taxation was controlled by a temple-based system (Osbourne, 1969; Chandler, 1983). The temple system was closely tied to Khmer land-owning elites, who solidified their claims to land by building a temple. They then used the temple to collect tribute from the peasants and in turn pass a share of it up to higher level elites, who legitimized their claims to land (Lieberman, 1993, p. 227; Hall 2011, p.162; Tarling, 1999). Moreover, Khmer legal capacity was distinctly less developed than Vietnam's. While Dai Viet had a law code with nearly 1000 articles, 15 percent of them aimed at protecting the existence of independent farmers, the Khmer periphery lacked a legal code that could facilitate economic interactions (Woodside, 1971, p.318). Table 1 summarizes the differences between the Khmer and Vietnamese states.

Mere decades after the organization of the Khmer areas as Vietnamese provinces in 1833, the French began colonizing Vietnam. Our entire study region belonged to the directly administered province Cochinchina, established by the French in 1862. While the French state was generally quite extractive, collecting high rates of taxes and returning very little in the form of public goods, the method of extracting surplus differed with the pre-existing institutions (Nguyen The Anh, 2003, p.117; Booth, 2007). In areas where the village was weak and already lacked legitimacy, village leaders lost further legitimacy in attempting to collect high taxes for the French. French landowners took control of many estates that during the previous century had been held by the Khmer landed gentry, village positions became a vehicle for corruption, and the French relied on external appointed officials to facilitate tax collection (Nguyen, 2003, p.119; Osborne, 1969, p.151; Popkin, 1979, p.432; Wolfe, 1969, p.177). In contrast, where existing bureaucratic structures were strong and deeply rooted, they could be leveraged to help France meet its extractive aims. As argued by a colonial official in 1937 about the bureaucratic villages in central Vietnam: "While the effort of the adversaries of French rule...aims at ruining these foundations of native society, which are the commune, the mandarinate and the monarchy, we must practice here a policy of consolidating and reinforcing the institutions which constitute a framework for the population. It is only under these conditions that we shall be able to preserve the order indispensable to the progress that we intend to promote" (Nguyen The Anh, 1985, p.160).

Village level data from the French period in Vietnam are sparse, as most extant data are at a much higher level of aggregation. The exception are data on landownership, which support the assertion that the French worked through existing societal structures. We digitized data

on all French landownership in Vietnam at the close of the colonial period. These data were compiled from French records by the Stanford Research Institute (1968). 97.5% of French lands in Vietnam were on the Khmer side of the 1698 Dai Viet-Khmer boundary. Most of these lands are further south than our study region, and thus are unlikely to explain the results of the current paper. Nevertheless, these data underline that - in contrast to previous Vietnamese conquerors who sought to achieve convergence between governance norms in newly conquered areas and in the older Vietnamese heartland - French policies plausibly enforced pre-existing differences. This is supported by observations of U.S. personnel in South Vietnam during the 1960s, who noted differences between villages that had been part of Dai Viet during the 18th century - and were more oriented towards local village authorities - as compared to nearby places that had been under Khmer rule (Land to Tiller Office, 1969).

Following World War II, the Vietnamese engaged in a successful anti-colonial struggle against the French. The Geneva Accords of 1954 demarcated Vietnam at the 17th parallel into two zones - communist North Vietnam and pro-western South Vietnam - until elections to be held in 1956 would select a unified Vietnamese government. These elections never occurred, and ongoing conflict gradually escalated into the Second Indochina War, more commonly known as the Vietnam War in the U.S. Our study region is well within South Vietnam, with the 17th parallel falling near the boundary of the northernmost region in Figure 1. Importantly for our study, in 1967 there was a major constitutional reform in South Vietnam that decentralized political power, granting villages new budgetary powers, control over local councils, and the ability to elect village councils and shape local development projects. Our results from the South Vietnamese era thus shed light on the impacts of the historical state in a context with a high degree of de jure and de facto decentralization.

In 1975, South Vietnam was defeated by North Vietnam and the Viet Cong (Vietnamese Communists), and Vietnam was reunited under a communist government. Decentralization was temporarily reversed, and the Vietnamese government attempted unsuccessfully to collectivize land in the south and implement a command economy. Liberalization of the Vietnamese economy began in the 1990s, and more recent years have been characterized by free market reforms, an increasingly globalized economy, and rapid economic growth. Presently, Vietnam is one of the more decentralized countries in Southeast Asia. Fiscal administration is conducted at the provincial level, whereas village governments continue to play a role in administering a variety of services.

2.2 The Dai Viet - Khmer Boundary

The 1698 boundary between Dai Viet and Khmer is the southernmost boundary in Figure 1, shown with a thick black line. Areas just to the east of this boundary were part of Dai

Viet for around 150 years prior to French colonization, whereas areas just to the west were organized under Vietnamese administrative lines only in 1833, just decades prior to the commencement of French colonization. This boundary was meaningful and enforced. Dai Viet exercised a strong control over its periphery, and the Vietnamese state believed "firmly in well-defined borders as an alternative of wayward conquering" (Osborne, 1969, p.13). All villages to the east of the boundary paid taxes and provided military conscripts to Dai Viet, as well as inheriting the Dai Viet legal code and administrative system. Villages to the west of the boundary were not organized along Vietnamese administrative lines until 1833.

Systematic data do not exist for this region prior to Vietnamese conquest. Nevertheless, the historical evidence suggests that the location of the 1698 Khmer-Dai Viet boundary is the result of a highly contingent set of historical circumstances that with small perturbations would have produced different boundaries, as opposed to reflecting underlying agricultural or economic potential.

Dai Viet completed its conquest of Champa by 1693, as shown in Figure 1. Champa - located in what is today central Vietnam - was relatively small, with a weak military and state apparatus, and had been losing territory to Dai Viet since the 15th century. Southern expansion brought Dai Viet closer to the Khmer kingdom. In 1623, the Vietnamese procured the rights from Khmer King Chey Chettha II to establish a customs house at Prey Nokor, which was at the time a small Khmer fishing village. Throughout the 17th century, Vietnamese settlers - who were fleeing civil conflict in Vietnam - moved into the region (Coedes, 1966; Taylor, 2013, p.303-310). The Vietnamese annexed it as Gia Dinh Province in 1698, and the Khmer crown was unable to stop this since they were engulfed in a war with Siam. Prey Nokor played a marginal role in Southeast Asian trade (Parthesius, 2010), but trade did increase in the years following Vietnamese annexation. Other natural ports such as Ha Tien, Ninh Kieu, and Binh Long were located further south in Khmer territory.

The Khmer-Dai Viet 1698 boundary persisted for over a century, as internal conflicts within both the Khmer and Vietnamese states made them unable to seize the other's territory without a high risk of precipitating an internal attack (Nguyen, 1999, p.17). Specifically, Dai Viet was engaged in a series of bloody civil wars in the 17th century between the Nguyen noble family in the south and the Trinh noble family in the north. In 1672, a truce was declared, and the country was effectively split in two. Conquering the Mekong Delta would have required a full-scale offensive by the Nguyen army against the Khmer and likely against Siam, which also aspired to conquer Cambodia (Nguyen, 1999, p.17). This would have left the Nguyen vulnerable to an attack in the north from the Trinh. Instead, the Nguyen chose to meddle in Khmer's internal court politics, selling limited military assistance to rival factions who supported an alliance with Vietnam over Siam (Tze-Ken Wong, 2014, p.236).

Civil conflict likewise constrained the 18th century Khmer state, which had been in

decline since the 15th century (Chandler 1992; Lieberman 2003, p.283-284). The Khmer crown oscillated between pro-Siamese and pro-Vietnamese factions in a series of bloody conflicts, and between 1711 and 1770 the Vietnamese Nguyen clashed with Siam eight times over Khmer internal politics (Wong, 2004, p.293). This political equilibrium persisted until the latter quarter of the 18th century, when large-scale conflict in Vietnam broke out. The Nguyen united all of Vietnam under their rule in 1802, and only then could annexation of Khmer territory proceed. While some Vietnamese did informally settle in the Khmer areas during the 18th century, doing so was risky, with ethnic cleansing against Vietnamese settlements common (Taylor, 2013, p.325-336; Engelbert, 1994, p.170-175).

In short, the location of the Khmer-Dai Viet boundary appears to be the result of a constellation of complex political factors that prevented further expansion of the Vietnamese state between the late 17th and early 19th centuries. There is no indication that the Vietnamese stopped, for example, because land on the Khmer side of the boundary was less productive or less positioned to benefit from trade. Nevertheless, concerns remain that other underlying characteristics that could explain long-run development may have influenced the location of the boundary. This will be examined further in Section 3.

3 Estimation Framework

Our research design exploits the discontinuous change in historical exposure to the bureaucratic state across the Khmer-Dai Viet boundary. Intuitively, we compare households located in villages incorporated into Dai Viet's bureaucratic state model in 1698 to households in villages that remained under the Khmer state for over an additional century. The territory on the Khmer side of the boundary was not organized under Dai Viet administrative control until 1833, mere decades before French colonization, and thus was never fully incorporated into the bureaucratic state model. The boundary forms a multi-dimensional discontinuity in longitude-latitude space. Our basic regression takes the form:

$$out_v = \alpha + \gamma bureaucratic_v + \beta dist\_hcm_v + f(\text{geographic location}_v) + \sum_{i=1}^{3} seg_v^i + \epsilon_v \quad (1)$$

where out_v is the outcome variable of interest in village v, and $bureaucratic_v$ is an indicator equal to 1 if village v was on the Dai Viet side of the 1698 boundary and equal to zero otherwise. $dist\_hcm_v$ corresponds to distance of village v from Ho Chi Minh City and is included in all of our regressions. For regressions with equivalent household consumption on the left-hand side, we also include a vector of demographic variables giving the number of

infants, children, and adults in the household. $f(\text{geographic location}_v)$ is the RD polynomial, which controls for smooth functions of geographic location. Dell (2010) explains the logic behind the multi-dimensional RD polynomial in more detail. Finally, we split our boundary into 4 segments of equal length and generate indicator functions seg_v^i that equal 1 if village v is closest to segment i and zero otherwise. We include these boundary segment fixed effects in all our specifications. This allows us to compare villages across the same segment of the boundary. The latitude-longitude polynomial already controls for geographic location, and their inclusion has little impact on the estimates.

In our baseline specification, we limit the sample to villages within 25 kilometers of the 1698 Dai Viet-Khmer boundary. Following recent work by Gelman and Imbens (2014), we use a local linear RD polynomial for the baseline specification. However, for all our outcome variables we also report the robustness of our estimates to a large number of different bandwidths and RD polynomials.

An important identification assumption in our RD design is that all relevant factors besides treatment vary smoothly at the Dai Viet-Khmer boundary. That is, letting c_1 and c_0 denote potential outcomes under treatment and control, x denote longitude, and y denote latitude, identification requires that $E[c_1|x, y]$ and $E[c_0|x, y]$ are continuous at the discontinuity threshold. This assumption is needed for observations located just across the Khmer side of the boundary to be an appropriate counterfactual for observations located just across the Dai Viet side. To assess the plausibility of this assumption, we examine the following potentially important characteristics: elevation, slope, primary religion and ethnicity. We estimate regressions of the form described in equation (1) using these geographic and demographic characteristics as outcome variables. We limit our analysis to villages within 25 kilometers of the boundary and use a linear polynomial in latitude and longitude. Our identification assumption requires that $\gamma = 0$ for the exogenous geographic characteristics. While ethnicity and religion could be outcomes, a difference in these across the boundary would substantially alter our interpretation so it is important to look at them up front.

In columns 1 and 2 of Table 2, we report estimates for elevation and slope respectively.[5] The unit of analysis is the village and we simply calculate the mean elevation and slope within each village. The estimates document the absence of a discontinuity in these geographic characteristics across the Khmer-Dai Viet boundary. Point estimates are small and are never statistically significant.

In column (3) we estimate equation (1) using an indicator variable equal to 1 if Confucianism is the primary religion in the village. This variable comes from the Hamlet Evaluation

[5]We also collected data on temperature, precipitation and suitability for rice and other crops. However, we do not report estimates for these variables since these are interpolated from elevation data and thus they also look balanced across the boundary.

System that we describe in more detail below. Previous scholars have hypothesized that the prevalence of Confucian religion, rather than differences in state capacity, can explain patterns of economic development in Southeast Asia. However, we find no differences in Confucianism across the boundary. Moreover, only 3% of villages report Confucianism as their primary religion, suggesting that Confucianism is unlikely to be an important driver of economic development in this region.

Next we test for balance in the ethnic composition of the population. Previous studies have documented the effect of ethnic fragmentation on living standards in other contexts (see Alesina and La Ferrara, 2005) and thus it is important to test whether this could confound other channels of persistence that we will examine. We test for differences in ethnicity using two separate data sources. In column (4) we use the Hamlet Evaluation System for the 1969-1973 period and create an indicator variable equal to 1 if the primary ethnicity of the village is Vietnamese (*khin*). In column (5) we use information on the ethnicity of the household head from the Vietnamese Household Living Standards Survey (VHLSS), collected between 2002 and 2012, and construct an indicator variable equal to 1 if the household head is ethnically Vietnamese. We find no evidence of differences in ethnic composition across the boundary. Moreover, the population in provinces close to our boundary is ethnically homogeneous, with close to 98% of households reporting Vietnamese ethnicity.

In addition to the assumption that all factors besides treatment change smoothly, an additional assumption employed in RD is no selective sorting across the treatment threshold. This would be violated if the bureaucratic state directly provoked substantial out-migration of relatively productive individuals from Khmer areas to Dai Viet areas, leading to a larger indirect effect. The bureaucratic state would still exert a long-run effect, but the interpretation would be different.

The historical literature suggests that negative attitudes towards outsiders create substantial barriers to migration in this region. This is clearly described by Popkin (1979, p.89):

> "...even more important, an "outsider" who was allowed to live in a village had fewer rights to village possessions than did insiders. His descendants, furthermore, might not receive full citizenship-and with it, the right to own property and be notables-for several generations. Such marked distinctions made it exceedingly difficult, if not impossible, for a man to move into a village and take over another man's land. Even well into the period of French rule, a person from another village who tried to farm in a corporate village was likely to have his crops destroyed. Outside moneylenders thus found it difficult to claim a villager's land if he defaulted. If they did manage to seize it, they were often unable either

to farm or sell it. The emphasis on village citizenship, therefore, encouraged local ownership and impeded the development of powerful multivillage landed fortunes."

To assess the potential role of migration we use the 2009 census and compare actual place of residence to place of residence in 2004 (5 years before). We find very low levels of migration between historically Khmer and Dai Viet areas. Only 2.5% of households in provinces in historically bureaucratic areas report having lived in provinces in the historically Khmer areas in 2004. Similarly, only 1% of households in provinces in historically Khmer areas report having lived in provinces in historically bureaucratic areas in 2004. While migration is unlikely to drive our results, we will nonetheless address its potential effect on our estimates in section 4.1.

4 Long Run Effects on Economic Prosperity

In this section we estimate the reduced form effects of the bureaucratic state on economic prosperity in different periods. We start by examining the effect on contemporary household consumption (2002-2012) and other contemporary drivers of economic prosperity, such as education. Next, we report impacts on a variety of measures of economic prosperity during part of the Vietnam War period (1969-1973) and Communist period (1975-1985).

4.1 Effects on Contemporary Economic Prosperity

We measure contemporary living standards using household consumption data taken from the biennial Vietnam Household Living Standards Surveys (VHLSS) for the period 2002-2012. Data collection for these surveys is conducted by the General Statistics Office (GSO) with technical assistance from the World Bank. The set of villages from which households are selected remains mostly constant across 2002-2008, and then changes substantially in 2010. In order to create a panel of households, there is a 50% rotation of households from one survey year to the next. To avoid repeated observations for the same household, we drop from our baseline analysis all households in 2004 that were also surveyed in 2002, all households in 2006 that were also surveyed in 2004 and so on.[6] However, all our results are quantitatively similar if we simply retain the full sample of households in every survey year. To construct a measure of household consumption that reflects productive capacity, we subtract the transfers received by the household from total household consumption.[7]

[6] A new sample of villages and households was selected for the 2010 and 2012 VHLSS. Thus we retain all 2010 households but drop households in 2012 that were also surveyed in 2010.

[7] We classify as transfers all remittances and gifts received by the household as well as all income from social welfare and charity organizations.

To estimate the causal effect of the bureaucratic state on contemporary prosperity we estimate equation (1) using the log of equivalent household consumption, net of transfers as dependent variable. Following Deaton (1997), we assume that children aged 0 to 4 are equal to 0.4 adults and children aged 5 to 14 are equal to 0.5 adults. In all our regressions we include survey year fixed effects and control for number of household members aged 0-4, 5-14, and 15 and older. All standard errors are clustered at the commune level.

Table 3 reports estimates for the sample of households in villages within 25 kilometers of the Dai Viet-Khmer boundary. Column (1) reports the estimate of γ for our preferred specification using a local linear polynomial in latitude and longitude. The estimates show that living standards are around 26% higher for households in historically bureaucratic areas (s.e.= 0.04). The estimated coefficient remains stable and statistically significant when we use instead a local linear polynomial in distance to the boundary (column 2) or include both the latitude-longitude and distance to the boundary polynomials (column 3).

More generally, Figure 2 illustrates the robustness of our results to alternative bandwidths and polynomials in geographic location. Each sub-figure plots the point estimates of γ (vertical axis) based on equation (1) for different bandwidth values between 10-100 kilometers in 1 km increments (horizontal axis). Thin lines stemming from the point estimates show 95% confidence intervals, while the slightly thicker lines show 90% confidence intervals. Estimates shown in green and red are for the sample of bordering districts and communes, respectively. The panels in different rows correspond to different functional forms for the RD polynomial. Panels in the first and second rows report estimates using the linear latitude-longitude polynomial (row 1) or both the linear latitude-longitude and linear distance to the boundary polynomials (row 2). The third and fourth rows report estimates based on a quadratic latitude-longitude polynomial (row 3) or both the quadratic latitude-longitude and quadratic distance to the boundary polynomials (row 4). The estimates in the first column, based on the full border, show that the estimate of γ on current consumption is remarkably robust to alternative bandwidth and polynomial choices. Naturally, estimates for smaller bandwidths tend to be noisier (particularly for quadratic polynomials), but the estimated coefficients remain stable and statistically significant at conventional levels in most specifications.

The results can be seen graphically in Figure 3. Each sub-figure shows a village-level scatter plot for one of the paper's main outcome variables. These plots are the three-dimensional analogues to standard two-dimensional RD plots, with each village's longitude on the x-axis, its latitude on the y-axis, and the data value for that village shown using an evenly-spaced monochromatic color scale, as described in the legends. The background in each plot shows predicted values, for a finely spaced grid of longitude-latitude coordinates, from a regression of the outcome variable under consideration using equation (1). In the

typical RD context, the predicted value plot is a two-dimensional curve, whereas here it is a three-dimensional surface, with the third dimension indicated by the color gradient. The shades of the data points can be compared to the shades of the predicted values behind them to judge whether the RD has done an adequate job of averaging the data across space. Figure 3(a) for log equivalent household consumption illustrates the predicted jump on this variable across the boundary. Moreover, darker dots tend to overlay darker-shaded areas.

Next we perform some additional robustness checks. Column (4) investigates whether differential rates of migration today may be responsible for living standards differences across the boundary. Given that in-migration to bureaucratic provinces is about 2.5%, we omit the 2.5% of the bureaucratic sample with the highest equivalent household consumption. To be conservative we similarly omit the 1% of the patron-client sample with the lowest household equivalent consumption. This procedure allows for the possibility of selective migration of the most productive households from Khmer to Dai Viet areas, and the least productive households from Dai Viet to Khmer areas. The estimate based on the trimmed sample remains of similar magnitude and statistical significance, suggesting that migration today is not the primary force responsible for the effect of the bureaucratic state on contemporary living standards.

Next, Column (5) limits the sample to communes along segments of the boundary that do not correspond with rivers, to address the concern that rivers may themselves impose a discontinuity, for example in travel time. Results are again highly robust to this variation. The point estimate remains relatively unchanged and statistically significant. Moreover, in the second column of Figure 2 we show that point estimates in the sample excluding river segments are also robust to alternative bandwidths and polynomials in geographic location. Another possibility is that rivers constitute natural, exogenous borders that were used to separate different polities in the past. Column (6) shows that when we restrict the analysis to households in villages closest to the river portions of the boundary, the point estimate is again of similar magnitude and statistically significant at the 5% level.

Columns (7) through (9) report estimates from placebo tests. First, the rivers coinciding with our boundary also flow through areas that are not along the boundary, providing an additional opportunity to examine whether our estimates simply capture the effect of being on different sides of the river. We estimate our baseline regression on the sample of districts bordering other portions of the rivers that partially form our boundary (but not bordering our boundary) and use an indicator *placebo_boundary* equal to 1 if the district is on the eastern side of the river. The estimate is small and statistically insignificant.

We perform an additional placebo test using other historical boundaries of Dai Viet's southward expansion. To increase power, we pool all observations in proximity to the different 1306, 1407, 1471, 1611, 1651 and 1693 boundaries, but this time the indicator variable

placebo_boundary equals 1 if the district is located on the side of the boundary conquered by Dai Viet earlier. Since all of these villages were exposed to the bureaucratic state and organized under the village government system for a substantial period of time, a difference of, for example, 40 years should plausibly have little or no long run effect. The Khmer-Dai Viet boundary is different, since villages on the Khmer side were not effectively brought under bureaucratic administration since French colonization began soon after their incorporation into Dai Viet. The estimate of *placebo_boundary*, reported in column (8), is small and statistically insignificant.

Finally we address the concern that our estimates simply capture the effect of Ho Chi Minh Province, which is in our bureaucratic sample. Specifically, we compare households across the Ho Chi Minh - Dong Nai provincial boundary, estimating equation (1) on the sample of households within 25 kilometers from this boundary. *placebo_boundary* is an indicator equal to 1 if the household is located in Dong Nai province. Both of these provinces are located in a historically bureaucratic area, and the estimate reported in column (9) is small and statistically insignificant.

We also explore the external validity of our results by estimating equation (1) on the full sample of South Vietnamese villages. The point estimate on the $bureaucratic_v$ dummy is 0.45 (s.e.=0.032). Naturally, as we move away from the boundary, villages become less comparable to each other. For example, villages in the Mekong Delta Region in the south exhibit very high agricultural productivity. However, the point estimate remains relatively unchanged even when we control for a wide range of geographic characteristics and agricultural suitability measures for different crops. Similarly, we estimate equation (1) for all of South Vietnam but use as independent variable the number of decades of exposure to Dai Viet's institutions prior to French colonization in 1859 (rather than our binary $bureaucratic_v$ dummy). Point estimates suggest that an additional decade of exposure to Dai Viet is associated with an increase of between 1 and 2% in contemporary equivalent consumption. Estimate is statistically significant and remains relatively unchanged when we control for geographic and agricultural suitability measures.

In sum, Table 3 presents evidence of a causal effect of the bureaucratic state on contemporary living standards. This effect is robust to alternative bandwidth and polynomial choices, to dropping boundaries that coincide with rivers, and to trimming the data to account for migration. Reassuringly, we find no evidence of a discontinuous change in living standards across other placebo boundaries, such as rivers, provincial borders, and old boundaries within historic Dai Viet areas.

4.2 Effects on the Proximate Determinants of Consumption

Table 4 examines the bureaucratic state's long-run effects on proximate determinants of consumption. We focus on the main economic activity of the household head and on human capital (years of schooling) that we construct from VHLSS for the period 2002-2012. We report estimates based on our baseline specification using a 25 kilometers boundary and a linear polynomial in latitude. Survey year fixed effects are also included.

The dependent variable in column (1) is an indicator variable equal to 1 if the household used land for agricultural production. Households in historically bureaucratic areas are 14 percentage points less likely to work on agriculture (s.e.= 0.041). In columns 2 and 3 we use individual-level data and restrict our analysis to men who are 15 or older. The dependent variable in column (2) is an indicator variable equal to 1 if the individual works for a wage and zero otherwise. The point estimate is small and statistically insignificant. The dependent variable in column (3) is an indicator equal to 1 if the individual works in a manufacturing or processing industry. The point estimate is also small and statistically insignificant. These results suggest that households in historically bureaucratic areas more likely to move out of agriculture into other economic activities such as owner-operated businesses and services.

In columns (4) through (8), we examine human capital. In column (4) we use district-level information (1999-2004) from provincial yearbooks on the fraction of school-age population enrolled in secondary school. The point estimate shows that enrollment in secondary school is 24 percentage points higher (s.e.= 0.049) in historically bureaucratic areas. Columns (5) through (8) use individual-level data from VHLSS on years of schooling. Column (5) reports the average effect for all individuals, whereas columns (6) through (8) consider different cohorts separately. The estimates are positive and statistically significant, documenting that individuals in historically bureaucratic areas have around an additional year of schooling. While the absolute effect is roughly similar across cohorts, the effect is proportionally much larger for older individuals. For individuals aged 60 or older, schooling in bureaucratic areas is 43% higher. On the other hand, for individuals aged 25-40, years of schooling is approximately 11% higher in bureaucratic areas. This suggests some convergence, at least in the quantity of human capital, over time.

4.3 Effects on Economic Prosperity in Previous Periods

This section examines the causal effect of the bureaucratic state on economic prosperity in earlier periods. We begin with the Vietnam War period. Data are drawn primarily from the Hamlet Evaluation Survey (HES), collected jointly by the United States and South Vietnam during the 1960s and 1970s. The goal of the system was to collect systematic information on economic, political and security conditions in South Vietnamese villages and hamlets

(neighborhoods) to assess the extent of local government or enemy (Viet Cong) control. Information was collected monthly or quarterly between 1969-1973 by US and Vietnamese team members, and compared with the opinions of hamlet officials and citizens.[8] Some questions were collected at the hamlet level, while others were collected for the village as a whole. The result is an unusually rich dataset at the local level, covering a broad set of variables on economic outcomes, state capacity, public goods provision, citizen participation in local governments, social capital, and security outcomes.

Answers to most HES questions are categorical, including 4-6 answer categories. However, for simplicity and ease of interpretation we construct indicator variables based on the original categories. Typically some categories are so sparsely populated that a multinomial logit model will not converge. A detailed description on the construction of each outcome variable is provided in the data appendix. For every variable we take an average across all available monthly or quarterly observations. Throughout our analysis we report estimates only for our baseline specification, where we limit the analysis to villages within 25 kilometers of the Khmer-Dai Viet boundary and use a linear longitude-latitude RD polynomial. Additional results for other bandwidths and polynomials - and a multinomial logit version of the estimates - are reported in the appendix. Regressions with outcome variables available at the hamlet level have roughly 2,200 observations while regressions for outcome variables available at the village level have roughly 375 observations. Standard errors are always clustered at the village level.

Columns (2) through (7) of Table 5 report estimates for a variety of economic measures drawn from HES. In order to address potential concerns with multiple hypothesis testing, we begin by constructing a summary measure of economic conditions using latent class analysis (LCA). Based on the observed values of the different measures reported in columns (2) through (7), we estimate the posterior probability that each hamlet belongs to one of two latent classes associated with "high" and "low" economic prosperity. Column (1) examines the posterior probability that the hamlet belongs to the high prosperity class. The estimate in column (1) shows that hamlets in historically bureaucratic areas are 22 percentage points more likely to be classified in the high prosperity latent class (s.e.= 0.061), as compared to a baseline probability of 0.65 in the Khmer areas.

The results for the individual measures document that in historically bureaucratic villages, farming is less likely to be the main occupation (column 2). This is consistent with our findings for the contemporary period. Similarly, villages in historically bureaucratic areas are 28 percentage points more likely to have access to non-rice foodstuffs (column 4, s.e.=

[8]HES was built on a previous system implemented between 1967-1969. This system was based on subjective assessments of government advisers rather than on objective answers to specific questions based on facts. This made it hard to compare assessments across space and motivated a reform of the system to create HES.

0.058), and 23 percentage points more likely to have access to manufactured goods (column 5, s.e.= 0.063), which may be partly explained by a 12.5 percentage point higher probability of having a market in the hamlet (column 6, s.e.= 0.045). Finally, the fraction of households who have access to a motorized vehicle is 15 percentage points larger in historically bureaucratic areas (column 6, s.e.= 0.022). The discontinuous change in this variable across the Dai Viet-Khmer boundary is illustrated in Figure 3(b).

In order to examine economic prosperity during the Vietnamese attempts to implement a command economy, we also digitized district level data for 1975-1985 from provincial yearbooks and from declassified Vietnamese communist party documents that provide information on land ownership and rice cultivation at the district level. The main drawback is that there are relatively few districts, and thus we lack statistical power. Estimates in the appendix suggest that districts in bureaucratic areas have less land cultivated with paddy rice (consistent with a lower dependence on agriculture) but are better irrigated and more mechanized. However, the estimates are statistically insignificant at conventional levels.

5 Mechanisms

In this section we explore the mechanisms through which the historical bureaucratic state has influenced long-run economic development. We focus on three main channels that the historical literature suggests as particularly important: local governance, strength of civil society, and presence of the Viet Cong (Vietnam Communists). First, we use data from the Hamlet Evaluation System to explore these mechanisms during the Vietnam War period (1969-1973). Village institutions were historically stronger and more participatory in areas with a bureaucratic state, and the Vietnam War period is a particularly relevant era in which to explore the role of local governance given that the central state was weak and most responsibilities had been decentralized to villages following the constitutional reform in 1967.

Next, we explore how local governance interacts with economic development following the *Doi Moi* market reforms of the late 1980s. This period has been marked by market reforms, economic growth, and a rapidly globalizing economy.

5.1 Mechanisms - Vietnam War Period

The evidence presented below suggests that the historical bureaucratic state leads to more capable village governments, higher public goods provision, greater security, and more social capital. This has plausibly translated into more productive economic activities and higher living standards today and may be particularly relevant for understanding the context in which decentralization of public goods provision is most likely to be effective.

5.1.1 Local Governance

Table 6 reports estimates using a broad set of measures of local governance. Outcomes in columns (2) through (7) of panel A measure the control of the village government over local affairs. Outcomes in columns (1) through (8) of panel B measure public goods provision. To address potential concerns about multiple testing, we use all individual measures reported in panels A and B to construct a summary measure of local governance using latent class analysis. The dependent variable in column (1) of panel A is the posterior probability that the hamlet belongs to the class associated with high local governance. The point estimate shows that hamlets in historically bureaucratic areas are 19 percentage points more likely to be classified in the high local governance class (s.e.= 0.035), as compared to a baseline probability of 0.66 in Khmer areas.

Column (2) of panel A shows that local governments with a historically bureaucratic state are 3 percentage points (s.e.= 0.015) more likely to collect taxes. Similarly, historically bureaucratic areas villages are 5 percentage points more likely to have all committee positions filled (column 3, s.e.= 0.021) and to have a village chief that is regularly present (column 4, s.e.= 0.028). The effect reported in column (4) is illustrated graphically in Figure 3(c). Columns (5) and (6) show that the village chief has more operational control over the Rural Development Cadre and the Popular Forces, respectively. These are public servants whom the 1967 constitution mandates should be under village control. Village administration and an institutionalized role for the village chief were a key distinction between Dai Viet and Khmer, and these estimates point to local state capacity as an important mechanism through which the historical state may have affected contemporary living standards.

Panel B reports impacts of the historical state on different types of public goods whose provision was the responsibility of village governments during this period. The estimates document a higher provision of public goods in historically bureaucratic areas, plausibly helping to explain why proximate determinants of living standards, such as human capital, are also higher in these areas. Specifically, columns (1) and (2) show that children in historically bureaucratic areas were 6 percentage points more likely to attend (column 1, s.e.= 0.017) and complete (column 2, s.e.= 0.030) primary school, respectively. This compares to primary school attendance and completion rates of 85% and 57%, respectively, in Khmer areas. We do not find an effect on secondary school attendance, which was much lower. Columns (4) through (7) show that health-related public goods were also more likely to be provided in historically bureaucratic areas. For example, health services were 18 percentage points more likely to be available in hamlets in historically bureaucratic areas (column 4, s.e.= 0.031), as compared to a baseline availability of 24% in historically Khmer villages. We illustrate this effect graphically in Figure 3(d). Villages in historically bureaucratic areas are also more

likely to have a health clinic (column 5), but we find no effect on the probability of having a maternity clinic (column 6). Health workers were also nearly twice as likely to visit hamlets on a regular basis (column 7). Finally, column (8) shows that hamlets in bureaucratic areas were 10 percentage points more likely to report that self-development projects were underway (s.e. = 0.039). These usually corresponded to infrastructure projects in which the government or external funders and the community share the costs and responsibility.

5.1.2 Civic Society

In Table 7 we explore the effect of the bureaucratic state on civic society (social capital and local political participation). On the one hand, scholars such as Gouldner (1980) and Fukuyama (1995) argue that a vibrant civic community and a strong state are substitutes. In the presence of a weak state, civic society emerges to substitute the state in its role of providing protection and social insurance. Similarly, a too powerful state can repress or co-opt any civic organizations that may threaten its power. In this view, the strength of the state and civic society are seen as a zero-sum game. On the other hand Skocpol (1995) views social capital and the state as complementary. Strong states can directly promote civic initiatives through legal protection and public services. At the same time, the state's legitimacy also relies on citizen's active participation and trust in institutions.[9]

The results in Table 7 suggest that local governance and civil society are complements in this context. Using the posterior probability from a latent class analysis of the measures in columns (2) through (7), column (1) shows that historically bureaucratic hamlets are 35 percentage points more likely to be classified in the high civic society group (s.e.= 0.036). This effect implies that hamlets in bureaucratic areas are more than twice as likely to be classified as having a strong civil society as hamlets in historically patron-client areas. The individual measures in columns (2) through (7) document that in historically bureaucratic hamlets households are more likely to participate in civic organizations (column 2) and self-development projects (column 7) and that civic organizations are more likely to provide welfare assistance (column 3). Estimates are large relative to the mean in historically Khmer areas and are statistically significant at conventional levels. The effect on participation in civic organizations is illustrated graphically in Figure 3(e). The estimate in column (4) for participation in youth organizations is not statistically significant. Finally we find that in historically bureaucratic villages, the council is 22 percentage points more likely to discuss development projects with citizens (s.e. = 0.051), as compared to a baseline probability of 57% in historically Khmer areas.

[9]See Lehning (1998) , Hoover (2000) and Woolcock and Narayan (2000) for a review of the theory on the relationship between states and social capital.

5.1.3 Insurgency

Next we look at another important dimension of the state, namely the capacity to exercise a monopoly on the legitimate use of force and provide security for citizens. In a context of intense conflict it is possible that non-state actors, in this context the Viet Cong, are able to substitute for the state in places where the local government is weak and citizens may have grievances due to the absence of public services or poverty. The dependent variable in column (1) is an indicator equal to 1 if the government - as opposed to the Viet Cong - enforces laws in the hamlet. The estimate shows that the government is 20 percentage points more likely to enforce the law in historically bureaucratic hamlets (s.e.= 0.039), as compared to a baseline probability of 66% in historically Khmer areas. Consistent with this, the estimate in column (2) shows that the Viet Cong is 7 percentage points less likely to collect taxes in historically bureaucratic areas (s.e.= 0.032).

To study the presence of the Viet Cong we complement the HES data, with data from the National Police Infrastructure Analysis Subsystem (NPIASS-II). This dataset is based on reports from the Vietnamese Secret Police on over 70,000 suspected Viet Cong either at large or already captured, killed, or fled South Vietnam. In most cases, the dataset provides the specific district in which the suspect was either captured/killed or is suspected to operate. In columns (3) through (8) we report regressions using district-level data on the presence of Viet Cong suspects per 100,000 inhabitants. Estimates show that districts in historically bureaucratic areas have less overall Viet Cong suspects in their jurisdiction (column 3). This applies both to suspects at large (column 5) or suspects neutralized, captured, or killed (columns 6 through 8). All estimates are negative and statistically significant, and the coefficients are large relative to the mean in historically Khmer areas.

Lower support for the Viet Cong in bureaucratic areas may be partly explained by the higher living standards and provision of public goods in these areas. Insurgent organizations are more likely to gather support and penetrate areas with weaker states and more citizen grievances. Simultaneously, it may be harder for the Viet Cong to exercise authority in bureaucratic areas where the authority of village officials is stronger.

We also look at U.S. bombing data for the period 1971-1975 based on the Southeast Asia Aerial Bombing Database (SEADAB). We find no differential incidence of bombing (tons of bombs dropped or number of missions flown) within 25 kms of our boundary. However, this needs to be explored more systematically using bombing data for the earlier part of the Vietnam War (1965-1970) that featured more intense fighting and bombing operations.

5.2 Mechanisms - Doi Moi Period

The effects documented so far suggest positive impacts of the historically bureaucratic state on local governance, public goods provision, social capital, and security conditions. However, there may also be downsides to having a strong local state. Both historically and more recently, strong governments in the Vietnamese context, as well as more generally, have engaged in widespread redistribution and interfered significantly with the operation of markets. Under these circumstances, outsiders have found it harder to settle into historically strong villages (Popkin, 1979). Villagers and village officials may protect the property rights and interests of local neighbors but can be hostile to the claims of outsiders. This dynamic can discourage foreign investment, which is crucial in the context of global capitalism.

5.2.1 Land and Financial Markets

Anecdotal evidence suggests that tightly knit communities in bureaucratic areas exert significant control over land ownership and redistribution. If property rights are de facto secure for local villagers, due to strong communal enforcement, they may actually demand fewer formal titles. Outsiders, moreover, may have a harder time owning land in areas with historically tight-knit villages. This was anticipated by Popkin (1979) in section 3, who illustrated the obstacles faced by outsiders accessing land outside their native village.

We explore these mechanisms in Table 9, which examines the impact of the bureaucratic state on land titling. Columns (1) through (3) report estimates of equation (1) using the fraction of area of different types of land with a land use certificate. These are based on responses given by village officials in the VHLSS commune questionnaire for the 2002-2008 period. The estimates show a lower prevalence of land-use certificates in historically bureaucratic areas. Estimates are negative and statistically significant for all types of land. Column (4) examines a similar measure of property rights from the VHLSS household questionnaire. The dependent variable in this column is an indicator equal to 1 if the household has a land-use certificate on any of its agricultural plots. The point estimate confirms the findings from columns (1) through (3); households in historically bureaucratic areas are 20 percentage points (s.e.= 0.058) less likely to have a land-use certificate. Column (5) examines businesses' perceptions of the security of property rights. This measure is based on the Provincial Competitiveness Index (PCI), which records local businessmen's perceptions of a wide range of performance outcomes of provincial governments. We geocode the location of every business based on the reported address. Column (5) shows that businessmen in historically bureaucratic areas are 5 percentage points (s.e.= 0.022) less likely to believe that the legal system will uphold their property rights, as compared to a baseline probability of 86% in historically patron-client areas.

Finally, columns (6) and (7) use the household and commune VHLSS questionnaires to explore whether formal financial services are less widespread in bureaucratic areas. Results are again consistent with denser informal networks but potentially less active impersonal markets in historically bureaucratic villages. Column (6) shows that households in bureaucratic areas are 5 percentage points (s.e.= 0.033) less likely to make interest expenses on formal financial instruments. Column (7) suggests that households in historically bureaucratic areas may be instead more likely to borrow from friends and relatives. However, these estimates are not statistically significant at conventional levels.

5.2.2 Foreign Ownership

Recently, foreign companies (particularly Chinese and Thai-owned ones) have been increasing their presence in Vietnam, and these firms constitute an important new source of economic development. In historically bureaucratic villages, negative attitudes towards outsiders and interference in land and financial markets by local government may discourage foreign companies. To study this possibility, we estimate equation (1) on our baseline sample for several measures of foreign enterprise ownership from different sources and different periods. It is difficult to disentangle the effects of local governance from the effects of wage differentials, since wages are an equilibrium outcome, but nonetheless business perceptions are consistent with a role for governance.

We find strong evidence of a lower presence of foreign companies in historically bureaucratic villages, across different outcome variables and data sources. Columns (1) through (3) in Table 10 report estimates using fraction of village employment in the foreign, domestic private, or state-owned sectors, respectively, constructed from the 2011 Vietnamese Enterprise Survey. This annual survey collects information on a wide range of economic and financial outcomes. Column (1) documents that workers in historically bureaucratic villages are 16 percentage points less likely to work for a foreign enterprise (s.e.= 0.048), relative to a baseline probability of 26% in historically patron-client villages. Historically bureaucratic villages instead have a higher fraction of workers in domestic private enterprises (column 2). There is no difference in employment in state-owned enterprises (column 3), which is a small share of overall employment. Columns (4) and (5) examine the sector of employment using the commune questionnaire of VHLSS for the 2002-2008 period (regressions include survey year fixed effects). Consistent with the findings in columns (1) through (3), there is lower foreign sector employment in historically bureaucratic areas. The point estimate is of similar magnitude to the one reported in column (1). Finally, columns (6) through (8) examine the fraction of output produced by different sectors using 1999-2004 provincial yearbooks, published by provincial statistical offices. Consistent with evidence from other sources, the

estimate for foreign sector output is negative and statistically significant (column 6), while the estimate for output of the private domestic sector is positive and statistically significant (column 8).

Finally, columns (9) and (10) consider business perceptions of government attitudes. Specifically, we use georeferenced data from the PCI to examine perceptions of the provincial government's attitude towards state-owned enterprises and private companies. The estimates suggest that government officials have a less supportive attitude towards the private sector in historically bureaucratic areas (column 10) and a more positive attitude towards state-owned enterprises (column 9).

The results reported in Tables 9 and 10 suggest that the effect of a strong local state may depend on the economic environment. In the context of a globalized economy, the interference of local governments with markets and property rights may discourage outsiders from investing in these areas and may countervail some of the positive effects of high state capacity operating through public goods provision and social capital. Indeed, the difference between historically bureaucratic and patron client areas does narrow somewhat across VHLSS survey years, although we do not have exogenous variation that would allow us to test whether FDI is a major contributor to this convergence.

6 Concluding Remarks

This study documents that the historical bureaucratic state has a substantial impact on long-run economic development. In historically bureaucratic villages, citizens are better able to organize for public goods and redistribution, both through stronger local states and through civic society. On the other hand, our results also show that the long-run effects of the bureaucratic state are multi-faceted and interact with the broader national and international economic environment. Today, households in historically bureaucratic areas are less likely to hold titles to their land, foreign enterprises are less likely to locate in historically bureaucratic villages, and businesses perceive the government as having a less positive attitude towards the private sector.

Overall, the evidence suggests that the bureaucratic historical state plays an important role in long-run development through its persistent impacts on local governance and civil society. While care must be taken with external validity, this study provides support for the theory that the existence of a bureaucratic state in East Asia - deeply embedded in civil society - played a central role in the 20th century divergence between this region and much of the rest of the developing world. While historical state capacity in Asia does appear to facilitate long-run development, it is unlikely to be a substitute for pursuing sound economic policies. Evaluating how the history of the state conditions the implementation and impacts

of current policies is a particularly promising area for future research.

Table 1: Comparing Dai Viet and Khmer Kingdoms in Precolonial Vietnam

Dai Viet	Khmer
Colonial outpost of China (111 BCE-939 CE)	Indic patron-client state[a]
Maintained bureaucratic Chinese government system since independence[b]	Accelerated decline after invasion by Siam (1430); weak control of periphery[c]
Centralized state; impersonal centralized bureaucracy under dynastic court; uniform territorial administration[d]	Decentralized state; personalistic rule through court; semi-independent provincial rule[e]
Institutionalized role of village chiefs (elected since 1461) & village councils[f]	Personalistic political appointments & land distribution[g]
Bureaucratic control of local taxation, military recruitment[h]	Temple-based public finance system[i]

[a]Lieberman, 2003
[b]Woodside, 1971
[c]Coedes, 1966; Tarling, 1999
[d]Lieberman, 2003
[e]Woodside, 1971; Tarling, 1999
[f]Yu, 2001
[g]Osborne, 1969; Chandler, 1983
[h]Woodside, 1971; Yu, 2001
[i]Tarling, 1999; Hall, 2010

Table 2: Balance Checks

				Vietnamese	
	Elevation	Slope	Confucian	(1970s)	(2000s)
	(1)	(2)	(3)	(4)	(5)
bureaucratic	-2.141	0.110	0.004	-0.011	-0.018
	(3.256)	(0.135)	(0.005)	(0.013)	(0.012)
Observations	698	698	372	372	4,498
R-squared	0.868	0.722	0.147	0.084	0.024
Mean control	17.02	1.60	0.0206	0.990	0.983

Data on elevation and slope are from the Shuttle Radar Topography Mission (2015). Data on religion and ethnicity in columns (3) and (4) are from the Hamlet Evaluation System, and data on ethnicity in column (5) are from Vietnam's Household Living Standards Surveys (2002-2012). The unit of analysis is the commune (village) in columns (1)-(4) and the household in column (5). The sample is restricted to communes within 25 kilometers of the 1698 Dai Viet-Khmer border. All regressions include a control for distance to Ho Chi Minh City, a linear polynomial in latitude and longitude, and boundary segment fixed effects. Column 5 also includes survey year fixed effects. Standard errors in column 5 are clustered at the village level. Coefficients significantly different from zero are denoted by: *10%, **5%, and ***1%.

Table 3: Contemporary Household Consumption

	Dependent variable is: log equivalent household consumption net of transfers								
	Baseline Estimates			Robustness Checks			Placebos		
	Lat, Lon	Dist. Bound.	Lat, Lon Dist. Boun.	Migr. Trim.	Dropping Rivers	Only Rivers	Oth. Hist. Bound.	River as Bound.	Dong Nai HCM
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
bureaucratic	0.240***	0.233***	0.240***	0.215***	0.259***	0.239*			
	(0.040)	(0.058)	(0.060)	(0.040)	(0.050)	(0.124)			
placebo boundary							-0.009	-0.001	-0.015
							(0.086)	(0.007)	(0.150)
Clusters	456	456	456	454	309	147	179	312	139
Observations	4,336	4,336	4,336	4,275	2,977	1,359	1,730	4,029	1,802
R-squared	0.493	0.504	0.507	0.476	0.531	0.412	0.556	0.424	0.255

The unit of observation is the household. The dependent variable is log equivalent household consumption net of transfers from Vietnam's Household Living Standards Survey for the years 2002-2012. The sample in columns (1)-(4) is restricted to communes/households within 25 kilometers of the 1698 Dai Viet-Khmer boundary. The sample in column (5) excludes households closest to boundary segments formed by rivers. The sample in column (6) is restricted to households closest to boundary segments formed by rivers. The sample in column (7) includes households along other historical boundaries (see the main text), and the sample in column (8) includes households near rivers that traverses our region. The sample in column (9) is restricted to households living within 25 kilometers of the Dong Nai Province - Ho Chi Minh Province boundary. All regressions control for distance to Ho Chi Minh City, boundary segment fixed effects, survey year fixed effects, and household demographic controls. Columns (1), (3), and (4)-(9) include a local linear polynomial in latitude and longitude. Columns (2) and (3) include a local linear polynomial in distance to the 1698 Khmer-Dai Viet boundary. Robust standard errors, adjusted for clustering by commune, are in parentheses. Coefficients that are significantly different from zero are denoted by the following system: *10%, **5%, and ***1%.

Table 4: Proximate Causes of Development

	% Agr. Land	% Wage Emp.	% Emp. Ind.	% Enroll Second.	Years of Schooling			
					All	25-40	40-60	> 60
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
bureaucratic	-0.138***	-0.006	-0.003	0.244***	0.982***	0.840***	0.814**	1.302***
	(0.041)	(0.025)	(0.029)	(0.049)	(0.240)	(0.227)	(0.316)	(0.281)
Clusters	447	443	443		376	370	367	324
Observations	4,444	6,528	5,095	127	10,531	4,570	4,242	1,719
R-squared	0.297	0.009	0.041	0.268	0.086	0.106	0.098	0.108
Mean control	0.463	0.499	0.219	0.731	6.375	7.508	6.626	3.016

The unit of observation is the household in column (1), the district in column (4) and individuals in columns (2)-(3) and (5)-(8). The dependent variables in columns (1)-(3) and (5)-(8) are from The Vietnam Household Living Standards Survey, 2002-2012, while the dependent variable in column 4 is from provincial yearbooks for the 1999-2004 period. The dependent variable in column (1) is an indicator equal to 1 if the household uses land for agricultural production. The dependent variables in columns (2) and (3) are indicators equal to 1 if the individual works for a wage or in a processing industry, respectively. The dependent variable in column (4) is the fraction of the population of the relevant age attending secondary school. The dependent variable in columns (5)-(8) is completed years of schooling. The sample in columns (2)-(3) is restricted to men older than 15. The sample is restricted to individuals aged 25-40 in column (6), aged 40-60 in column (7), and older than 60 in column (8). The sample in all columns is restricted to communes within 25 kilometers from the 1698 Dai Viet-Khmer boundary, except in column (4), where we include all districts within 100 kilometers of the 1698 boundary in order to attain a sufficient sample size. All regressions include distance to Ho Chi Minh City, a local linear polynomial in latitude and longitude, and boundary segment fixed effects. Regressions in columns (1)-(3) and (5)-(8) also include survey year fixed effects. Robust standard errors, adjusted for clustering by commune, are in parentheses. Coefficients that are significantly different from zero are denoted by the following system: *10%, **5%, and ***1%.

Table 5: Economic Outcomes in 1969-1973 (HES)

	LCA Prob. (1)	Farmer Occ. (2)	Vill. Surplus (3)	Non-Rice Foodstuffs (4)	Manuf. Avail. (5)	Market in haml. (6)	% hh own vehic. (7)
bureaucratic	0.220***	-0.256***	0.048	0.280***	0.226***	0.125***	0.155***
	(0.061)	(0.052)	(0.037)	(0.058)	(0.063)	(0.045)	(0.022)
Clusters	377	384	374	375	375	384	384
Observations	2,194	2,199	374	375	375	2,199	2,199
R-squared	0.159	0.420	0.064	0.162	0.133	0.162	0.437
Mean control	0.651	0.878	0.894	0.587	0.537	0.326	0.205

The unit of observation is the commune (village) in columns (3)-(5) and the hamlet (neighborhood) in columns (1)-(2) and (6)-(7). All dependent variables come from the Hamlet Evaluation System (HES). The dependent variable in column (1) is the posterior probability that the hamlet belongs to the latent class associated with high economic prosperity. The dependent variable in column (2) is an indicator equal to 1 if farming is the main occupation in the hamlet. The dependent variables in columns (3)-(5) are indicators equal to 1 if the village produces rice surpluses, has access to non-rice foodstuffs, and has access to manufactured goods, respectively. The dependent variable in column (6) is an indicator equal to 1 if there is a market in the hamlet. Finally, the dependent variable in column (7) is the fraction of households in the hamlet that own a vehicle. The sample in all columns is restricted to villages within 25 kilometers of the 1698 Dai Viet-Khmer boundary. All regressions include a control for distance to Ho Chi Minh City, a local linear polynomial in latitude and longitude and boundary segment fixed effects. Robust standard errors, adjusted for clustering by commune, are in parentheses. Coefficients that are significantly different from zero are denoted by the following system: *10%, **5%, and ***1%.

Table 6: Local Governance 1969-1973 (HES)

Panel A: State Capacity and Control Over Local Affairs							
	LCA Prob.	Village Col. Taxes	Comm. Posit. Filled	Village Chief Present	Village Chief Controls RD Cadre	Popular Force	Info. Cadre Visits Hamlet
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
bureaucratic	0.188***	0.031**	0.054**	0.059**	0.039**	0.024**	0.154***
	(0.035)	(0.015)	(0.021)	(0.028)	(0.018)	(0.010)	(0.035)
Clusters	377	375	375	375	372	320	382
Observations	2,194	375	375	375	372	320	2,189
R-squared	0.251	0.039	0.147	0.052	0.160	0.145	0.173
Mean control	0.660	0.952	0.882	0.902	0.847	0.930	0.402

Panel B: Public Goods								
	% Att. Prim.	% Comp. Prim.	% Att. Sec.	Health Serv. Av.	Health Clin. in Vill..	Mat. Clin. in Vill.	Health Wk. Visits ham.	Self-Dev Proj.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
bureaucratic	0.055***	0.057*	0.008	0.175***	0.106**	0.036	0.303***	0.103***
	(0.017)	(0.030)	(0.010)	(0.031)	(0.042)	(0.064)	(0.037)	(0.039)
Clusters	384	374	350	384	375	375	384	384
Observations	2,198	374	350	2,199	375	375	2,198	2,194
R-squared	0.107	0.146	0.119	0.124	0.099	0.078	0.224	0.074
Mean control	0.853	0.566	0.222	0.239	0.715	0.554	0.294	0.794

Panel A examines local state capacity outcomes and panel B examines public goods provision. The unit of observation is the commune (village) in columns (2)-(6) of panel A and columns (2)-(3) and (5)-(6) of panel B. The unit of observation is the hamlet in columns (1) and (7) in panel A and columns (1), (4), (7) and (8) in panel B. All dependent variables come from the Hamlet Evaluation System (HES) for the 1969-1973 period. The dependent variable in column (1) of panel A is the posterior probability that the hamlet belongs to the latent class associated with high local governance. The dependent variables in columns (2)-(6) of panel A are indicators equal to 1 if the village government collects taxes, if all committee positions are filled, if the village chief is regularly present, if the village chief controls the rural development cadre, and if the village chief controls the popular force, respectively. The dependent variable in column (7) is an indicator equal to one if the information cadre visits the hamlet. The dependent variables in columns (1)-(3) of panel B are the percentage of children attending primary, the percentage of children competing primary, and secondary school attendance, respectively. The dependent variables in columns (4)-(8) are indicators equal to 1 if health services are available in the hamlet, if there is a health clinic in the village, if there is a maternity clinic in the village, if the health worker regularly visits the hamlet, and if self-development projects are underway, respectively. The sample in all columns is restricted to villages within 25 kilometers of the 1698 Dai Viet-Khmer boundary. All regressions include distance to Ho Chi Minh City, a local linear polynomial in latitude and longitude, and boundary segment fixed effects. Robust standard errors, adjusted for clustering by commune, are in parentheses. Coefficients that are significantly different from zero are denoted by the following system: *10%, **5%, and ***1%.

Table 7: Civic Society 1969-1973 (HES)

	LCA Prob. (1)	% Part. Civ. Org. (2)	Civ. Org. Welfare (3)	% Part. Youth (4)	Counc. Disc. Proj. (5)	Chief Disc. Citiz.. (6)	% Part. Self. Dev.. (7)
bureaucratic	0.353***	0.295***	0.103***	-0.007	0.218***	0.010	0.176***
	(0.036)	(0.028)	(0.024)	(0.028)	(0.051)	(0.039)	(0.026)
Clusters	377	384	387	375	373	374	384
Observations	2,194	2,198	2,211	375	373	374	2,198
R-squared	0.340	0.412	0.158	0.061	0.170	0.110	0.189
Mean control	0.260	0.204	0.058	0.808	0.574	0.700	0.237

The unit of observation is the commune (village) in columns (4)-(6) and the hamlet in columns (1)-(3) and (7). All dependent variables come from the Hamlet Evaluation System (HES) . The dependent variable in column (1) is the posterior probability that the hamlet belongs to the latent class associated with high civic society. The dependent variables in columns (2), (4) and (7) are the percentage of households that participate in civic organization, youth organizations, and self-development projects, respectively. The dependent variables in columns (3), (5) and (6) are indicators equal to 1 if civic organizations provide welfare assistance to needy households, if the council discusses development projects with citizens, and if the village chief and citizens talk about grievances and aspirations, respectively. The sample in all columns is restricted to villages within 25 kilometers of the 1698 Dai Viet-Khmer boundary. All regressions include distance to Ho Chi Minh City, a local linear polynomial in latitude and longitude and boundary segment fixed effects. Robust standard errors, adjusted for clustering by commune, are in parentheses. Coefficients that are significantly different from zero are denoted by the following system: *10%, **5%, and ***1%.

Table 8: Non-State Actors - Vietnam War Period

	Gov. Enfor. Laws	VC Collects Taxes	Viet Cong Suspects					
			Total	Not at Large	At Large	Neutralize	Captured	Killed
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
bureaucratic	0.201***	-0.070**	-252.701**	-165.011***	-87.689*	-179.945***	-89.292***	-50.152***
	(0.039)	(0.032)	(94.312)	(57.088)	(46.350)	(45.645)	(25.580)	(17.526)
Clusters	384	384						
Observations	2,199	2,199	47	47	47	50	50	50
R-squared	0.255	0.322	0.220	0.314	0.111	0.483	0.515	0.220
Mean control	0.662	0.308	308.2	216.4	91.77	261	139.8	63.64

The unit of observation is the hamlet in columns (1)-(2) and the district in columns (3)-(8). The dependent variables in columns (1)-(2) are from the Hamlet Evaluation System (HES). The dependent variables in columns (3)-(8) come from the National Police Infrastructure Analysis Subsystem (NPIASS-II) secret police reports. The dependent variables in columns (1) and (2) are indicators equal to 1 if the government enforces the law and the Viet Cong collects taxes in the hamlet, respectively. The dependent variables in columns (3)-(8) correspond to different measures of suspected Viet Cong members (per 100,000 inhabitants) in the district in the following order: total number of suspected VC , number of VC suspects not at large, number of VC suspects at large, number of VC neutralized, number of VC captured and number of killed VC, respectively. The sample in all columns restricted to villages/districts within 25 kilometers of the 1698 Dai Viet-Khmer boundary. All regressions include a distance to Ho Chi Minh City control, a local linear polynomial in latitude and longitude. Regressions in columns (1)-(2) also include boundary segment fixed effects. Regressions in columns (3)-(8) are weighted by the total population in the district. In columns (1)-(2) robust standard errors, adjusted for clustering by commune, are in parentheses. Coefficients that are significantly different from zero are denoted by the following system: *10%, **5%, and ***1%.

Table 9: Land and Financial Markets

	% of land with land-use certificate			%hhs	% bus. leg.	% of households	
	annual	perennial	residential	land cert.	prot. prop.	finan. expen.	borrow friends
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
bureaucratic	-0.127***	-0.134***	-0.167***	-0.195***	-0.046**	-0.051	0.114
	(0.038)	(0.032)	(0.033)	(0.058)	(0.022)	(0.033)	(0.086)
Clusters	143	142	140	224	443	276	145
Observations	144	143	140	729	2,161	3,258	146
R-squared	0.195	0.215	0.281	0.087	0.023	0.053	0.167
Mean control	0.954	0.958	0.931	0.858	0.860	0.342	0.485

The unit of observation is the village in columns (1)-(3) and (7), the household in columns (4) and (6), and the business in column (5). The dependent variables in columns (1)-(3) and (7) are from the commune questionnaire of the Vietnam Household Living Standards Survey for 2002-2008, while the dependent variables in columns (4) and (6) are from the household questionnaire for the same period (regression in column 4 excludes observations for the year 2002 due to inconsistencies with the coding of the land certificate data). The dependent variable in column 5 is from the Provincial Competitiveness Index (PCI) for 2010-2012. The dependent variable in columns (1)-(3) is the fraction of annual, perennial and residential land (respectively) in the village with a land-use certificate. The dependent variable in column (4) is an indicator equal to 1 if the household has a land-use certificate for at least one plot. The dependent variable in column (5) is an indicator equal to 1 if the business believes that the legal system will uphold its property rights. The dependent variable in column (6) is an indicator equal to 1 if the household made expenditures on interest and loans. The dependent variable in column (7) is an indicator equal to 1 if commune residents borrow from relatives and friends. The sample in all columns is restricted to villages/districts within 25 kilometers of the 1698 Dai Viet-Khmer boundary. All regressions include a control for distance to Ho Chi Minh City, a local linear polynomial in latitude and longitude, and boundary segment fixed effects. In columns (4)-(6) robust standard errors, adjusted for clustering by commune, are in parentheses. Coefficients that are significantly different from zero are denoted by the following system: *10%, **5%, and ***1%.

Table 10: Foreign Ownership

	Enteprise Surveys 2011			VHLSS 2002-08		Prov. Yearbooks 1999-2004			State attitudes towards:	
	% Employment in:					% Output in:				
	Foreign	Private	SOEs	Foreign	SOEs	Foreign	SOEs	Non-State	SOEs	Private Sector
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
bureaucratic	-0.155***	0.154***	0.001	-0.203**	0.041	-0.162***	-0.024	0.187**	0.133***	-0.232***
	(0.048)	(0.047)	(0.003)	(0.078)	(0.062)	(0.058)	(0.048)	(0.078)	(0.025)	(0.029)
Clusters	591	591	591	86	86				474	475
Observations	591	591	591	86	86	113	113	113	2,648	2,649
R-squared	0.262	0.256	0.034	0.117	0.080	0.333	0.108	0.259	0.030	0.046
mean control	0.255	0.735	0.010	0.308	0.065	0.150	0.107	0.744	0.176	0.518

The unit of observation is the village in columns (1)-(5), the district in columns (6-8) and the business in columns (9)-(10). The dependent variables in columns (1)-(3) are from the Vietnam Enterprise Survey from 2011. The dependent variables in columns (4)-(5) are from the commune questionnaires of the Vietnam Household Living Standards Survey for 2002-2008. The dependent variables in columns (6)-(8) are from provincial yearbooks for 1999-2004. The dependent variables in columns (9)-(10) are from the Provincial Competitiveness Index (PCI) for 2010-2012. The dependent variable in columns (1) and (4) is the fraction of employment in the foreign sector, while the dependent variable in columns (2) and (5) is the fraction of employment in state-owned enterprises. The dependent variable in column (3) is the fraction of employment in the domestic private sector. The dependent variables in columns (6)-(8) are the fraction of output produced by the foreign, state, and domestic private sector, respectively. Finally, the dependent variables in columns (9) and (10) are business perceptions of the provincial government's attitude towards state-owned enterprises and the private sector, respectively. The sample in all columns is restricted to communes within 25 kilometers of the 1698 Dai Viet-Khmer boundary, except in columns (6)-(8) where we include all districts within 100 kilometers of the 1698 boundary to achieve a sufficient sample size. All regressions include a control for distance to Ho Chi Minh City, a local linear polynomial in latitude and longitude, and those in columns (4)-(10) also include boundary segment fixed effects. In columns (1)-(3) and (9)-(10) robust standard errors, adjusted for clustering by commune, are in parentheses. Regressions in columns (1)-(3) are weighted by the number of employees in enterprises located in the village. Coefficients that are significantly different from zero are denoted by the following system: *10%, **5%, and ***1%.

Figure 1: Dai Viet Historical Boundaries

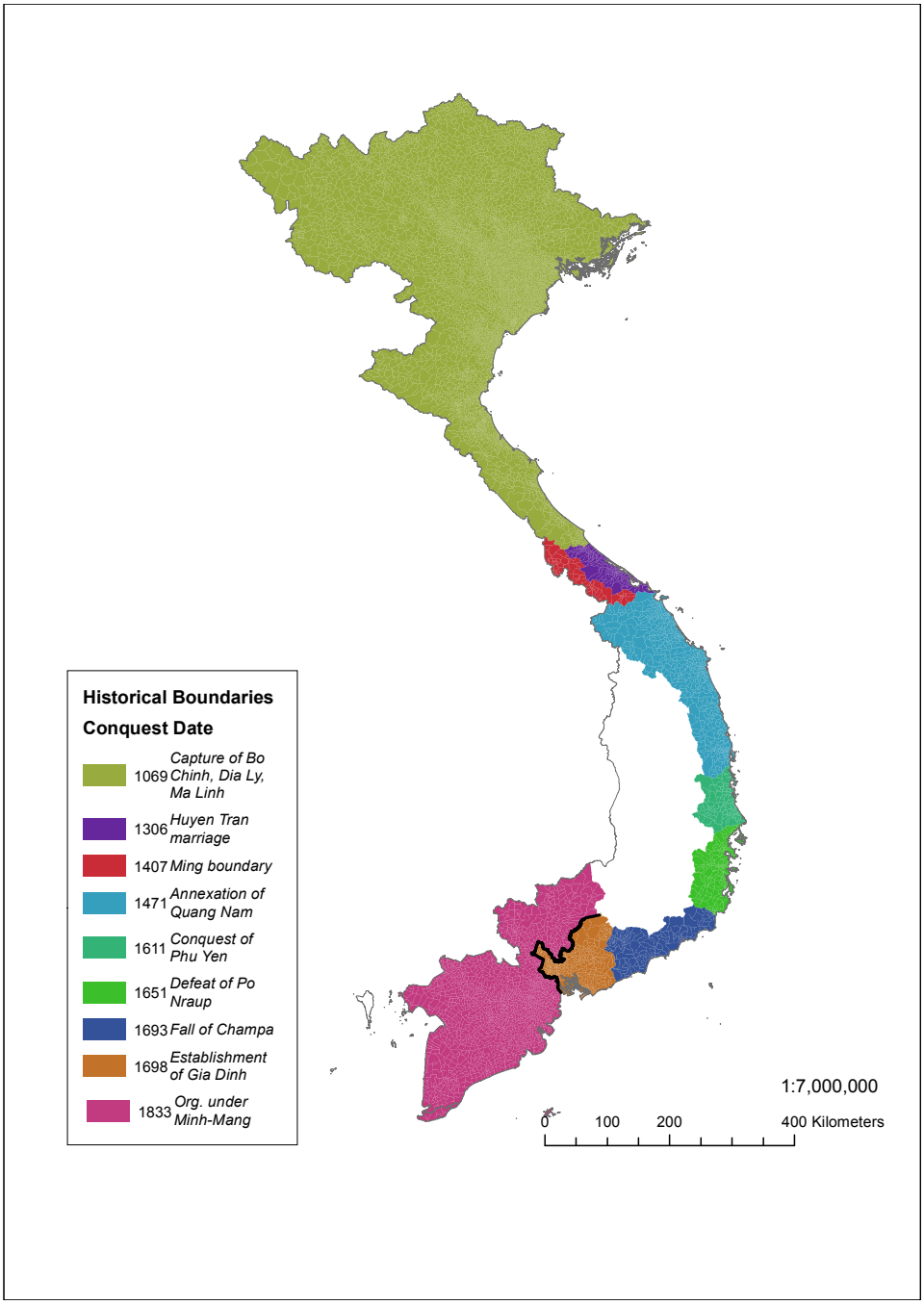
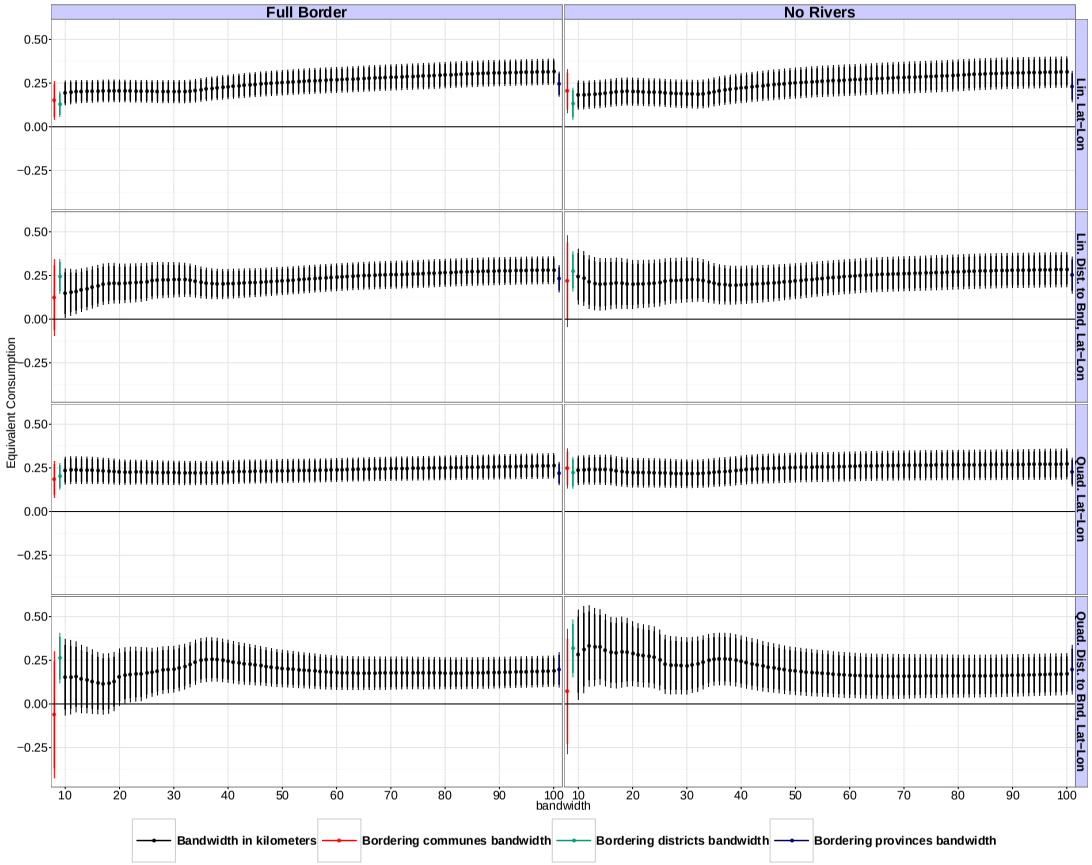
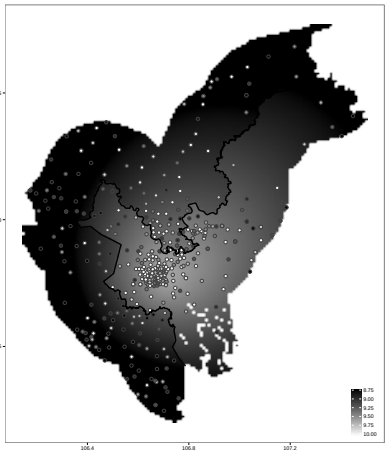


Figure 2: Robustness to Alternative Bandwidths, Polynomials and Border Segments

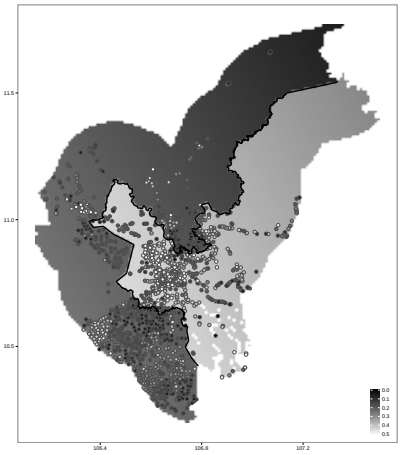


Each sub-figure plots the point estimates of γ (vertical axis) based on equation (1) for different bandwidth values between 10-100 kilometers in 1 km increments (horizontal axis). Thin lines stemming from the point estimates show 95% confidence intervals while the slightly thicker lines show 90% confidence intervals. Estimates shown in red, green, and blue are for the sample of bordering communes, districts, and provinces, respectively. The panels in different rows correspond to different polynomial functions for geographic location. Panels in the first and second rows report estimates using a local linear polynomial in latitude and longitude (row 1) or latitude and longitude as well as distance to the boundary (row 2). The third and fourth rows report estimates using a quadratic polynomial in latitude and longitude (row 3) or latitude and longitude as well as distance to the boundary (row 4). The estimates in the first column are based on the full border while those in the second column exclude households closest to boundary segments that coincide with a river.

Figure 3: RD Plots - Main Outcomes

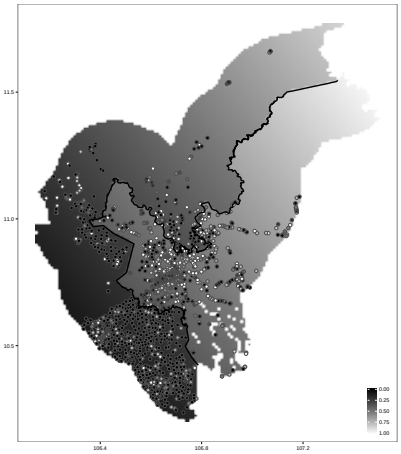


(a) Equivalent Consumption (2002-2012)

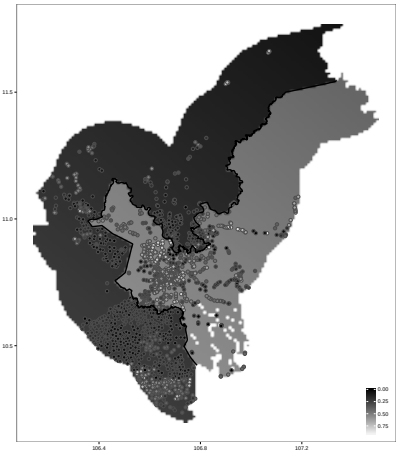


(b) *Access to Motor Vehicle (1969-1973)*

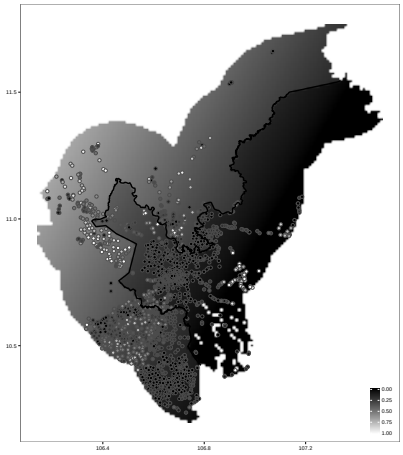
(c) *Village Committee Positions Filled (1969-1973)*



(d) *Health Services Available (1969-1973)*



(e) *Participation in Civic Organizations (1969-1973)*



(f) *Viet Cong Collects Taxes (1969-1973)*