

Breaking the Old Order: Colonial Shock, Cultural Change, and Economic Trajectories*

Anh Nguyen

UCLA, Anderson School of Management

October 2025

Abstract

This paper examines the persistent effects of direct colonial rule compared to indirect colonial rule in Vietnam under French colonialism. Direct colonial rule was characterized by complete foreign control, which eliminated all native institutions, whereas indirect colonial rule indicated incomplete foreign control, with the colonial empire supervising existing local administration. The main results suggest that direct colonial rule has led to positive long run economic development. Using a spatial regression discontinuity approach, I show that household consumption and individual hourly wages are significantly higher in areas previously under direct rule. I hypothesize that direct colonial rule shaped cultural norms and preferences associated with long-term economic growth. Vietnamese precolonial society can be characterized by the concentration of power in the hands of elites and the prevalence of collectivism as a social norm. Colonialism broke that old structure, consequentially shifted cultural traits and preferences. To examine the main mechanism, I collected survey data from individuals living in two villages across the historical border between regions subject to direct rule and regions subject to indirect rule. I find that individuals living in the village historically under direct rule are more likely to possess individualism as a cultural trait. Moreover, survey results show that those individuals have a higher willingness to take risks to achieve better economic outcomes. This paper provides evidence that different colonial institutions could positively affect development by shaping certain cultural traits and preferences associated with economic growth.

*Nguyen: anh.ntn.2512@gmail.com, 110 Westwood Plaza, Los Angeles, CA 90095. I thank my main advisor Romain Wacziarg, and my committee members Brian Wheaton, Clemence Tricaud, Melanie Wasserman, and Paola Giuliano for their guidance and support. I am grateful to participants at GEM brown bags, IRES graduate workshop, and HHDI-NIDE Joint Workshop on Cultural Transmission and Persistence for helpful feedback. I thank Quoc-Anh Do for sharing VHLSS data. I am grateful for the financial support from the Center for Global Management in Anderson and the Economic History Association. This project has IRB approval from UCLA.

1 Introduction

Throughout the history of colonialism, colonial states varied widely in many aspects such as the use of direct versus indirect rule, European settlement patterns, missionary activity, and level of investment. This paper examines the persistent effects of the different forms of French colonial rule in Vietnam – specifically, direct and indirect rule – demonstrating how long-term economic performance is determined by cultural changes induced by different colonial institutions. In short, French direct colonial rule established a highly centralized system of control in which French officials governed directly and traditional structures were largely eliminated. On the other hand, under indirect rule, the colonial empire governed through existing local rulers and traditional structures, keeping them in power under colonial supervision.

The variations observed in French colonial rule in Vietnam mirror a larger question in development research: how do different colonial institutions shape long-term outcomes? Colonialism was one of the most impactful and disruptive episodes in history. It not only profoundly shaped global history, but also left enduring legacies that continue to influence present-day development in countries around the world. An important line of research has utilized colonialism as a natural experiment to investigate the relationship between colonial institutions, post-colonial institutions, and development (Acemoglu et al. 2001, Acemoglu et al. 2005). Yet the influence of colonialism may extend beyond formal institutional legacies to cultural ones, as the main ideology of the civilizing mission (*mission civilisatrice*) centered on assimilating Western language, culture, ideas, education, and governance. Prominently associated with French colonialism in the 19th century, this concept served to justify the establishment of control over colonies. Consequently, besides political institutions, colonialism may also leave deep cultural legacies by imposing the colonizer’s language in schools, trying to convert local populations to Christianity (Bergeron 2025), or using coercive and violent measures to implement medical campaigns (Lowes and Montero 2021b). It is therefore important to investigate how colonialism affects development by means of cultural change. Our key finding is that, compared to indirect colonial rule, French direct colonial rule had a positive impact on long-run development in Vietnam, and it did so by shaping certain cultural norms and preferences associated with long-term growth.

Vietnam was unified under the Nguyen dynasty in 1802. Having gone through a long period of Chinese domination (111 BCE to 939 CE), the traditional Vietnamese state was deeply influenced by Chinese statecraft with a centralized monarchy. However, Vietnam also adapted and localized to suit its own society. A distinct feature of traditional Vietnamese society was local self-government, in which villages (*lã ng*) enjoyed a high degree of autonomy.

In each village, local leaders – notables and the chief – had the authority to handle all social affairs ranging from tax collection, land distribution, public works, to conflict resolution.

French Indochina was a group of territories colonized by France from the mid 19th century to mid 20th century. It was formed in 1887 and lasted until 1954. It comprised present-day Vietnam, Laos, and Cambodia. Laos, Cambodia, northern and central parts of Vietnam were put under indirect colonial rule, whereas the southern region of Vietnam was under direct colonial rule¹. Figure 1A presents the map of Indochina during the colonial time. Vietnam was one of a very few countries where both forms of colonial rule coexisted during roughly the same period of time; therefore, this study focuses exclusively on Vietnam.

The French initial plan was to capture Hue, the imperial capital of Vietnam located in the central region of the country, and occupy all of Vietnam in a decisive war. However, their early defeats in 1853, combined with the resistance of the Nguyen dynasty, stalled these ambitions. As a result, the French shifted their focus southward and eventually captured Saigon. In 1862, three eastern provinces of southern Vietnam were ceded to the French, followed by the cession of three western provinces in the South in 1867. Southern Vietnam, comprising six large provinces, was officially established as a French colony and named Cochinchina in 1867. A critical event that shaped the development in Cochinchina was the withdrawal of the Vietnamese mandarins in response to the French presence. There was a substantial increase in the number of officials, as more and more positions – even at a lower administrative level – were filled by Frenchmen. This drastic transformation in governance signaled a potentially meaningful shift in political and social relations.

After conquering Cochinchina, the French resumed their expansion in 1883. Further military efforts led to the establishment of protectorate status over Northern Vietnam (Tonkin) and Central Vietnam (Annam) in 1887. In general, the decision to invest in establishing direct rule was shaped by a few factors such as geopolitical importance and economic potential². Lange (2004) noted that the disease environment of the colonies and the presence of local populations also influenced the form of rule. These two forms of colonial rule differed primarily in their degree of colonial control. Direct colonial rule involved the construction of a complete system of control over the colony, lacking any indigenous components. On the other hand, under indirect colonial rule, the colonizer ruled by supervising the existing local administration, so most local institutions and practices were maintained. As protectorates, the French were responsible for representing the Vietnamese feudal state in all foreign affairs as well as the defense of territorial sovereignty (Luu and Nguyen 2023). Table 1 summarizes

¹Ha Noi and Hai Phong city, located in Northern Vietnam were two exceptions.

²In fact, because of these reasons, Hanoi and Haiphong in Tonkin were put under direct colonial rule. Hanoi was the hub for transportation to China, and Hai Phong was the largest port in the North (Luu and Nguyen 2023)

key differences between the two forms of colonial rule³.

This paper conceptualizes direct rule as a set of reforms and policies implemented by the French to exert comprehensive administrative, political, economic, and cultural control over Cochinchina. Exposure to direct rule involved living under institutions that differed substantially from the traditional feudal system and was characterized by much deeper foreign penetration⁴. In their thorough review of research examining historical legacies in Africa, [Michalopoulos and Papaioannou \(2020\)](#) note that direct/indirect classification was often blurred, and there was significant variation within each category. This makes the single-country setting of this paper an advantage for studying this aspect of colonialism. It is worth noting that this paper does not seek to evaluate the impacts of colonialism in general, as there is no credible counterfactual for what would have happened if the French had not colonized Indochina. Rather, this study aims to assess whether different colonial institutions in which the degree of foreign intervention or control varied resulted in different development trajectories. The analysis presented in this paper can not answer the question what outcomes would have been without colonialism.

I examine the implications of direct rule for development outcomes using a spatial regression discontinuity (RD) approach. The geographical boundary is the historical provincial border between Cochinchina and Annam as shown in Figure 1A. Vietnam is a narrow country with substantial geographical variation from north to south. The French initially planned to capture Hue, the imperial capital and political center of Vietnam located in the central region of the country, and occupy the entire country in a decisive war. However, due to resistance of the Nguyen dynasty, they settled for making only Cochinchina its colony. Tonkin and Annam were later recognized as French protectorates. This outcome was mostly driven by political reasons rather than economic factors. Nonetheless, potential selection bias remains a concern for causal interpretation. It is unlikely that the French simply colonized Cochinchina at random and chose not to expand the border of control. In addition, even though the country was unified and governed as a centralized state before the arrival of the French, provinces in the far south might have exhibited distinct characteristics due to their distance from Hue, the administrative and political center. Precolonial conditions likely varied between the southernmost region and other parts of the country⁵. To address these concerns, I conduct the analysis within a narrow 25km bandwidth across the historical

³Overall, while the Dutch and English regarded local conditions and incorporated local rulers to varying degrees, the French tended to impose a centralized control.

⁴The boundary used in this study corresponds to the former provincial border between southern and central Vietnam. It is different from the border at the 17th parallel during the Vietnam war period. Figure 1A and 1B present maps of Vietnam during the two periods.

⁵[Dell et al. \(2018\)](#) documented different historical states between the east and the west of Southern Vietnam in the precolonial period.

boundary⁶. I show that geographical characteristics such as average temperature, precipitation, and crop suitability do not change significantly at the border in the restricted sample. The balance test ensures that observations across the historical boundary are comparable and serve as appropriate counterfactuals.

I use data from Vietnam Household Living Standards Survey (VHLSS) for the years 2002 - 2012 to estimate the effects of exposure to direct colonial rule on present-day household consumption per capita and individual hourly wages. I find that direct colonial rule has had a positive impact on long-run economic outcomes. At the individual level, individual hourly wages are significantly higher in regions historically under direct colonial rule. At the household level, consumption is also higher in regions previously subject to direct rule. The findings are robust to a variety of specifications, different RD functional forms, alternative choices of bandwidth, and adjustments to standard error to account for spatial autocorrelation. I address several potential concerns such as selective migration and placebo borders. The divergence could stem from relatively more productive individuals moving to the more prosperous side of the border. Another concern is whether the results merely reflect underlying spatial trends rather than the causal effect of direct colonial rule. However, I find no evidence that these factors explain the observed results.

To test whether the effect was consistent throughout Vietnam's history following the end of French Indochina, I examine economic performance across the border during the Vietnam War period – approximately 15 years after the end of the French colonial empire in Indochina. For this analysis, I use data from the Hamlet Evaluation System (HES), which was conducted for all hamlets and villages in the Republic of Vietnam from 1971 to 1974. I analyze a range of outcome variables related to economic well-being and public good availability. Overall, results indicate that hamlets and villages formerly subject to direct colonial rule exhibited better economic performance than those under indirect rule.

French colonialism was largely extractive, and the conventional wisdom holds that extractive institutions lead to poor economic performance. Therefore, it is important to examine the mechanism of the positive and persistent effects in this study. My interpretation of this finding is informed by several theoretical premises. [Bisin and Verdier \(2024\)](#) present an abstract model of the interaction between institutions and culture, in which the two components can be complementary, leading to persistence in economic development, with initial conditions playing a crucial role in determining long-run equilibria. The second premise is, that while culture is persistent, it is malleable if incentives change, transforming actions and beliefs⁷.

⁶The border between different historical states in [Dell et al. \(2018\)](#) lies within the South Vietnam, whereas the border in this paper is the former provincial border between the South and the Central of Vietnam

⁷[Fernández \(2025\)](#) reviews the literature illustrating how historical experiences can shape people's beliefs.

Regarding culture, I define old cultural norms and preferences as those that hinder economic growth, and new norms and preferences as those that promote economic growth. I focus on the cultural dimension of individualism-collectivism, and risk preference since those are relevant in this historical context. Individualism-collectivism is the central cultural dimension related to long-term economic growth ([Gorodnichenko and Roland 2011](#)). Risk preference has been studied in the Global Preference Survey as an important preference influencing economic behavior. An individual can have a preference for engaging in risky activities to achieve higher economic returns or a preference for prioritizing safety and survival.

In the Vietnamese context, the traditional society was heavily influenced by Chinese statecraft. Studies by political scientists and historians show that the precolonial institutions were characterized by a high concentration of power in the hands of mandarins and local elites ([Woodside 1971](#), [Buttinger 1958](#)). Collectivism and risk aversion were the old norm and preference which prevailed in this society. These defined the initial conditions of institutions and culture in the traditional Vietnamese villages. To protect their power, the elites created incentives that discouraged change and innovation⁸, thereby forcing individuals to prioritize collective goals over personal interests and discouraging them from engaging in activities such as exploring or migrating to a new land. In short, the Vietnamese precolonial society can be characterized by the concentration of power in the hands of elites, the prevalence of collectivism as a social norm, and a general tendency toward risk aversion.

Colonialism was a major institutional shock. The complementary relationship between culture and institutions had previously led to stagnant, subsistence based economy. The key turning point was French introduction of a completely new administrative structure in Cochinchina, which dismantled the old village system. The old institutions were replaced by a colonial government in which officials were elected through voting. Development-constraining incentives established by the mandarins were eliminated, shifting norms and preferences toward individualism and entrepreneurship. The economy transitioned from subsistence-based to commercial. In addition, the study of Confucianism was less emphasized and replaced with Occident subjects. This environment fostered adaptability and risk-taking. On the contrary, indirect colonial rule in Tonkin and Annam did not make any changes at the lower administrative levels, and thus experienced a milder shock. Consequently, individuals living under direct colonial rule became more individualistic, risk-taking, entrepreneurial, and opportunity-driven than their counterparts under indirect rule. In the long run, these cultural shifts contributed to superior economic outcomes in regions formerly under direct rule.

[Acemoglu and Robinson \(2025\)](#) proposes a system approach to culture and emphasizes how fluidly different cultures can respond to conditions

⁸This idea that a small group of people resisted changes in order to protect their political power was described in [Acemoglu and Robinson \(2012\)](#)

I hypothesize that direct colonial rule shifted cultural norms from collectivism to individualism and risk preferences from risk averse toward risk taking. To test this hypothesis, I conducted an in-person survey in Vietnam across the historical provincial border. The survey was distributed in present-day Binh Thuan province, where some districts were historically under direct rule while others were under indirect rule. These two districts are located within the 25km bandwidth of the historical border. Following widely used surveys such as the *World Value Survey*, *Asian Barometer Survey*, and *Global Preference Survey*, I designed my own survey to measure a broad range of different cultural traits and preferences related to economic behaviors. I collected about 400 responses from two districts.

Regarding the individualism-collectivism dimension, I measure it using two sets of survey questions. The first one asks directly whether the individual prioritizes group goals or personal goals. The second approach draws on work-related goal questions and results from Hofstede (2001), who constructed and compared an individualism index across 80 countries. Both measures indicate that individuals residing on the direct-rule side of the border are more likely to possess individualistic cultural traits⁹. A potential concern is reverse causality. It is possible that as people become wealthier, they also become more individualistic. Using data on provincial GDP per capita and survey data from Asian Barometer, I argue that individualism-collectivism is a deep-rooted cultural trait, rather than one influenced by contemporary development.

In addition, direct colonial rule shaped risk-taking preferences that continue to influence economic growth today. A growing body of research has documented a positive relationship between risk-taking preferences and economic development (Falk et al. 2018, Chanda and Unel (2021)). I find that individuals living in the village historically under direct colonial rule are more likely to engage in risky activities in pursuit of higher economic returns.

Another possible channel is colonialism may influence post-colonial policies or institutions. Some papers provide evidence of this channel (Dell (2010), Lowes and Montero (2021a), and Iyer (2010)). I examine this mechanism by analyzing a variety of variables related to public good provision drawn from the VHLSS survey at the commune level. I find no evidence that the quality of local governance differs between the two regions today. However, this doesn't eliminate the possibility that post-colonial institutions were different in the past.

While a number of studies have emphasized the importance of institutions in shaping economic trajectories, this paper highlighted culture as a key channel in understanding economic divergences in the long run. The findings from this study carry some important policy implications. They provide evidence for how an autocratic feudal system could have a long

⁹Gorodnichenko and Roland (2011) provided empirical evidence of a causal effect of individualism on measures of long-run growth by instrumenting individualism scores with the frequencies of blood types which are neutral genetic markers and plausibly satisfy the exclusion restriction

lasting negative effect on development, especially in rural areas. In Vietnam, the implementation of the market-oriented reforms and policies to alleviate poverty have eliminated absolute poverty, and China is a similar case. However, different groups may benefit unequally from those measures. Cultural norms can influence how individuals respond to and make use of these programs, and deep-rooted restrictive norms may slow progress, especially among rural populations. Therefore, beyond policies such as redistribution or minimum wage, the government could design initiatives that target restrictive and harmful norms, helping people become more adaptive, which is crucial with the onset of globalization.

This paper contributes to several strands of literature. An important set of papers study the effects of colonialism by examining different dimensions or characteristics of this major historical event. [La Porta et al. \(1997\)](#), [La Porta et al. \(1998\)](#), [Acemoglu et al. \(2001\)](#), [Acemoglu \(2005\)](#), [Dell \(2010\)](#), and [Banerjee and Iyer \(2005\)](#) highlight the importance of domestic institutions in determining economic growth. [La Porta et al. \(1997\)](#) and [La Porta et al. \(1998\)](#) show that former colonies with a legal code based on Roman civil (France, Portugal, and Spain) had weaker investor protection than British colonies with a legal system based on common law. [Acemoglu et al. \(2001\)](#) treat institutions as a black box and categorize good versus bad institutions based on property rights. Using mortality rates as an instrument, they examine institutions across countries and find a positive link between inclusive institutions and development. Other papers focus on rubber concessions in the Congo Free State ([Lowes and Montero 2021a](#)), forced labor institutions in colonial Peru ([Dell 2010](#)), and a specific administrative rule such as land tenure system in India ([Banerjee and Iyer 2005](#)). Those papers focus on the effect of colonialism on development primarily through institutional channels.

Other dimensions of colonialism have also been examined. [Michalopoulos and Papaioannou \(2016\)](#), for instance, study the effect of ethnic partitioning during colonial time in Africa on development and conflicts. Related literature has documented the positive effects of infrastructure and investment made by colonial empires. [Huillery \(2009\)](#) examines the persistent effects of colonial public investment on current outcomes in French-speaking West Africa. In a different context – Dutch Cultivation System – [Dell and Olken \(2018\)](#) find that economic structures implemented by colonizers to create the surplus they wanted to extract can continue to promote economic activity in the long run,. A few papers examine the relationship between historical events and trust. [Nunn and Wantchekon \(2011\)](#) find a negative relationship between the number of slaves taken from the individuals ethnic group during the slave trades and reported trust in others. [Lowes and Montero \(2021a\)](#) study the effects of rubber concessions in the Congo Free State and find that local governance inside the former concessions is weaker while individuals in the concessions are more trusting and supportive of

sharing income. Their findings suggest a substitute relationship between culture and institutions. While the idea that culture norms and behaviors could affect economic performance is not new (Joel 2008, Guiso et al. 2006), there has been limited literature investigating the impact of colonialism on development via culture assimilation. My paper explores deep rooted precolonial norms¹⁰ and shows that colonial shock can affect long-run trajectories by shifting cultural norms and preferences directly related to growth.

Dell et al. (2018) examine how precolonial institutions condition long-run development in the context of Vietnam. By 1698¹¹, part of Vietnam was ruled by a strong, centralized state, while the other part of the country followed a patron-client model with more informal, personalized power relations¹². Their findings suggest that the strong, centralized historical state has led to better economic outcomes by encouraging local cooperation, which persisted long after the original institutions disappeared. My paper, on the other hand, looks at a different question and shows evidence that cultural norms can be shaped by changes in institutions.

Past work has shown evidence that indirect colonial rule was associated with poor economic performance. Lange (2004) compiled information on court cases held in 33 former British colonies in 1955 and found a negative relationship between the extent of indirect rule and a variety of measures of institutional quality and good governance. Indirect rule impeded political development through institution legacies that created a system of decentralized despotism with unaccountable leaders Mamdani (1996). Other works such as Acemoglu et al. (2014), Lowes and Montero (2021a) have shown empirical evidence supporting that idea.

This paper is closely related to the literature studying the long-term effects of different forms of colonial rule. To the best of my knowledge, existing studies addressing this question have primarily focused on India as their empirical setting. Iyer (2010) and Colleoni (2024) study the long-term impacts of British direct colonial rule compared to indirect colonial rule in India and find opposite results. By examining all British states and native states in Central India, Iyer (2010) suggest that British direct colonial rule have led to lower access to public goods such as schools and hospitals. Iyer’s proposed mechanism is that bad quality of local governance in the British states resulted in worse economic outcomes in the post colonial period. In their follow-up study, Iyer and Weir (2024) find that two decades later, these differences have been mitigated or eliminated. On the other hand, Colleoni (2024)

¹⁰Michalopoulos and Papaioannou (2020) stressed the importance of precolonial norm in determining long term growth.

¹¹French colonialism started in 1862.

¹²The border Dell et al. (2018) look at lies within the southern part of Vietnam and does not overlap with the border used in this study

looked at a smaller sample of districts and found that institutions which favored private investment in British states have positively impacted economic outcomes in the long-run. [K \(2023\)](#) examines distributional consequences of colonial institutions in India. Their finding suggests indirect rule is associated with lower educational and wealth outcomes for disadvantaged caste groups. The persistence of those differences is partly due to differential growth in credit institutions. [Chaudhary et al. \(2020\)](#) conducted a public goods game in some small towns in India and showed evidence that participants in British town are more co-operative. First, my study extends this line of research to a different empirical setting – Vietnam under French colonial rule. [La Porta et al. \(1997\)](#), and [La Porta et al. \(1998\)](#) provide evidence that the identity of the colonizer matters when examining the effects of colonialism on development. Moreover, the distinction between direct and indirect rule is often blurred, as there was significant variation within each category depending on how it was implemented. Investigating this question in different settings is important. My paper provides a detailed analysis of historical background of the pre-colonial period and how different colonial institutions were implemented in Vietnam. While most of the papers mentioned above focus on the institutional or investment channels, my paper provides evidence that different forms of colonial institutions may also shape culture, which in turn can lead to persistent effects on development.

There is growing theoretical evidence that culture responds to institutions and that understanding this process is important for understanding persistence ([Bisin and Verdier \(2024\)](#), [Acemoglu and Robinson \(2025\)](#), [Giuliano and Nunn \(2021\)](#), [Alesina and Giuliano \(2015\)](#)). On the evolution of culture, [Desmet and Wacziarg \(2020\)](#) propose a model of cultural change where the distribution of cultural traits is determined by social forces and inter-generational transmission. [Fernández \(2025\)](#) provides an excellent review on works which aim to understand cultural change. By combining survey with my historical analysis, I am able to empirically examine the cultural response to institutions.

The article is organized as follows. Section II provides historical background on the precolonial institutions, and key differences between direct and indirect colonial rule. Section III presents the main empirical framework and multiple data sources used for analysis. Section IV presents the main results in the long-run and medium-run. Section V discusses the mechanism, survey data, and survey results. Section VI concludes.

2 Historical Background

2.1 Pre-colonial period

Before the French colonization, Vietnam history was marked by periods of Chinese rule and independence. The Chinese domination lasted from 111 BC until 938 AD. During the first era of Northern domination (111 BC to 40 AD), Buddhism was introduced into Vietnam, and Confucianism was spread to Vietnam through Chinese rulers. After gaining independence, over centuries during the dynastic period spanning from the 10th to the mid 19th century, Vietnam experienced 10 major dynasties. Vietnam, then Dai Viet, adopted the general political form from the Chinese state, over time modifying it to serve Vietnamese needs. It was a centralized state under a dynastic court and uniform territorial administration. Dai Viet expanded southward, conquering areas that were subsequently organized into Vietnamese administrative villages. In 1802, Vietnam, including three regions: the northern region (Red River delta), the central region, and the southern region (Mekong River delta), was unified under the Nguyen dynasty. In the 1830s, Vietnam consisted of 31 provinces (approximately 16,000 villages), encompassing the area of present-day Vietnam. The three major cities were Hanoi, located in the North, Hue, the capital city located in the Central, and Saigon, located in the South.

Vietnamese villages essentially formed the administrative structure of the country. Village procedures were determined not only by conditions within villages, but also by the central policies at the state level. National influences on village culture were a crucial part of state-making in precolonial Vietnam. Each village might have their own customs, laws, and social orders; however, the state made efforts to homogenize local beliefs, promote Buddhism and Confucianism by controlling literacy and printings (Le and Tran 2024). Each village had a chief, a council of notables, and a ranking system or ladder for determining the social hierarchy. The council was a self-perpetuating elite body, not one that was democratically elected. Village chiefs and notables played an institutionalized role and were responsible for handling all matters within villages ranging from collecting taxes, allocating communal land, conscription, to resolving conflicts. Social relations were governed based on preexisting customs and norms, granting this small group near-absolute power within their communities. The decisions of the village council were made by unanimity, not by majority vote (Ralph Smith).

Popkin (1980) described precolonial Vietnamese villages as possessing characteristics of what Eric Wold has called a "closed corporate community". There was a strong sense of village identities with a clear boundary between insiders and outsiders. Each village was self-sufficient, and there were limited activities between villages. Outsiders were generally

not welcome, had fewer rights if any, and were in a decidedly inferior position. Thus, the discrimination between insiders and outsiders encouraged local ownership and impeded the development of powerful multivillage landed fortunes. The economy was largely village-oriented and subsistence-based.

2.2 Direct and Indirect French Colonial Rule in Vietnam

The French conquest of Vietnam was a series of military expeditions that started in 1858. The first attacks were launched in Da Nang, a city in the central Vietnam, with an intention to force the Vietnamese to surrender in a quick and decisive war. After five months of combats, French forces were unable to achieve their initial goal, so they sailed towards the South to the lower Mekong provinces and captured Saigon. Six large provinces of the South became French colony under Treaty 1862 and Treaty 1867. The colony was called Cochinchina. The withdrawal of the mandarins from those provinces following the French arrival was a critical event that shaped developments in Cochinchina (Osborne 1970). Further military efforts forced the Nguyen to establish indirect colonial rule over Tonkin (the North)¹³ and Annam (the Central) in 1884. Unlike Cochinchina, these two territories were still part of Vietnam legally and were ruled by the Nguyen dynasty. Figure 1A shows the map of Vietnam during the colonial period.

The imposition of direct rule is evident in the drastic changes in the administrative structure of Cochinchina. When Cochinchina was put under direct colonial rule, many mandarins from six southern provinces withdrew from the South of Vietnam. After much debate over whether to use French officials or utilize local officials in Cochinchina, most positions in the government were eventually run by French officials or by French supporters¹⁴. The process took a long time and there were a lots of changes proposed by different colonial governors¹⁵. The French also wiped out native initiative within smaller units, phu and huyen - comparable to communes and arrondissements. The distinction between insiders and outsiders was mitigated or eliminated in Cochinchina. Chaigneur said *"In Cochinchina, the laws make no distinction between native and stranger; and the later can travel, buy, sell, in the interior, provided he be furnished with a passport from the Ministry of Strangers; for which he pays nothing."* The organization in Tonkin and Annam did not change much, on the other hand. In theory, the Nguyen dynasty continued to rule Tonkin and Annam under French super-

¹³With an exception of Hanoi and Hai Phong, which were under direct rule.

¹⁴In Cochinchina in 1910, there were 86 high agents for a region in which England controlled with 15.

¹⁵Bonard was equally convinced of the value of indirect rule since he believed using Vietnamese officials would mean a lower expenditure. La Grandiere, Bonard's successor, pursued his own policies to ensure that all Cochinchina would be French by eliminating Vietnamese participation in the administrative process (Osborne 1970).

vision. Village autonomy remained intact, as village chiefs under indirect rule retained the absolute power to manage and control matters within their villages. The indirect rule took the form of numerous units under the supervision of the colonial governors.

Regarding legal system, Vietnamese traditional penal code was abolished and replaced with French penal code. On the other hand, very modest modifications were made regarding traditional penal code in the indirectly controlled regions Tonkin and Annam. The society in Tonkin and Annam was organized based on preexisting cultural traditions and norms, governed by both written or unwritten customary laws. To push further their assimilation approach in Cochinchina, a new education system was established and linked up to the French education system with scientific subjects instead of focusing on the teaching of Confucianism. By 1920, there were more than 50 educational institutions built in Cochinchina¹⁶. Chinese characters were abolished and much less attention was paid to the study of Confucianism. Western medicine was another area that the French made significant progress on. By 1925, medical services were 239, 139, and 76 in Cochinchina, Tonkin, and Annam respectively¹⁷. Nothing like that was achieved in Tonkin and Annam¹⁸. Thus, exposure to direct rule involved living under institutions that differed substantially from the traditional feudal system and was characterized by much deeper foreign penetration. Table 1 provides a summary of the key differences between the two regimes. All together, the French direct rule marked the end of the Vietnam's traditional social structure.

Now the frontier to the east of Bien Hoa¹⁹ marked the end of Vietnamese society operating with a mandarinal bureaucracy and owing allegiance to Hue. Once geographical unity of the South had been obtained, the way was open for accelerated social, economic, and political change. - Osborne

2.3 Aftermath

French colonial regime ended in 1954. At the 1954 Geneva Conference, Vietnam was divided along 17 parallel into two zones: the North controlled by the Viet Minh and the South controlled by the State of Vietnam. Figure 1B shows the map of the South Vietnam during this period. The interested sample of analysis of this paper lies entirely within the State of Vietnam during the Vietnam war period.

¹⁶Ennis 1936

¹⁷While some work documented negative long-term effects of French medical campaigns in Central Africa, it did not seem to be the case in Indochina. Medical innovations were the sole Western methods which did not encounter wide opposition.

¹⁸In order to compensate for the concentration up on occidental subjects, the Nguyen kingdom built the Hue School for Annamite Studies

¹⁹Bien Hoa was a Southern province that shared a border with Annam.

Table 1: Comparison between Cochinchina and Tonkin/Annam under French rule

Cochinchina	Tonkin, Annam
<p>The French had full control over over the administration at all levels</p> <p>French officials filled most governance roles</p> <p>Activities within a village were linked to the central admin.</p> <p>French penal code</p> <p>French educational system prof. and technical schools</p>	<p>The French ruled through local rulers</p> <p>Provinces continued to be administered by the mandarins</p> <p>Village autonomy</p> <p>Vietnamese traditional code with few modifications</p> <p>Under native management Oriental subjects</p>

Source: [Osborne \(1970\)](#), [Popkin \(1980\)](#), ?, ?

Figure 1A: Colonial Period

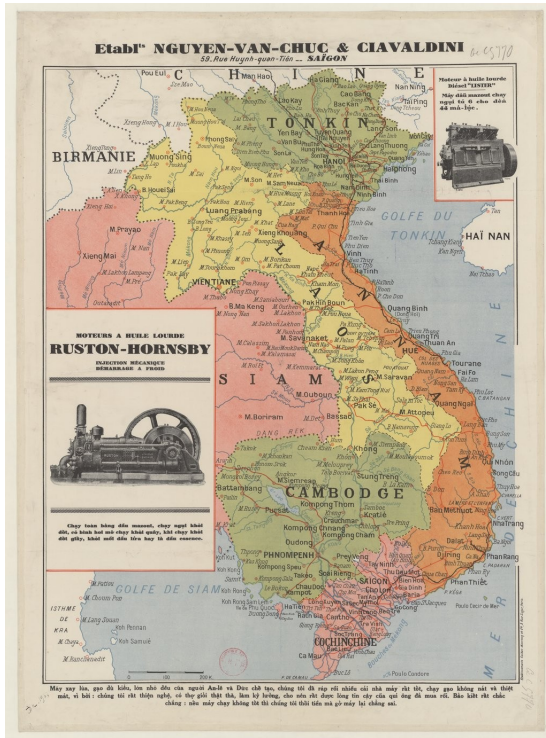


Figure 1B: South Vietnam Period

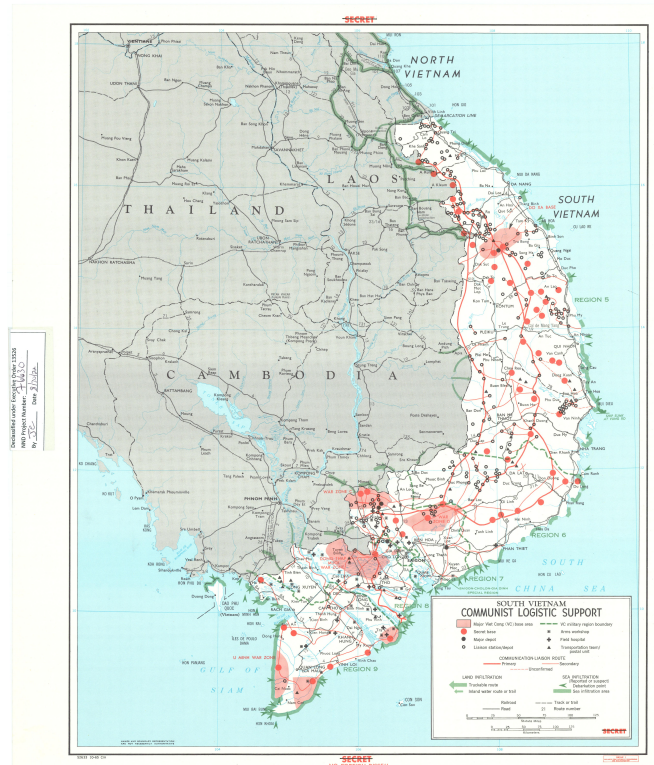


Figure 1: Maps of Vietnam

Source: France National Archives, US National Archives and Records Administration. Cochinchina and the southern part of Annam were under the same institutions during the Vietnam war period.

3 Empirical Strategy and Data

3.1 Empirical Strategy

This study exploits the discontinuous change in exposure to the direct colonial rule, comparing individuals, households, and villages in areas historically under direct colonial rule and areas historically under indirect colonial rule within 25km of the historical boundary. The border forms a multi-dimensional discontinuity in longitude-latitude space. The basic regression takes the form below

$$Outcome_i = \alpha + \gamma Direct_i + f(\text{geographical location}_i) + seg_i + \beta X_i + \epsilon_i$$

where out_i is the outcome variables of interest in village i , and $Direct_i$ is an indicator equal to

1 if the village was previously under direct colonial rule, 0 otherwise. $f(\text{geographical location}_i)$ is the RD polynomial, which controls for smooth functions of geographical location. For my baseline analysis, I use local linear RD polynomial in distance to the boundary. The seg_i splits the boundary into five segments and is equal to 1 if village i is closest to segment s , and 0 otherwise. The boundary segment fixed effects ensure that the specification is comparing villages across the same segment of the boundary. All specifications include years fixed effects. My baseline specification doesn't include control variables as they are not required for RD identification. However, I present regression results with control variables as well. For regressions at the household level, I also include a vector of demographic variables giving the number of infants, children, and adults in the household. For regressions at the individual level, I control for gender, age, age squared, and years of schooling. For regressions at the hamlet level, I control for population growth. I check robustness using different forms of RD polynomial and bandwidth choices.

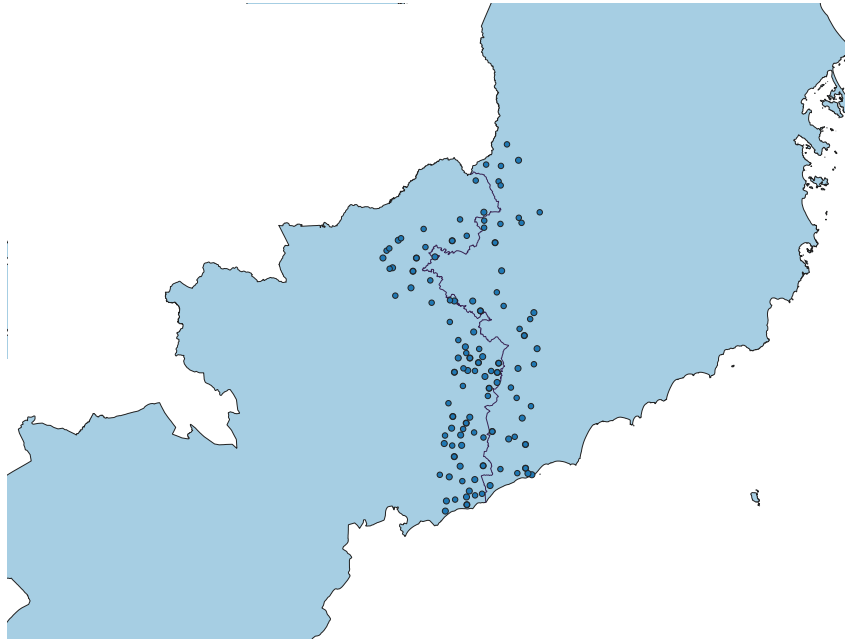


Figure 2: Historical Border

Note:The border is the historical provincial border between Cochinchina and Annam. Cochinchina is on the left of the border while Annam was on the right of the border. Each dot corresponds to a commune, an administrative unit, where Vietnam Household Living Standards Survey was conducted from 2002 to 2012. I describe the survey in section 3.

3.2 RD Identification

Section 2.2 provides historical evidence that the French’s initial plan was to put the entire Vietnam under direct colonial rule. The final division between Cochinchina and Annam was likely the result of multiple interrelated factors. To ensure that observations across the border are appropriate counterfactuals, identification of the treatment effect requires that all relevant factors beside the treatment vary smoothly at the border, that is potential outcomes are continuous at the discontinuity threshold. Ideally, we would examine economic characteristics before the colonial period. However, no systematic data were collected. Instead, I examine a variety of geographical characteristics and suitability for some crops, which were plausibly the most relevant characteristics given the agrarian nature of the society at that time. Table 2 presents RD estimates for those outcomes using regressions of the form described in equation (1). The unit of analysis is communes within 25km of the boundary. Column (1) to (4) examine slope, elevation, average temperature, and precipitation respectively. The point estimates on *Direct* are small relative to the mean and statistically insignificant. The suitability for certain crops provide a good measure for economic potential between the two regions, as agricultural advantages were one of the main targets of French exploitation. Column (5) to (8) show the point estimates for rice, tea, coffee, and sugar suitability respectively. They are continuous across the boundary.

Table 2: Balance Checks

	Dependent variable is:								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Slope	Elev.	Temp.	Precip.	Rice Suit.	Tea Suit.	Coffee Suit.	Sugar Suit.	Bombing Freq.
Direct	-1.475 (1.50)	-23.213 (27.32)	0.117 (0.16)	-0.303 (1.93)	-0.619 (1.12)	-4.263 (2.31)	-2.066 (1.59)	0.230 (1.27)	-0.10 (0.08)
Observations	166	166	166	166	166	166	166	166	138
Mean	8.55	248.35	25.04	177.20	11.88	13.99	16.63	17.74	0.39
Bandwidth	25	25	25	25	25	25	25	25	25

Notes: All regressions include a linear RD polynomial in latitude and longitude, a control for distance to Ho Chi Minh City, and boundary segment FE. Robust standard errors are reported in parentheses.

The second assumption is that there is no selective migration across the boundary when direct colonial rule was established. If capable households or individuals migrated to the directly controlled area because they saw better opportunities, it would lead to a larger

indirect effect. The interpretation of the effect would also be different. There is no data available to quantify the magnitude of migration during that period. However, to address this concern, I perform an exercise to check the sensitivity of the results under different scenarios from 1% to 10% migration. I explain it in more detail in the subsection 4.3. In short, selective migration is unlikely to explain the full effects.

3.3 Data

3.3.1 Contemporary Data

To examine the long-run effects of direct colonial rule on economic outcomes, I use the biennial Vietnam Household Living Standards Survey (VHLSS). The survey was conducted every other year from 2002 to 2012 by the General Statistics Office of Vietnam with technical support from the World Bank. The survey aims to monitor systematically the living standard of Vietnam's societies. Survey sample was selected based on the Population and Housing Census 1999. In each year, the sample size included a large number of households representative of the whole country, urban and rural area and 64 provinces. The survey sample was divided into two sub-samples: one group was surveyed on income and the other group was surveyed on income and expenditures. Table 3 provides summary statistics for each survey year. The last column shows the statistics taken from Census 2009. In general, the survey sample is representative.

At the household level, the primary outcome variable is the log of consumption per capita. Following [Dell et al. \(2018\)](#), I subtract transfers received from total consumption to construct a measure of consumption that reflects productive capacity. I assume that children ages 0 to 4 are equal to 0.4 adults, and children aged 5 to 14 are equal to 0.5 adults (Deaton 1997).

At the individual level, I construct the primary outcome variable, the log of individual hourly wages, using responses for the following questions: *"In the past 12 months, how much did you receive from this work in money and in kind?"*, *"For how many months in the past 12 months did you do this work?"*, *"During these months, how many days did you usually work per week?"*, *"During these days, how many hours did you usually work per day?"*.

3.3.2 South Vietnam Period

I use data from Hamlet Evaluation System (HES) stored at the National Archives. A hamlet is a cluster of dwellings within a village, typically surrounded by fields. HES was collected jointly by the United States and the South Vietnam between 1970 to 1974 at the hamlet level. HES contains information on economic, social, political, and security conditions in

all South Vietnamese hamlets, with data collected on a quarterly basis²⁰. The data provide unusually rich local level information covering a broad set of variables.

Table 3: Demographic Statistics

	2002	2004	2006	2008	2010	2012	Census 2009
Male	0.495 (0.001)	0.495 (0.002)	0.490 (0.003)	0.492 (0.003)	0.491 (0.003)	0.492 (0.003)	0.491 (0.000)
Age	28.573 (0.054)	29.884 (0.100)	30.977 (0.103)	31.784 (0.106)	31.227 (0.107)	32.231 (0.109)	29.776 (0.005)
Years of Schooling	6.824 (0.013)	7.141 (0.024)	7.286 (0.024)	7.475 (0.024)	7.538 (0.024)	7.654 (0.024)	7.804 (0.001)
Number of household members	4.483 (0.010)	4.401 (0.018)	4.252 (0.018)	4.163 (0.017)	3.937 (0.016)	3.900 (0.016)	4.583 (0.000)
Migration							0.048 (0.000)
<i>N</i>	161916	49626	48260	47442	46414	46054	14177590

4 The Effects of Direct Colonial Rule on Development

4.1 Contemporary Development Outcomes

To examine the long-run effects of French direct colonial rule, I use VHLSS data from 2002 to 2012 to analyze household consumption and individual hourly wages. The outcome variables are described in section 3.3.1.

Table 4 reports estimates for specification 1 with the log of household consumption per capita in Panel A, and log of individual hourly wages in Panel B. Overall, Panel (A) shows that household consumption per capita is about more than 20% higher in areas historically under direct colonial rule. Column (1) shows the point estimate for the baseline specification using RD polynomial in distance to the boundary without any control variables. Since observations on the direct side of the border are closer to Ho Chi Minh City, the financial and economic capital of Vietnam, it is possible that households consume more because they live closer to the urban areas. I control for distance to Ho Chi Minh city in column (2), and the estimate remains very similar and significant. Column (3) includes some demographic controls such as the number of adults, kids, and babies in each household. Column (4), (5)

²⁰See Appendix X for specific questions used for analysis and how I recoded answers

and (6) report corresponding point estimates using an alternative RD functional form, local linear RD polynomial in longitude latitude.

Table 4, Panel (B) likewise reports the same specifications for the log of individual hourly wages. Only individuals who are over 18 and work for salary or wages are included in this analysis. Column (3) and (6) control for age, age squared, gender, and years of education. Overall, hourly wages of individuals living in villages previously under direct rule ear are about 30% higher than those of their counterparts. Using RD polynomial in longitude latitude and adding demographic control decrease the estimate to 25% but it remains economically and statistically significant. For each outcome variable, I report standard errors clustered at the commune level as well as standard errors adjusted for spatial autocorrelation.

Table 4: Contemporary Outcomes

	Polynomial in Distance			Polynomial in Lat-Lon		
	(1) Baseline	(2) Dist. to HCM city	(3) Demographics Controls	(4) Baseline	(5) Dist. to HCM City	(6) Demographics Controls
Panel A: Log of Household Consumption per capita						
Direct	0.234** (0.095)	0.243*** (0.094)	0.232** (0.095)	0.201*** (0.075)	0.223*** (0.084)	0.200*** (0.075)
Spatial SE	(0.046)	(0.037)	(0.045)	(0.075)	(0.070)	(0.071)
N Households	1438	1438	1438	1438	1438	1438
Clusters	133	133	133	133	133	133
Panel B: Log of Individual Hourly Wage						
Direct	0.416** (0.177)	0.416** (0.175)	0.317** (0.140)	0.353** (0.144)	0.345** (0.163)	0.253** (0.115)
Spatial SE	(0.142)	(0.167)	(0.160)	(0.170)	(0.193)	(0.157)
N Individuals	1000	1000	1000	1000	1000	1000
Clusters	118	118	118	118	118	118
Bandwidth	25	25	25	25	25	25

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: The unit of analysis is the household (Panel A), and the individual (Panel B). Outcome measured between 2002-2012. All regressions include a linear RD polynomial in distance to the boundary (column (1) to (3)) or latitude longitude (column (4) to (6)), and boundary segment FE. Robust standard errors, clustered at the commune level, are reported in parentheses. Standard errors adjusted for spatial autocorrelation are reported.

The results for two main outcome variables described above could be seen graphically in Figure 3. Subfigure 3a shows a spatial RD plot for the household outcome while subfigure

3b displays for the individual outcome. These are three-dimensional RD graphs with each villages longitude on the x-axis, its latitude on the y-axis. The outcome values are shown using a monochromatic color scale. Light colors indicate higher values whereas dark colors indicate lower values. The plots show residuals after years fixed effects have been partialled out. The background shows predicted values, for a finely spaced grid of longitude-latitude coordinates, from a regression for the outcome under consideration using equation 1. Both panel (a) and (b) illustrate the predicted jumps across the boundary.

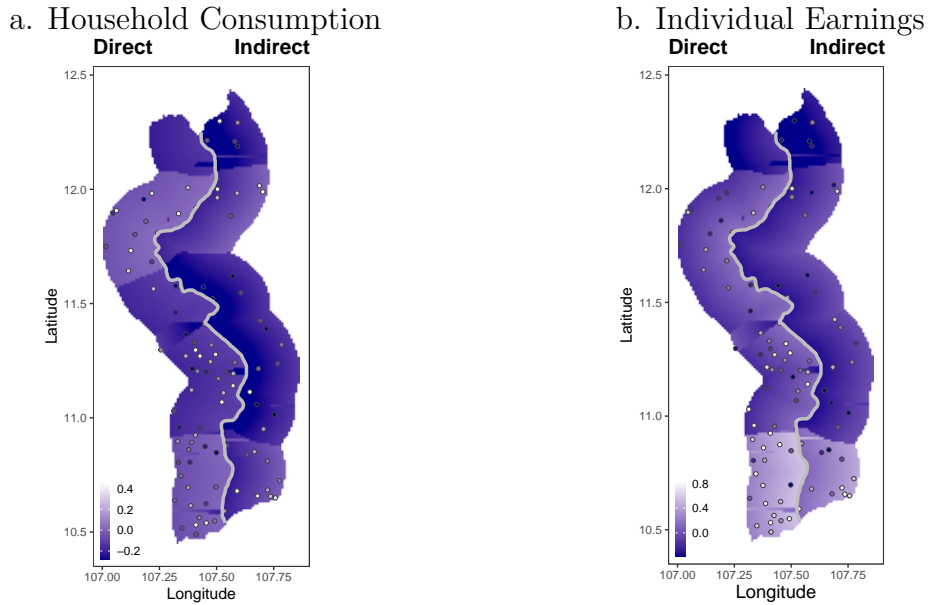


Figure 3: RD Plots

Notes:Longitude is on the x-axis, latitude is on the y-axis, and the data value is shown using an evenly-spaced monochromatic color scale. The background 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 addition, Figure 4 presents standard RD plots for my main outcomes of interest, with distance to the boundary as the running variable and a local linear trend to each side of the discontinuity. Distance to the border on the direct side of the border is positive while distance to the border on the indirect side is negative. We observe a discontinuity at the border.

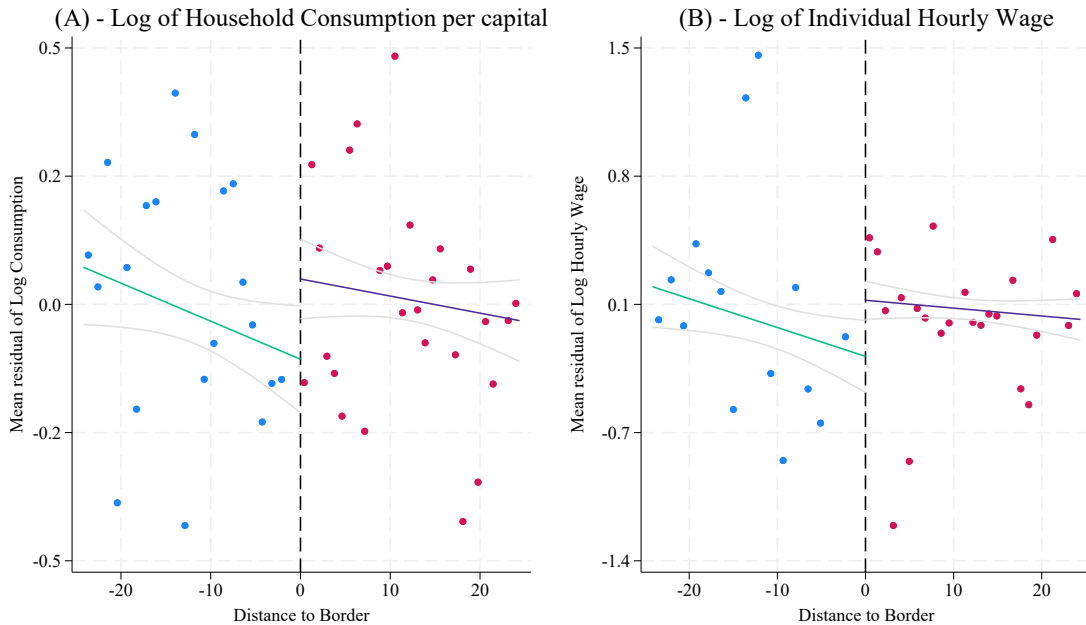


Figure 4: RD Graphs

Note:The figure presents RD plots for our main outcomes and the mean value of each outcome variable at each 1 km bin along the running variable (distance to concession border) as well as with a local linear trend estimated separately on each side of the discontinuity

4.2 Robustness Checks and Sensitivity

In this subsection, I present results of some robustness and sensitivity checks.

First, I test if the effects are robust to different choices of RD polynomial and bandwidth. In section 4.1, I show that the effects of direct rule remain economically and statistically significant with local linear RD polynomial in latitude longitude. Figure 5 shows the point estimates for a range of different bandwidths using the baseline specification and local linear RD polynomial in distance to the boundary. The effect is strong within narrow bandwidths and starts decreasing and becoming insignificant as bandwidth increases, which indicates a local treatment effect near the border. At larger bandwidths, differences in regional structure, adaptation, or spillover may make the effect fade away. *Later: Appendix discussion: as we expand the bandwidth large enough, we start to see positive effect again. However, as geographical characteristics and economic potentials (tourism, plantations, etc) vary a lot from the north to the South of Vietnam, the effect may reflect different mechanism, not the true local treatment discontinuity effect.

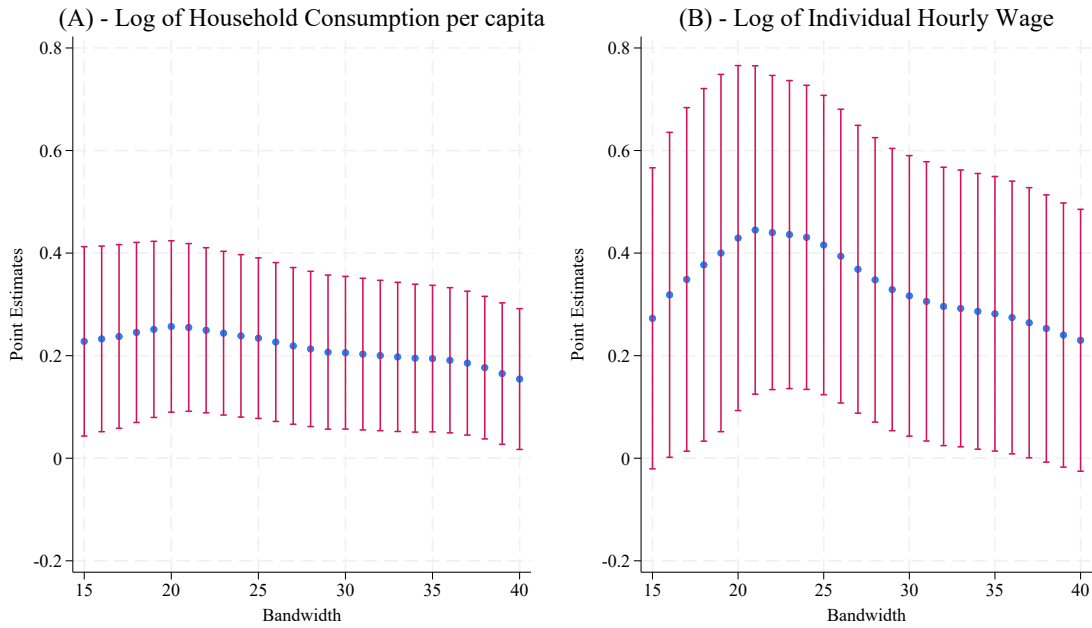


Figure 5: Bandwidth Choices

Note: Each subfigure plots the point estimates of γ (vertical axis) from equation (1) for different bandwidth values between 15-40 kilometers in 1 km increments (horizontal axis). Panel (A) shows the point estimates for the household outcome. Panel (B) shows the point estimates for the individual outcome.

Second, I use nightlight intensity as an alternative outcome variable to assess economic development across the two regions. A number of research has used nightlights as a measure of development since it has been shown to be correlated well with GDP (Henderson et al. 2012). I used data from U.S. Air Force Defense Meteorological Satellite Program obtained from the National Geophysical Data Center. The nightlight datasets are provided as satellite imagery in raster format, where pixel values correspond to the intensity of observed nighttime luminosity. For my analysis, I use nightlight data from 2002 to 2012, which overlaps with the period of VHLSS. Table 5 shows results for the average pixel values at the commune level as the dependent variable. I use local linear RD polynomial in distance to the border and in longitude latitude. Column (1) and (3) present estimates for the baseline while column (2) and (4) add control for distance to Ho Chi Minh city. Overall, point estimates indicate higher nightlight intensity on the side previously under direct colonial rule.

Table 5: Nightlight Intensity

	Polynomial in Distance		Polynomial in Lat-Lon	
	(1) Baseline	(2) SG	(3) Baseline	(4) SG
Direct	1.621*** (0.484)	1.619*** (0.484)	2.585*** (0.382)	2.360*** (0.395)
Observations	984	984	984	984
Mean of Dep. Var	3.73	4.05	3.73	3.73
Bandwidth	25	25	25	25

Notes:The unit of analysis is communes. Nightlight data from 2002 to 2012 is taken from the National Geophysical Data Center. Values of the outcome variable range from 0 to 63. Column (1) and (2) use local linear RD polynomial in distance to the boundary. Column (3) and (4) use local linear RD polynomial in longitude latitude. Column (2) and (4) control for distance to Ho Chi Minh city.

As another additional robustness check, I shift the border to the left and to the right as depicted in Figure 6. The border is shifted enough so that both the treated and control groups are located within regions under the same historical institutions. The left border compares the treated and control groups under direct colonial rule, whereas the right border compares the treated and control groups under indirect colonial rule. Figure 6 plots coefficients of interest for original border and the shifted borders. Subfigure 6A shows the placebo estimates and confidence intervals for the log of household consumption per capita, and subfigure 6B shows results for the log of individual hourly wages. For both dependent variables, the point estimates decrease by a lot and become insignificant. Overall, there is no evidence of discontinuity at any placebo borders.

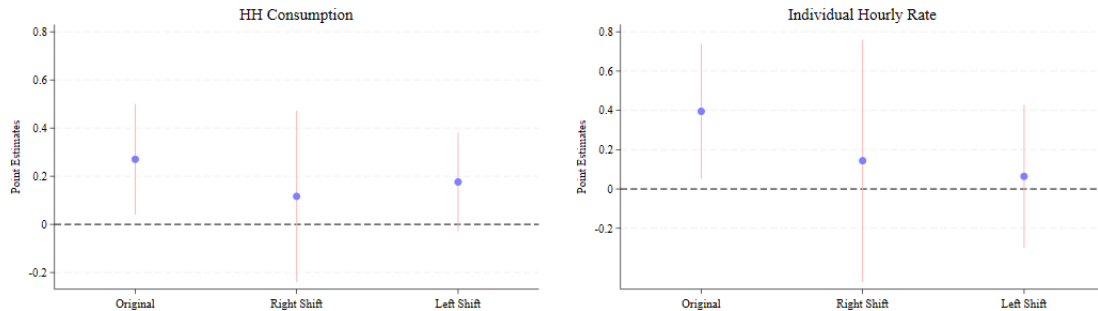


Figure 6: Placebo Borders

Notes: Panel (A) shows the point estimates with confidence intervals using the log of household consumption per capita as the outcome variable. Panel (B) shows the point estimates with confidence intervals using the log of individual hourly wages as the outcome variable. Each subfigure shows three point estimates using the following borders as the treatment variable respectively: the original border between Cochinchina and Annam, right-shifted border located within Annam, left-shifted border located within Cochinchina. All regressions use local linear RD polynomial in distance to the boundary.

An important concern is whether selective migration today maybe responsible for living standards differences across the boundary. If the most capable households or individuals migrated to the direct side of the border, it would lead to a larger indirect effect and the interpretation of the results would be different. Unfortunately, the VHLSS data doesn't allow me to identify households or individuals who migrated. According to Census 2009, the migration rate in Vietnam was less than 5%. Additionally, existing literature has documented the lack of selective migration in developing countries (Bazzi et al. 2016). So this is unlikely to pose a concern in this context. However, I perform a trimming exercise with the VHLSS data to examine whether selective migration might be responsible for the differences in development outcomes. I present the results if I trim the top 1% to 10% of the most well-off households or individuals residing on the direct side of the border. Figure 7A shows estimates for the log of household consumption per capita as the outcome variable, whereas Figure 7B shows estimates for the log of individual hourly wage as the outcome variable. Overall, the effects remain similar across different scenarios.

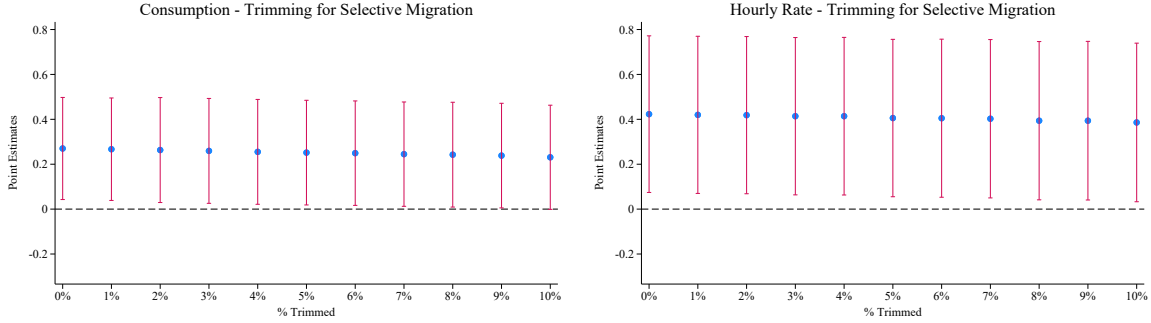


Figure 7: Trimmed Migration

Notes: We trim our sample by dropping the top $x\%$ of observations on the direct side of the border then estimate our main specification for each dependent variable. Standard errors are clustered at the commune level. Figure plots 95% confidence intervals.

4.3 South Vietnam Economic Outcomes

A common concern with persistence studies is "the compression of history", which refers to the situation when one set of historical causal variables is regressed on a set of future outcomes without knowing what happened in the intermediate periods. Fortunately, thanks to the availability of data, we are able to examine the economic effects of direct colonial rule following independence, when the region was governed by the non-communist state of South Vietnam.

I examine a set of variables which measure living standards in each hamlet and village. Table 6 reports RD estimates for different economic outcome variables using linear local polynomial in distance to the boundary²¹. Column (1) and (2) show results for questions on the percentage of households who owned a TV, and a motorized vehicle respectively. The estimates suggest that there was a higher percentage of households which owned durable goods in hamlets previously under direct rule. Column (3) presents results for question whether or not households in each hamlet required assistance to subsist. Households on the direct side of the border were less likely to require assistance. At the village level, column (4), (5), and (6) examine the following dummy variables as outcome variables: the availability of food surplus, the availability of food varieties (other than rice), and the availability of manufacturing goods. Results indicate that villages historically under direct rule had greater availability of food varieties and manufacturing goods.

²¹Appendix X: Specifications using local polynomial in longitude and latitude returns similar point estimates.

Table 6: Economic Outcomes

	Dependent variable is					
	(1)	(2)	(3)	(4)	(5)	(6)
	% HH Own TV	% HH Own Vehicle	Households Require Assist.	Surplus Goods Avail.	Food Variety Avail.	Manuf. Goods Avail.
Direct	0.035*** (0.009)	0.088*** (0.027)	-0.136* (0.070)	-0.099 (0.209)	0.359* (0.192)	0.422** (0.174)
SE Spatial Auto.	0.011	0.041	0.077	0.128	0.115	0.089
Obs	3,396	3,398	3,382	519	514	514

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Column (1) to (3) are hamlet outcomes. Column (4) to (6) are village outcomes. All regressions include a linear RD polynomial in distance to the boundary, a control for distance to Ho Chi Minh City, and boundary segment fixed effects. Standard errors at the hamlet level are reported in parenthesis.

Table 7 examines a set of variables related to public good provision. Estimates in column (1) and (2) suggest that villages on the direct side were more likely to have primary schools and secondary schools located within hamlets and villages. Column (3) indicates that students living on the direct side of the border were more likely to attend secondary school. Column (4) to (6) present results using medical public goods as outcome variables. In general, villages historically under direct colonial rule were more likely to have access to maternity clinics, hospitals, and western medicine.

Table 7: Public Goods

	Dependent variable is					
	(1)	(2)	(3)	(4)	(5)	(6)
	Prim. School Access	Second. School Access	Second. School Attend.	Maternity Clinic Access	Hospital Access	Western Medicine Access
Direct	0.337** (0.142)	0.690** (0.311)	0.193*** (0.048)	0.778** (0.273)	0.295 (0.240)	0.380*** (0.125)
SE Spatial Auto.	0.087	0.107	0.017	0.097	0.089	0.071
Obs	3,439	521	521	517	517	519

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Column (1) is a hamlet outcome. Column (2) to (6) are village outcomes. All regressions include a linear RD polynomial in distance to the boundary, a control for distance to Ho Chi Minh City, and boundary segment fixed effects. Standard errors at the hamlet level are reported in parenthesis.

5 Mechanisms and Survey Data

My analysis has documented a lasting positive effect of French direct colonial rule in Vietnam compared to indirect rule. French colonialism was largely extractive, and the conventional wisdom is extractive institutions lead to negative development outcomes. It is important to unpack the underlying mechanism of this counterexample. I hypothesize that under direct colonial rule, the absence of the traditional administrative structure gave rise to certain cultural norms and preferences associated with long-run economic growth.

5.1 Conceptual Framework

My interpretation of the long lasting positive effect is informed by recent theoretical literature on the importance of the interaction of institutions and culture in explaining development outcomes²². Bisin and Verdier (2024) present an abstract model in which culture and institutions co-evolve, and the joint impact depends on whether culture and institutions are

²²Bisin and Verdier (2024), Bisin and Verdier (2000), Besley and Persson (2022), Tabellini (2008), Aghion et al. (2010)

complements or substitutes. Additionally, initial conditions play a crucial role as differences at the start can lead to very different outcomes in the long run.

In the context of traditional Vietnamese society, the subsistence economy can be explained as an outcome of the complementarity of the old institutions and cultural norms. In this society, there are two political groups: elites and peasants. As I described in section 2, the old institutions were characterized by the near-absolute political power in the hands of the elites. They possessed the authority to manage all social relations within their villages, which were largely governed by preexisting norms and customs. The oriental codes were general in nature, allowing local officials wide interpretation (Ennis 1936). Within each village, an elite council was a self-perpetuating elite body, not one that was elected democratically²³.

Regarding culture, peasants are the culturally heterogeneous group. Peasants hold different cultural norms and preferences which may either hinder or foster economic growth. I will refer to those norms and preferences as old versus new norms and preferences. In this specific context, I define the cultural trait as collectivism (old norm) and individualism (new norm). [Gorodnichenko and Roland \(2011\)](#) show that individualism-collectivism is a central dimension of culture that matters for long-run growth and provide empirical evidence of the powerful effect of individualism on long-run growth. I focus on this cultural dimension because it is relevant in this context as well. Collectivism was present in close-knit family, village, and lineage groups, all organized around Confucian norms that fostered group responsibility and social cohesion. Many historical sources have identified collectivism as a deep rooted and prevailing trait in the Vietnamese traditional society ([Le 2014](#), [Nguyen 2016](#), [Pham 2003](#)). Additionally, I examine the differences in risk preference. In their recent paper, [Falk et al. \(2018\)](#) present the Global Preference Survey (GPS), a survey data examining risk preference from 80,000 people in 76 countries. They show that risk taking is significantly and positively correlated with the number of scientific articles per capita and total factor productivity. [Chanda and Unel \(2021\)](#) provide an empirical evidence that risk taking increases probability of being an entrepreneur, and that it is robust to individualism, trust, patience, and other determinants of development. In the context of this paper, risk preference could be described as choosing between a preference for engaging in risky activities to achieve higher economic returns (new) or a preference for prioritizing security and ensuring survival at the subsistence level (old). [Scott \(1976\)](#) portrayed the old Vietnamese society as a moral community in which survival and subsistence-ethics were emphasized rather than pure economic or market rationality. In short, the Vietnamese precolonial society can be characterized by the concentration of power in the hands of elites, the prevalence of collectivism as a social

²³If there were vacant seats, the council itself selected replacements. At a higher level, mandarins could be appointed by the emperor after passing rigorous service exams, recommended by existing mandarins, or appointed based on family merit ([Ngo 2006](#)).

norm, and a general tendency toward risk aversion.

To maintain absolutism, the old institutions sought to suppress changes and innovation as it could endanger their political power²⁴. The elites did so by creating institutions and incentives that strengthened the old collectivism norm and risk-averse preference described above. The Vietnamese legal code enforced the collectivist values and loyalty through harsh punishment as noted by Admiral Bonard:

[The traditional code] had as its aim to terrify, by fear of the gravest punishment, all those who it appeared could cause the slightest damage to the absolute authority of the king, then his family and relatives, to the power of husband over his wife and children, of the master over his slaves, and of the mandarins over their subordinates and those whom administered
- Admiral Bonard

The traditional legal code strengthened the power of the elites, and the corporate nature of the village made it possible for the elites to use collective punishment to enforce order (Woodside 1971). Another example is the law governing the obedience of children. Under Annamite law, parents could imprison children for any lack of respect or misconduct. In addition, the old institutions deterred villagers from exploring the outside world, migrating to different places, or having any interactions with people outside of their villages. An outsider was generally not welcomed, had fewer rights if any, and had to bear a heavier tax burden (Popkin 1980). Villagers were deterred from acquiring new land or moving to a different village even if they saw a better economic opportunity. In short, the old institutions shaped the collectivistic culture and risk-averse preference. In fact, many historical anecdotes showed critical view of the mandarins

*The mandarins are philosophers, men of genius, heroes,
And they consider us as grass and wood,
But they are more capable of beating us with well-applied canes
than of conquering the French
We are like birds
Which place themselves with security on great trees,
but who mistrust those who only offer them a precarious retreat*

To safeguard their interests within their villages, the peasants had no choice but to cooperate. The interaction of institutions and culture can be described as follows: the greater the political power of the elites, the larger the share of people adhering to traditional collectivistic norms and risk-averse preferences. The prevalence of collectivistic culture and risk-aversion,

²⁴Chapter 7: The Turning point (Acemoglu and Robinson 2012) discuss the fear of creative destruction. Technological innovation increases living standards, but also involves the destruction of economic privileges and political power of certain people

in turn, reinforced the power of the elites. The complementary relationship of institutions and culture led to persistent economic under-performance. As a result of the model by [Bisin and Verdier \(2024\)](#), the economy may escape this "extraction basin" if there is a high enough share of individuals with new norm and preference (when the initial institutions delegate most power to the elites) or if there is enough power in the hands of villagers (when the old norm and preference are prevalent). In this specific context, the initial conditions - marked by the near-absolute power of the elites and a large share of population possessing the old norm and preference - resulted in poor development in equilibrium.

Colonialism was an institutional shock. As I described in section 2, direct colonial rule dismantled the traditional village structure. Local mandarins fled to the north upon the arrival of the French. The colonial empire also reorganized administrative structure of Cochinchina in many ways. While I am not convinced that Vietnamese individuals had much political power in Cochinchina, I think the village order in which mandarins had absolute power no longer existed. This can be seen by the fact that elections took place at multiple administrative level in every province in Cochinchina²⁵. There was no longer strict rule that barred individuals from acquiring uncultivated land or moving to a different village. In Cochinchina, the traditional code was abolished, and French penal code was implemented. In other words, direct colonial rule eliminated those incentives for the old norm and preference by dismantling the old system. In this case, culture could change quickly ([Fernández \(2025\)](#)). New cultural norm and preference associated with economic growth arose: individualism and risk taking preference, which have led to long-run economic growth.

... the colonial regime usurped the right of the village council to conduct the census and make up the tax rolls. With one stroke of the pen it broke through the traditional anonymity of the villages and shattered their collective responsibility. - Fitzgerald (Fitzgerald)

On the other hand, indirect rule made some changes only at the highest level of administration, creating a much milder shock if any²⁶. Each village remained a separate market with an elaborate system of internal rankings and collective resistance to outside influences.

5.2 Data Collection

I have hypothesized the differences in culture induced by direct colonial rule as the main channel of persistence. I test this hypothesis by conducting an in-person survey at two

²⁵Evidence of the France National Archives. According to some historical sources, election was introduced in Annam and Tonkin much later. However, it is unclear how it was implemented and enforced

²⁶[Popkin \(1980\)](#) noted that in Tonkin and Annam, the notables within each village turned French policies to their own advantage, sometimes at the collective expense of the village.

districts across the historical border.

I collaborated with local officials to recruit villagers for the survey in two districts in Binh Thuan province. The survey measures a wide range of different cultural traits and preferences. The survey includes the following sections²⁷

- Demographic information: this section asks for demographic information of respondents such as gender, age, education, religion, and migration history
- Individualism versus collectivism: Following Hofstede (2001), the survey includes work goal questions to examine in which district individualism prevails. Individualism Index is strongly related to the mean importance attached in a country to personal time, high earnings, and personal achievement.
- Willingness to take risk: To elicit risk preferences, I follow quantitative questions in the Global Preference Survey.
- Long versus short term orientation: Eastern culture tends to be more long term oriented while western culture tends to be more short term oriented. Hofstede (2001) computed long-term orientation index values for more than 20 countries using different sources. Some Asian countries with high index values are China (118), Hong Kong (96), Japan (80), and South Korea (75). Some Western countries with low values are the United States (29), Great Britain (25), Canada (23), and France (39). This section examines whether individuals living in the district previously under direct colonial rule exhibit a greater short-term orientation or a closer alignment with Western cultural values. The questions in this section follow the design of the Global Preference Survey.
- I also include questions to measure other cultural traits such as trust and civic cooperation.

5.3 Cultural Norms and Preferences

5.3.1 Individualism-Collectivism

First, I found that individuals residing in the district previously under direct rule are more likely to exhibit individualistic culture. In figure X, the histograms display the distribution of responses for the question whether they agree or disagree with the following statement: *"We should sacrifice our individual interest for the sake of the group's collective interest."* for each district. In the former directly controlled district, survey respondents overwhelmingly disagreed with the statement, reflecting a strong sense of individualism. Diff. p-value

²⁷See Appendix for the full survey

corresponding to the test of the null hypothesis of equality in means between the direct and indirect regions suggests that the mean difference is statistically significant.

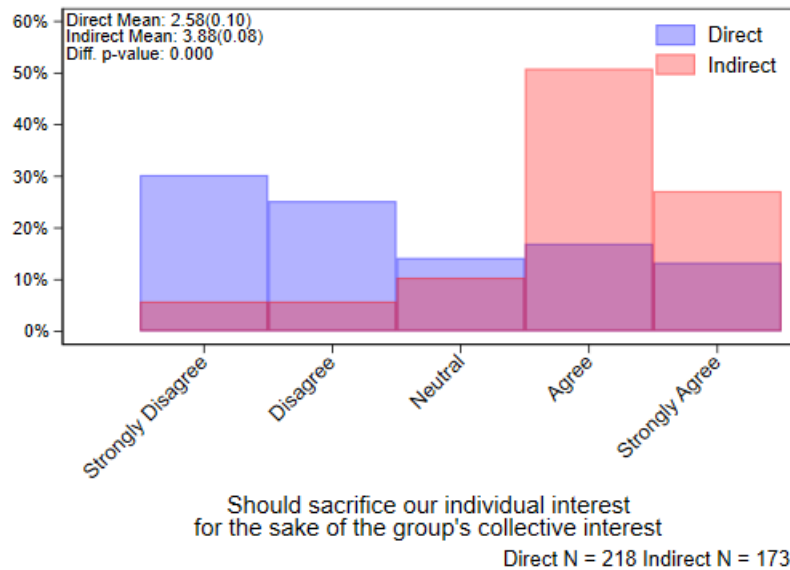


Figure 8: Collectivism - Individualism

Notes:The histograms show the distribution of the responses of the question "Do you agree or disagree with the following statement: We should sacrifice our individual interest for the sake of the group's collective interest.". Diff. p-value corresponds to the test of the null hypothesis of equality in means between respondents in direct and indirect districts. Standard errors shown in parentheses.

In addition to the above question, I also constructed an individualism index following Hofstede (2001) framework. To construct individualism index, Hofstede (2001) asked 14 work goal questions and applied a different weight for each question. The individualism score measures the extent to which it is believed that individuals are supposed to take care of themselves as opposed to being strongly integrated and loyal to a cohesive group. In some Western countries, individualism index tend to be higher. For instance: the individualism index value for the U.S is 91, Great Britain 89, Netherlands 80, and France 71. Among 50 countries included in Hofstede's analysis, France was ranked 10th. Some Asian countries with low individualism index values are Taiwan (17), South Korea (18), and Thailand (20)²⁸. To construct a similar index of this cultural dimension, I followed Hofstede and asked five work goal questions²⁹ in my survey. The questions are as follows: *How important is it to you to:*

²⁸Vietnam is not on the list

²⁹I asked five questions due to time constraint. My choices of the five questions were based on finding

(1) have a job which leaves you sufficient time for your personal life. (2) have an opportunity for high earnings. (3) have challenging work to do - work from which you can get a personal sense of accomplishment (4) work with people who cooperate well with one another. (5) have considerable freedom to adopt your own approach to the job. I normalize the answers on the scale of 0 to 100 and compare the means of two districts³⁰. Figure 9 shows that individualism index is significantly higher in the direct district. While those individualism indices are not comparable to Hofstede's index, my results suggest that individuals living in the district previously under direct colonial rule have a stronger sense of individualism, which may lead to long-term economic growth.



Figure 9: Individualism Index

Notes:The individualism index in each district is calculated by normalizing respondents' answers on the scale from 0 to 100. Answer choices range from (1) Very not important to (4) Very important. Diff. p-value corresponds to the test of the null hypothesis of equality in means between respondents in direct and indirect districts.

A potential concern is reverse causality. To address this concern, [Gorodnichenko and Roland \(2011\)](#) instrumented individualism scores with the frequencies of blood types which are neutral genetic markers³¹. While it has been documented in some studies that individualism leads to economic growth, it remains a concern that countries, individuals might become individualistic as they get richer. Economic development may affect individualism

from [Hofstede \(2001\)](#) that individualism is positively correlated with freedom, achievement, earning, and advancement, while it is negatively correlated with cooperation and harmony.

³⁰Hofstede normalized the answer and also added different weights for different questions. I am not aware of the weights he used, so my index should not be compared with his index

³¹[Kyriacou \(2016\)](#)

via a few channels. First, economic growth can improve education, which can lead to cultural shifts. Table X shows there is no evidence that education achievement is significantly different across the border. Additionally, individualism index remains significantly higher in the village formerly under direct colonial rule when adding a control for years of schooling. Second hypothesis is that as an individual gets richer, they are less likely to rely on collective support from, and become more individualistic. Third hypothesis is economic development leads to urbanization and in-migration, which in turn weakens traditional communal bonds. As people move, kinship-based long-term relationships are replaced with impersonal, professional, and individual networks. Thus, urbanization could foster individualism. Overall, if these are the case, I would expect to see a higher individualism index in areas with high development and urbanization rate³².

Vietnam consists of six major regions: the Northern Midlands and Mountain area, the Red River Delta, the Central Coast, the Central Highlands, the Southeast, and the Mekong River Delta. Figure 10 shows the GDP per capita of Vietnam by provinces in 2021³³. Lighter shades indicate lower GDP per capita, and darker shades correspond to higher GDP per capita. As we can see from the map, the Southeast and the Red River Delta are the regions with highest development³⁴. The Southeast region leads the country in GDP per capita due to some factors such as robust industrialization, a developed service sector, major foreign direct investment. The Red River Delta has remained Vietnam second-most dynamic hub for business development. Hanoi is the political and economic hub of Vietnam. Provinces in the Red River Delta are major hubs for electronics, and high-tech manufacturing, and maritime economic hubs.

Using data from the Asianbarometer, I compare the average individualism score across region³⁵. The survey question used is as follows: *In a group, we should sacrifice our individual interest for the sake of the group?* - (1) *Strongly agree* (2) *Somewhat agree* (3) *Somewhat disagree* (4) *Strongly disagree*. I recoded the answers so that higher values correspond to a more individualistic culture. Individualism score of each region is the mean of all the answers for this question. Plot A presents individual scores with confidence intervals by regions. Some remarks regarding development and individualistic culture are:

- A large part of the modern day Southeast region and the Mekong River Delta region were under direct colonial rule (Cochinchina) during colonial period. The Southeast

³²Urbanization and migration rate are taken from the report Migration and Urbanization in Vietnam from 2014 Viet Nam Intercensal Population and Housing Survey by the General Statistics Office of Vietnam

³³Data was taken from the General Statistics Office of Vietnam. 2021 is the most recent year for which the data is available

³⁴Hanoi is located in the Red River Delta, while Ho Chi Minh city is located in the Southeast region

³⁵Data for location is only available at the region level

region is the most urbanized region with the highest in-migration rate. The individualism scores of the Mekong River Delta and the Southwest regions are not statistically different, despite the large gap in GDP per capita.

- Modern day Red River Delta, the Northern Midlands and Mountain regions, and Central regions were under indirect colonial rule (Tonkin and Annam). Individualism score of Red River Delta and the Northern Midlands and Mountain regions are similarly low, despite the large gap in GDP per capita.
- The Central Highlands has abundant natural resources and thriving rubber and coffee plantations, so this region has the second-highest in-migration rate (even though the rate is much lower than that of the Southeast region). Its individualism score is as low as other regions in the North.
- Individualism scores vary significantly between the South and the rest of the country.

Overall, evidence suggests that individualism-collectivism culture is a deep rooted cultural trait, rather than influenced by development.

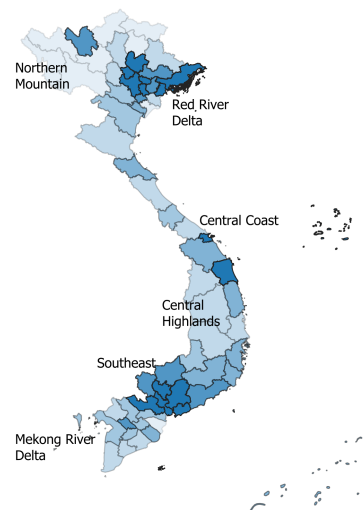


Figure 10: GDP per capita by Provinces

Notes: GDP per capita is taken from the General Statistics Office of Vietnam. Lighter shade indicates lower GDP per capita.

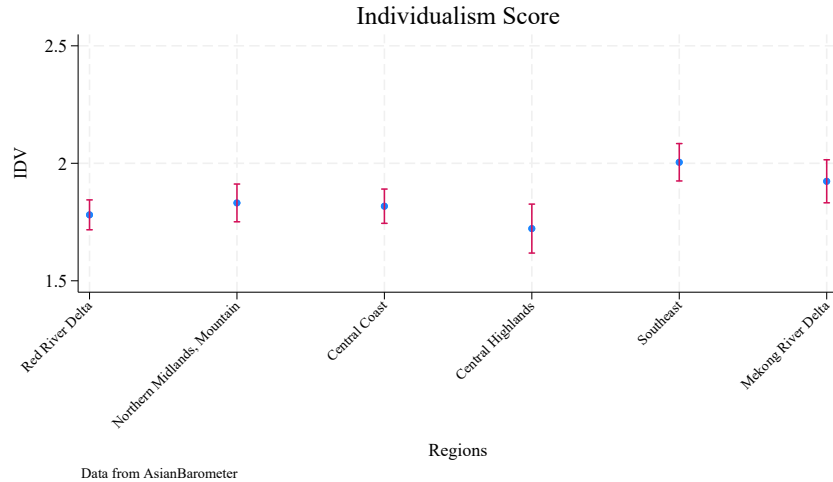


Figure 11: Individualism Score by Region

Notes: Data is taken from Asian Barometer. The individualism score ranges from 1 to 4, where 1 indicates the lowest level of individualism and 4 indicates the highest.

5.3.2 Risk Preference

Generally, risk preference has been less studied as a cultural trait³⁶. However, recently a few papers have studied risk preference as a related trait. Wu and Zhong (2022) examine the importance of culture in shaping risk perception. In particular, they find that participants from countries with a more individualistic culture perceive lower risk. Diez-Esteban et al. (2019), and Frijns et al. (2022) analyze the effects of national culture on corporate risk taking and find a positive relationship between individualism and risk taking. Risk preference has been shown to be systematically associated with economic behaviors Falk et al. (2018). They show that risk taking is significantly and positively correlated with the number of scientific articles per capita and total factor productivity. Liu and Zuo 2019 provide evidence that risk preference may be malleable in response to new environment .

I examine whether the willingness to take risk to achieve higher economic returns is higher in district previously under direct colonial rule. I ask respondents *Please imagine the following situation. You can choose between a sure payment of 160,000 VND, or a draw, where you would have an equal chance of getting amount 600,000 VND or getting nothing.* The percentage of individuals who want to take the risk to get a higher reward is significantly

³⁶Some common cultural traits include generalized trust, individualism versus collectivism, family ties, generalized morality, attitude toward work and the perception of poverty, power distance, uncertainty avoidance, long versus short term orientation, masculinity and femininity (Alesina and Giuliano 2015, Hofstede 2001)

higher in former directly controlled district. Figure 12 shows the relative frequency of survey respondents who would choose to take risk for a better outcome. Overall, this shows that individuals living in the district historically under indirect rule have a preference for prioritizing security while their counterparts have a preference for engaging in risky activities to achieve better economic outcomes.

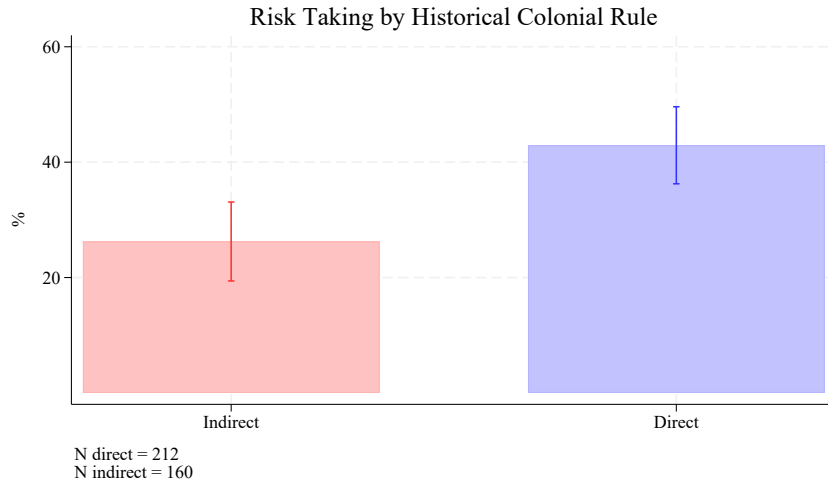


Figure 12: Risk Preference

A set of papers studied how risk preference is endogenously affected by past experience. [Malmendier and Nagel \(2011\)](#) investigate the relationship between individual experience of macroeconomic shocks and risk taking preferences. They found that individuals who have experienced low stock market returns throughout their lives so far report lower willingness to take financial risk. Since the bandwidth I use for the analysis is very small, I do not expect individuals living across the historical border to experience different shocks. However, I address this issue by controlling for age and conducting the analysis on different sub-samples. The point estimates remain similar with a control for age. There were two important unfortunate events after the colonial period: the Vietnam war and the 2008 financial crisis. I examine the following sub-samples: people who were born after the Vietnam war (column 2), and people who were younger than 18 years old in 2008 (column 3). I assume that individuals in the second sub-sample share similar past experiences without any major negative events, any differences in their risk-taking preferences are likely to reflect deep-rooted culture rather than the influence of past experiences. In both sub-samples, the point estimates remain economically and statistically significant.

Table 8: Risk-taking Preferences

	Risk taking (0/1)		
	(1)	(2)	(3)
	All sample	Younger than 50	Younger than 35
Direct	0.134** (0.05)	0.138** (0.06)	0.209** (0.09)
Observations	363	317	128
Mean	0.36	0.37	0.41
Demo. Controls	Yes	Yes	Yes

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: Respondents were asked to choose between two choices: a sure payment of 160,000VND, or a draw, where they would have an equal chance of getting amount 600,000VND or getting nothing. Column (1) presents the point estimate for the whole sample. Column (2) presents the point estimate for people who were born after the Vietnam War. Column (3) presents the point estimate for people who were younger than 18 when the 2008 financial crisis happened.

5.3.3 Other cultural traits

The Appendix presents results of different cultural traits and preferences: family ties, and patience (long versus short term orientation). Overall, individuals from the village formerly under direct French colonial rule exhibit cultural traits and preferences more closely aligned with Western values.

5.4 Local Governance

The importance of colonialism in influencing post-colonial institutions and policies has been highlighted in a number of papers (Iyer 2010, Banerjee and Iyer 2005). In their follow-up paper, Iyer and Weir (2024) found that some of the differences have been eliminated, indicating that the impact of colonial institutions can eventually fade away. To test this hypothesis, I use data from VHLSS at the commune level. I examine a set of variables related to public good provision as a measure of the quality of local governance. Table 9, col

(1) to (3) presents the results for outcome variables: whether there was a market, school, and post office located within the communes. Column (4) uses number of infrastructure projects going on as the dependent variable. For column (5) and (6), outcomes are the percentage of residential and agricultural land to which official certificates were given. Overall, results indicate that there is no difference between the two regions regarding public good provision during the contemporary period. Local governance is unlikely to explain the divergences in development in the long-run. However, it doesn't eliminate the possibility that local governance was different in the past. Even though my findings and Iyer's point in opposite directions regarding the effect of colonial institutions, they may be consistent in terms of the persistence of these effects.

Table 9: Contemporary Local Governance

	Infrastructure				Land Certificate	
	(1) Market	(2) School	(3) Post Office	(4) No. projects	(5) Agr. Land	(6) Res. Land
Direct	-0.055 (0.14)	-0.089 (0.16)	-0.272* (0.16)	0.175 (0.88)	-1.825 (6.77)	-3.717 (6.19)
Observations	218	218	218	218	205	207
Polynomial	Dist.	Dist.	Dist.	Dist.	Dist.	Dist.
Mean	0.43	0.62	0.33	6.43	76.88	78.25

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Notes: The unit of analysis is the village. Outcomes measured between 2002-2012. All columns include segment fixed effects, a control for distance to Ho Chi Minh city, and linear polynomial in distance to the boundary. Robust standard errors, clustered at the district level, are reported in parentheses.

5.5 Discussion of Results

This study highlights the key role of the interaction between institutions and culture in determining economic development. Why did an economy end up with low development equilibrium? Why were inefficient norms and preferences that could hurt economic growth prevailing?. Culture and institutions may reinforce each other, leading to persistence. Results from this study again imply the lasting inefficiency of authoritarian regime. Colonialism was

definitely one of the most important historical events, and its effects were not uniform. Depending on how colonial institutions were implemented, it could have a lasting effect on today institutions and shift norms and preferences, which can affect economic trajectories. Existing literature has examined the link between colonialism and prosocial norms such as trust (Lowe and Montero 2021a, Chaudhary et al. 2020). This paper provides evidence that this historical event may have contributed to the erosion of social norms that are linked to poverty.

Vietnam and China are the two examples of autocratic states that went from centrally planned economy to a market-oriented economy. Even though absolute poverty has been eliminated (Zhang 2021, OECD 2025), the urban - rural disparity remains significant. Clearly people benefit unequally from the reforms. Alleviation programs and policies such as minimum wage, redistribution, and infrastructure improvement have been proposed by economists and policy makers. But culture may influence greatly how individuals respond to, and thus benefit from those programs. The finding of this study suggests a more sustainable and long-term solution: shaping norms and preferences. It can be done by creating incentives which encourage innovations and entrepreneurship.

6 Conclusion

In this paper, I evaluated the long-term economic impacts of living under different structures of colonial control. Direct and indirect colonial rule were different ideologies that colonizers used to manage different population of their colonies. In theory, the two forms differed in the degree of foreign intervention. Direct rule attempted to establish a complete system of control while with indirect colonial rule, the colonizers governed by supervising the existing local administration. However, the binary direct/indirect colonial rule classification is often blurred as there was significant variation within each category. It is important to integrate history and quantitative analysis while evaluating the impacts of the two forms of colonial institutions. Examining the context of Vietnam under the French colonialism, I found that direct colonial control has led to positive economic growth in the long run compared to indirect colonial control. Colonial annexation policy was indeed very selective and tended to focus on regions with economic potentials. In order to address that concern, I utilized the spatial RD approach comparing observations within a narrow bandwidth of the historical boundary. The analysis is carried out at different levels and points in time. Overall, results indicate that French direct colonial rule has a positive impact on long-term development.

My interpretation of this positive effect is informed by the literature on the interplay between institutions and culture. I hypothesize that different forms of colonial institutions

shaped culture traits and preferences associated with economic growth. The old feudal autocratic institutions granted the elites absolute power, which fostered collectivistic cultural norms and risk averse preferences. This complementary relationship between cultural traits and institutions kept the economy at the subsistence level. Direct colonial rule broke into the old village structure. By exerting a complete administrative, political, and cultural control over Cochinchina, direct colonial institutions shifted the prevailing cultural trait from collectivism to individualism, and risk preference from risk averse to risk taking. By combining history, statistical analysis, and survey, I show that different forms of colonial institutions can have a long-lasting effect on contemporary development by shaping cultural traits and preferences directly related to economic growth. This paper provides evidence that while culture is persistent, it can change if incentives change. This could be a promising direction for future research to study the political economy of culture change, and to identify winners and losers of such shifts, which may carry important policy implications.

References

- Acemoglu, D. (2005). Politics and economics in weak and strong states. *Journal of Monetary Economics* 52(7), 1199–1226. Political economy and macroeconomics.
- Acemoglu, D., S. Johnson, and J. Robinson (2005). Institutions as a fundamental cause of long-run growth. *1, Part A*, 385–472.
- Acemoglu, D., S. Johnson, and J. A. Robinson (2001). The colonial origins of comparative development: An empirical investigation. *American Economic Review* 91(5), 1369–1401.
- Acemoglu, D., T. Reed, and J. A. Robinson (2014). Chiefs: Economic development and elite control of civil society in sierra leone. *Journal of Political Economy* 122(2), 319–368.
- Acemoglu, D. and J. A. Robinson (2012). *Why nations fail: the origins of power, prosperity, and poverty*. Crown Publishers.
- Acemoglu, D. and J. A. Robinson (2025, June). Culture, institutions, and social equilibria: A framework. *Journal of Economic Literature* 63(2), 637–692.
- Aghion, P., Y. Algan, P. Cahuc, and A. Shleifer (2010). Regulation and distrust. *The Quarterly Journal of Economics* 125(3), 1015–1049.
- Alesina, A. and P. Giuliano (2015, December). Culture and institutions. *Journal of Economic Literature* 53(4), 898–944.
- Banerjee, A. and L. Iyer (2005). History, Institutions and Economic Performance: The Legacy of Colonial Land Tenure Systems in India. *American Economic Review* 95(4), 1190–1213.
- Bazzi, S., A. Gaduh, A. D. Rothenberg, and M. Wong (2016, September). Skill transferability, migration, and development: Evidence from population resettlement in indonesia. *American Economic Review* 106(9), 2658–698.
- Bergeron, A. (2025). From kin to creed: Missions and the reconfiguration of social and moral order in colonial congo. *Working Paper*.
- Besley, T. and T. Persson (2022, 10). Organizational dynamics: culture, design, and performance. *The Journal of Law, Economics, and Organization* 40(2), 394–415.
- Bisin, A. and T. Verdier (2000). A model of cultural transmission, voting and political ideology. *European Journal of Political Economy* 16(1), 5–29.

- Bisin, A. and T. Verdier (2024). On the joint evolution of culture and political institutions: Elites and civil society. *Journal of Political Economy* 123, 1485–1564.
- Chanda, A. and B. Unel (2021). Do attitudes toward risk taking affect entrepreneurship? evidence from second-generation americans. *Journal of Economic Growth* 26(4), pp. 385–413.
- Chaudhary, L., J. Rubin, S. Iyer, and A. Shrivastava (2020). Culture and colonial legacy: Evidence from public goods games. *Journal of Economic Behavior Organization* 173, 107–129.
- Colleoni, M. (2024). The long-term welfare effects of colonial institutions: Evidence from Central India. *Journal of Development Economics* 166, 103170.
- Dell, M. (2010). THE PERSISTENT EFFECTS OF PERU'S MINING MITA. *Econometrica* 78(6), 1863–1903.
- Dell, M., N. Lane, and P. Querubin (2018). The historical state, local collective action, and economic development in vietnam. *Econometrica* 86(6), 2083–2121.
- Dell, M. and B. Olken (2018). The Development Effects of the Extractive Colonial Economy: The Dutch Cultivation System in Java. *Review of Economic Studies* 87(1), 164–203.
- Desmet, K. and R. Wacziarg (2020, 12). The cultural divide. *The Economic Journal* 131(637), 2058–2088.
- Diez-Esteban, J. M., J. B. Farinha, and C. D. Garcia-Gomez (2019, March). How does national culture affect corporate risk-taking? *Eurasian Business Review* 9(1), 49–68.
- Falk, A., A. Becker, T. Dohmen, B. Enke, D. Huffman, and U. Sunde (2018, 05). Global evidence on economic preferences*. *The Quarterly Journal of Economics* 133(4), 1645–1692.
- Fernández, R. (2025, July). Understanding cultural change. Working Paper 34077, National Bureau of Economic Research.
- Fitzgerald, F. Fire in the lake: The vietnamese and the americans in vietnam. pp. 54.
- Frijns, B., F. Hubers, D. Kim, T.-Y. Roh, and Y. Xu (2022). National culture and corporate risk-taking around the world. *Global Finance Journal* 52.

- Giuliano, P. and N. Nunn (2021). Understanding cultural persistence and change [cultural assimilation during the age of mass migration]. *The Review of Economic Studies* 88(4), 1541–1581.
- Gorodnichenko, Y. and G. Roland (2011). Which Dimensions of Culture Matter for Long-Run Growth? *American Economic Review* 101(3), 492–98.
- Guiso, L., P. Sapienza, and L. Zingales (2006). Does Culture Affect Economic Outcomes? *Journal of Economic Perspectives* 20(2), 23–48.
- Henderson, J. V., A. Storeygard, and D. N. Weil (2012, April). Measuring economic growth from outer space. *American Economic Review* 102(2), 994–1028.
- Hofstede, G. (2001). *Culture’s Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Sage Publications.
- Huillery, E. (2009). Colonialism and Development in the Former French West Africa: The Long-Term Impact of the Colonial Public Investments. *American Economic Journal: Applied Economics* 1(2), 176–215.
- Iyer, L. (2010). Direct versus Indirect Colonial Rule in India: Long-term Consequences. *The Review of Economics and Statistics* 92(4), 693–713.
- Iyer, L. and C. Weir (2024). The Colonial Legacy in India: How Persistent are the Effects of Historical Institutions? *IZA Discussion Paper* (17051).
- Joel, M. (2008). The institutional origins of the industrial revolution. In E. Helpman (Ed.), *Institutions and Economic Performance*, Harvard University Press, 64–119.
- K, V. (2023). Indirect rule and the unequal burden of persistence: Evidence from hyderabad. *SSRN*.
- Kyriacou, A. P. (2016). Individualism–collectivism, governance and economic development. *European Journal of Political Economy* 42, 91–104.
- La Porta, R., F. Lopez-de Silanes, A. Shleifer, and R. Vishny (1997). Legal determinants of external finance. *Journal Finance* 52, 1131–1150.
- La Porta, R., F. Lopez-de Silanes, A. Shleifer, and R. Vishny (1998). Law and finance. *Journal of Political Economy* 106, 1113–1155.
- Lange, M. K. (2004). British Colonial Legacies and Political Development. *World Development* 32(6), 905–922.

- Le, D. S. and T. D. Tran (2024). Rites for/of power: Research on the harmony of three teachings in vietnam during the former ll (ll sb) dynasty (1428â1527). *The Russian Journal of Vietnamese Studies* 8(1), 81–93.
- Le, V. (2014). Reconizing traditional collective identity for improving the quality of learning in vietnamese higher education. *International Journal of Research In Social Sciences* 4(8).
- Lowes, S. and E. Montero (2021a, 05). Concessions, violence, and indirect rule: Evidence from the congo free state*. *The Quarterly Journal of Economics* 136(4), 2047–2091.
- Lowes, S. and E. Montero (2021b, April). The legacy of colonial medicine in central africa. *American Economic Review* 111(4), 1284â1314.
- Malmendier, U. and S. Nagel (2011, 02). Depression babies: Do macroeconomic experiences affect risk taking?*. *The Quarterly Journal of Economics* 126(1), 373–416.
- Mamdani, M. (1996). Citizen and subject. *Princeton, NJ: Princeton University Press..*
- Michalopoulos, S. and E. Papaioannou (2016, July). The long-run effects of the scramble for africa. *American Economic Review* 106(7), 1802â48.
- Michalopoulos, S. and E. Papaioannou (2020, March). Historical legacies and african development. *Journal of Economic Literature* 58(1), 53â128.
- Ngo, S. L. (2006). Dai viet su ky toan thu. *Hanoi: Social Science Pulishing House.*
- Nguyen, Q. T. N. (2016). The vietnamese values system: A blend of oriental, western and socialist values. *International Education Studies* 9.
- Nunn, N. and L. Wantchekon (2011, December). The slave trade and the origins of mistrust in africa. *American Economic Review* 101(7), 3221â52.
- Osborne, M. E. (1970). Milton e. osborne: The french presence in cochinchina and cambodia: rule and response (1859â1905). *Cornell University Press, Bulletin of the School of Oriental and African Studies* 33(3), 676â677.
- Pham, M. H. (2003). Dialectics of national value and the world values: The case of vietnam. *Review of Human Research* 5.
- Popkin, S. (1980). The rational peasant: The political economy of peasant society. *Theory and Society* 9(3), 411–471.

- Scott, J. C. (1976). *The moral economy of the peasant: Rebellion and subsistence in southeast asia*. *New Haven: Yale University Press*..
- Tabellini, G. (2008, 08). The scope of cooperation: Values and incentives*. *The Quarterly Journal of Economics* 123(3), 905–950.
- Woodside, A. B. (1971). *Vietnam and the Chinese Model: A Comparative Study of Vietnamese and Chinese Government in the First Half of the Nineteenth Century* (1 ed.), Volume 140. Harvard University Asia Center.
- Wu, Z. and S. Zhong (2022). Individualism collectivism and risk perception around the world. *SSRN Electronic Journal* 177.
- Zhang, J. (2021, December). A survey on income inequality in china. *Journal of Economic Literature* 59(4), 1191â1239.