Religion and Conflict: Evidence from China, 1860–1911

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Abstract

This paper examines the economic origins and consequences of religious conflicts in the context of late Qing China (1860–1911). While the literature has attributed the anti-missionary violence to the cultural clash between Confucianism and Christianity, we show that the missionaries' economic contributions to China through treaty ports and public goods provision—rather than the strength of Confucianism—significantly attenuated Chinese anti-missionary movements. We then assess the short and medium-term impacts of the anti-missionary episode on China's economic development. We find that these conflicts discouraged Western merchants from investing in China, evidenced by fewer modern banks and industrial firms. This negative effect also spilled over to Chinese domestic economic growth until 1930. The consequences persisted to the present time with conservatism toward international trade and fewer foreign investments in regions with more historical religious conflicts.

Keywords: Religion, Conflict, Economics Development, Historical China

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1. Introduction

Religion is one of the most deep-rooted cultural beliefs in human societies. While it can provide solace and meaning to one's life, it also has the potential to generate conflict, dividing the world into in-groups and out-groups, entailing significant economic costs. In this paper, we seek the economic origins of religious conflicts and their impact on development. To answer this question, we focus on one of the largest events of anti-Christian violence in history, the Boxer rebellion of 1900 and the surrounding broader anti-missionary events. Despite its historical importance, we have little evidence for its root causes and economic consequences.

The conflictual relationship between China and the West dates to at least the First Opium War (1839-1842) against Great Britain. After *Treaty of Tientsin* in 1860 granted missionaries access to preach across China's interior, a series of targeted anti-missionary incidents arose, spanning from 1860 to 1911. These episodes included both anti-missionary conflicts and pamphlets, with the Boxer Uprising of 1900 standing as the most notable instance of resistance against Western missionaries. We examine competing theories on the role of religious competition and economic complementarities in these conflicts, finding evidence for the latter, in line with Voigtlaender and Voth (2012), Jha (2013), and Becker and Pascali (2019). In the short and medium term, we document the persistent negative economic costs of anti-missionary violence on early industrialization and financial development in China. These effects further extend into contemporary times, fostering mistrust toward foreigners, promoting more conservative economic attitudes, and dampening foreign investment flows.

Our first contribution is to construct a novel panel data set from over 50 years of archival data on the distribution of anti-missionary movements across the 269 prefectures in China proper. Our primary measure is the number of anti-missionary cases arising from conflicts and disputes between local Chinese and Christian missionaries (and their Chinese converts), digitized from the Archives of Missionary Affairs and Cases recorded by the Qing Dynasty's Ministry of Foreign Affairs between 1860 and 1911. In addition, we manually compiled the number of anti-Christian pamphlets and prints from Wang's (1984) collection as a supplementary measure. While the two measures are potentially correlated, the pamphlets can add important information on anti-missionary sentiment, especially in cases where it did not escalate to violence.

In the first part of the paper, we investigate two competing hypotheses about anti-missionary movements, informed by the historical and historiographical literature. One hypothesis emphasizes religious competition, particularly the influence of traditional Confucian elites. The second one focuses on economic complementarities, especially the role of treaty ports established after the First Opium War in 1842. In our empirical analysis, we find no significant relationship between episodes of anti-missionary violence and the prevalence of Confucianism; rather, we find that treaty ports played a crucial role in diminishing anti-missionary movements. Furthermore, missions that provided public goods such as schools, charities, printing presses and hospitals also attenuated conflict, confirming the role of economic complementarities.

In the second part of the paper, we turn to the consequences of anti-missionary conflicts in the short and medium term. Using data on foreign and domestic investments from 1870 to 1930, we find that regions experiencing higher levels of anti-missionary conflict subsequently saw slower foreign investment growth in both industrial firms and banks. This chilling effect also extended to domestic establishments that were following Western models. In terms of magnitudes, one more anti-missionary case led to a 6 per cent decrease in foreign investment to industrial firms and banks per semi-decade. The negative impact for domestic investments was of about 4 per cent for industrial firms and 11 per cent for banks. We interpret these effects as a negative spillover from foreign investment to domestic establishments, impeding early industrialization and financial development in China.

In the longer term, we observe enduring economic and cultural legacy of historical anti-missionary conflicts. To examine this, we utilize data on foreign investment from 1990 to 2020, alongside survey data on cultural beliefs from 2009. Our findings indicate that regions with a history of anti-missionary incidents experience significantly lower levels of foreign investment, an effect particularly pronounced during the early stages of China's economic liberalization. The results are robust to measuring anti-missionary conflicts at both the extensive and intensive margins. In terms of current attitudes, residents in these areas are also more inclined to support "restricting imports to protect domestic economies" and exhibit lower levels of trust towards foreigners. The patterns in differential beliefs persist even after controlling for historical factors, such as missionary duration, treaty port presence, Confucianism, and foreign investment levels, along with a full set of individual characteristics. In the interactive specifications, we find that the presence and extent of treaty ports mitigate these

conservative economic attitudes, consistent with the findings in the first part of the paper.

We employ different econometric strategies for identification. On the determinants of anti-missionary violence, we control for the missionary distribution across prefectures before testing its interaction with local Confucian elites. This identifies the effect of religious competition net of the endogenous selection of missionary sites. To identify the effect of economic complementarity, we use a Propensity Score Matching algorithm to locate areas comparable to treaty ports. We match prefectures based on their proximity to the coast and navigable rivers, terrain ruggedness, population density, longitude, latitude, whether they are a provincial capital or not, and years of missionary presence. The results from the matched sample align with those of the main sample: specifically, the interaction between missionary entry and treaty ports is negative and significant for anti-missionary incidents, while the interaction with Confucian elites remains insignificant. Additionally, we perform a randomization inference exercise in the spirit of Dell and Olken (2020), in which we randomly select counterfactual treaty port prefectures and assign them opening years that preserve the structure of the actual treaty port prefectures. Through 2,000 random draws from samples with geographic and economic characteristics similar to treaty port prefectures, we find that counterfactual treaty ports show minimal association with anti-missionary movements.

To examine the short- and medium-term consequences, we apply a difference-in-discontinuities design, leveraging the establishment of the Mutual Defense Pact of the Southeastern Provinces during the Boxer rebellion in 1900. This compact was privately agreed between the provincial governors of southeastern China and the Western powers to preserve peace, forming a boundary defending the southeastern provinces from being attacked by the Boxers. We find no significant pre-trends in the number of foreign banks and firms before the Boxer Uprising. However, after 1900, the series begin to diverge: in areas protected by the compact, the number of foreign banks and firms grows relative to those in regions without such protection. In our empirical estimates, we find a negative impact of the Boxer rebellion after 1901 on the growth of foreign industrial firms and banks, as well as on domestic enterprises. We continue to find such effects even as we limit the sample to the more homogenous North China Plain—the cradle of the Boxers—or to the bandwidth of 150 to 200 kilometers that covers all the neighboring prefectures along the boundary dividing the Boxer and the peaceful regions.

For the long-term legacy of the historical conflicts, we similarly employ a spatial regression discontinuity (RD) approach along the boundary to verify patterns of investment.

The literature on the economic impact of missions is now vast, so we point the reader towards recent surveys for Africa, Asia, and Latin America (e.g., Valencia Caicedo, 2019; Becker, Rubin, and Woessmann, 2021). The first wave of papers looked at the direct impact of missions on religiosity (Nunn, 2010) as well as the political role of these religious institutions in promoting liberal democracies (Woodberry, 2012). A second wave focused on the human capital externalities of religious missions (Cagé and Rueda, 2016; Waldinger, 2017; Valencia Caicedo, 2019; Ma, 2021; Calvi, Hoehn-Velasco, and Mantovanelli, 2022). These impacts have also expanded the definition of human capital to include health outcomes in developing countries (Calvi and Mantovanelli, 2018; Cagé and Rueda 2019). Still, almost nothing is known about the reaction to missions, especially in a non-Western context (e.g., Saleh and Tirole, 2021). Our finding on the importance of economic complementarity in fostering religious tolerance aligns with Jha's (2013) study, which shows that trade reduced Hindu-Islamic conflicts in India, and Becker and Pascali's (2019) finding on the economic incentives (moneylending) in shaping the coexistence of Jews, Catholics, and Protestants in historical Europe. It also resonates with the collaboration between Confucian literati and the Jesuit missionaries, who introduced useful European sciences in the late 16th to early 18th century (Ma, 2021). In a broader sense, these findings underscore the significance of economic complementarity in mitigating cultural intolerance, particularly between Confucianism and Christianity.[2]

Our finding on the negative impacts of anti-missionary conflicts enriched the studies of Bai and Kung (2015), who show that the Boxer uprising changed the geography of modern growth in early 20th century China by shaping the distribution of Protestant missionaries who facilitated *knowledge diffusion* activities in China. We expand the analysis of the Boxers to encompass all instances of anti-missionary violence since 1860, including both cases and pamphlets. We analyze how conflicts targeted at foreign missionaries extended to the broader foreign community, particularly its chilling effect on the *economic* activities of Western investors and its spillover to Chinese

[2] Of the related historical studies, Joseph Esherick (1987) investigated the socioeconomic origins of the Boxer organizations in western Shandong, and his findings also hints the importance of economic factors: the Boxers were more likely to appears in areas that were more prone to natural calamities (droughts and Yellow River floods) and where the Confucian gentry class was weak or missing.

entrepreneurs. This reveals the substantial economic costs of such violence, especially for an economy whose modernization relied heavily on opening up to foreign influence (Jia 2014; Keller and Shiue 2021). Furthermore, we find that this history of anti-missionary violence casts a lasting cultural shadow and discouraged foreign direct investment (FDI) in China until the contemporary time.[3] In this regard, our research also contributes to the literature on the enduring legacies of historical collective memory (see, e.g., D'Acunto, Prokopczuk, and Weber, 2019; Fouka and Voth, 2023).

The rest of the paper is organized as follows. The next section introduces the history of Christian missions in China, the hypotheses on the causes of Chinese anti-missionary movements and their economic costs. Section 3 presents the data from empirical tests. Section 4 explores the causes of anti-missionary movements. Section 5 examines the economic consequences of the anti-missionary movements. Section 6 provides a conclusion.

2. Institutional Background

2.1. The missionary expansion and the anti-missionary movements in China

Western powers enforced the opening of China in 1842. The Qing dynasty, after being defeated by the British in the First Opium War (1839-1842), signed the Treaty of Nanking. The Treaty guaranteed the presence of Christian missionaries in the treaty port areas. Later, the Treaty of Tianjin and the Convention of Peking, signed after the Second Opium War (1856-1860), further opened China's inland to the West. Christian missionaries gained access to the interior of China and were able to preach to a people who at the time followed a predominantly Confucian philosophy. The Christian missions expanded rapidly in China. From 1842 to the end of the dynasty in 1911, the number of missionaries increased from fewer than 100 to about 4,000. There were 120 mission societies representing nine denominations preaching in China. By 1911 they had preached in 220 (81 per cent) of the 269 prefectures in China proper.

The rapid growth of Christianity in China was accompanied by endemic resistance and violence from the local population. There were about 2,000 anti-

[3] This resonates with Mattingly and Chen's (2022) finding that the anti-missionary movements stimulated the early nationalism in China, and Che et al.'s (2015) finding that the regions that were ever invaded by Japan in 1937 to 1945 are less likely to trade with Japan today.

missionary incidents between 1860 and 1911, with an annual average number of 40, covering 173 (64 per cent) of prefectures in China proper. Chinese anti-missionary movements were manifested in their disputes with the missionaries over properties and lawsuits, propaganda that demonized missionaries via pamphlets and rumors, attacking and burning churches, and collective violence toward missionaries and Chinese converts. For instance, in Tianjin in 1870, an angry Chinese crowd killed 21 missionaries, because rumors spread among Chinese masses that the missionaries kidnapped children to sacrifice them to their God (Zhao, 2001). The climax of conflicts came with the outbreak of the Boxer rebellion in 1899, in which it has been claimed that more than 30,000 Chinese Christians and 240 Western missionaries were killed (MacGillivray, 1903). The anti-missionary violence greatly shocked the West. The missionaries killed during this episode of violence have been memorialized by the Roman Catholic, Orthodox and other Western churches as the Chinese Martyrs of the Boxer Rebellion even to the present day.

2.2. Possible reasons behind the anti-missionary conflicts

A potential cultural reason for the anti-missionary violence is that Christian diffusion in China brought a profound 'heterodox' shock to the Confucian orthodoxy.[4] Confucianism and Christianity fundamentally diverge in many aspects of their cultural values, with each promoting distinct principles regarding social order, morality, and religious practices (Huntington, 1996). First and foremost is ancestral worship, which was criticized by the Christian missionaries as superstitious and a violation of monotheistic belief in God. Accordingly, Christians could not tolerate Chinese family norms on filial piety, female chastity, and concubinage practice, among others (Chen, 1991; Menegon, 2009). Conversely, Confucians viewed Christianity as a heterodoxy that seriously offended their beliefs and social norms, especially when the missionaries refused to adopt

[4] While China has long accommodated various religions such as Buddhism, Daoism, and local folk traditions, the anti-missionary conflict is more closely linked to Confucianism. Unlike these other belief systems, the conflict with Christianity represented a deeper clash between Eastern and Western values, as Christian missionaries were seen as agents of foreign influence, threatening the established Confucian social and political order rather than simply introducing another religious belief. This tension was less about theological differences and more about defending cultural sovereignty and political power. On the other hand, Buddhism and Daoism, having lost much of their elite support by the late 19th century, were increasingly relegated to the realm of popular religion, functioning more as sources of local rituals and festivals than as institutionalized religions with significant social or political influence (Yang, 1967).

Chinese traditions (Litzinger, 1996). Thus, Confucians and Christians viewed each other as incompatible in many ways.

Beyond cultural intolerance, the entry of Christian missions brought to Confucian elites a new competitive force for cultural and administrative hegemony (Lyu, 1973). Confucianism, while often considered a philosophical and ethical system, operates as both a religious entity and a political ideology, wielding significant political power and enjoying strong support from the elite.[5] Christian missionaries, however, enjoyed a competitive edge due to their extraterritorial status and protection by Western powers. The churches also extended their legal and political privileges to their Chinese converts, hence increasing the payoffs for Chinese to be baptized (Cohen, 1963). To defend their local dominance, the Confucian gentry had a strong incentive to resist the churches and their 'imperialist' activities by various means. Zhou Han (1842-1911), a Confucian literatus in Hunan Province, was well-known for his hatred of and abuse toward Christian missionaries. He published more than 30 anti-Christian books and pamphlets between 1890 and 1898. In fact, historical archives indicate that the local Confucian gentry headed many of the anti-Christian movements (Cohen, 1963; Lyu, 1973).

Meanwhile, the intensity of anti-missionary conflicts varied significantly across regions. Figures 1 and 2 depict the distribution of the major anti-missionary cases and pamphlets from 1860-1911. For example, most of the conflicts were concentrated in the North China Plain (Shandong and Hebei provinces) and the southwest (Sichuan province), whereas many southern and southeastern cities witnessed a relatively peaceful coexistence between the local population and the missionaries. Especially during the Boxer uprising in 1899-1901, when these xenophobic events were about to creep toward southern prefectures, Sheng Xuanhuai, the minister of transportation, called for the governors of southern and eastern provinces in Qing China to sign the southeastern compact to refuse to declare war on foreign nations in the summer of 1900 during the Boxer rebellion. The proposal was well-received by the local governors in the southeastern provinces, which effectively kept most of the fighting and destruction in the northern Boxer regions out of southern China (Feuerwerker, 1958). The compact regions managed to provide shelter for foreigners in eastern and southern China and led to variance in the geographical distribution of anti-foreign movements. The protection agreement formally ended in 1904 when Empress Dowager Cixi regained power over the

[5] Accordingly, we employ alternative measures for the prevalence of Confucianism in our empirical strategy.

southeastern provinces. The foreign merchants and missionaries were able to move freely afterwards.

The regional difference in local elites' attitudes toward Christianity and accordingly the anti-missionary conflicts motivate us to investigate the potential reasons beyond religious competition. The missionaries not only brought to China a new religion but also economic benefits (Bai and Kung, 2015). Trade represented one. Before the 1840s, China remained largely autarkic with little trade and communications with the West. After the opening of the country, new trade opportunities gradually expanded from the treaty ports to the inland areas. But foreign merchants had little information and knowledge about the vast Chinese inland. As the pioneers of the expedition to China, the missionaries played a pivotal intermediary between Chinese locals and foreign merchants (Gu, 1991). This effectively lowered the entry costs of foreign trade and exposed China to the global market. Besides trade, foreign banks, companies, and merchants also extended their branches and businesses to Chinese cities with a missionary connection. These modern economic institutions and technologies enlightened Chinese elites who were pursuing 'self-strengthening' and modernization, bringing to China a modern growth impetus (Spence, 1990).

Meanwhile, to develop their Chinese missions, many Christian missionaries provided new and superior public goods that could bring payoffs to local Chinese. First and foremost was a more modern educational infrastructure. By 1911, Christian missions had established 2,538 elementary schools and 18 colleges and universities (Dennis et al., 1911). By providing instruction in sciences and engineering, modern schools brought the first wave of the 'industrial enlightenment'—to borrow words from Mokyr (1990)—to the Chinese people (Elman, 2006; Tiedemann, 2009). The other type of public goods pertained to medicine and charity. Western medicine held a distinct advantage over traditional Chinese therapies in treating epidemics and procedures such as removing tumors and curing eye diseases (Spence, 1990). Likewise, the new charitable institutions established by the churches, such as creches, orphanages, and learning institutes, broadened the scope of traditional Chinese charities that focused on poverty relief (Yang, 2006; Leung, 2015). In sum, in regions where local Confucian elites could benefit from the missionaries' secular contributions, they might value this complementarity and prefer not to launch conflicts.

2.3. The economic costs of anti-missionary movements

Given the multi-faceted economic payoffs brought by the missionaries to China, the anti-missionary violence would offset the complementarity just described and discourage further foreign investments in China. This would cast a substantial cost on China's modernization that relied heavily on Western influence. Indeed, the number of foreign banks and firms in prefectures experiencing the Boxer rebellion decreased relative to prefectures with fewer conflicts after 1900. The same divergence applies to the number of Chinese banks and firms, suggesting a negative spillover of anti-missionary conflicts to China's domestic growth (see Appendix Figure A1). We scrutinize these descriptive trends in our empirical analysis.

Given that anti-missionary movements were sustained for more than 70 years, a xenophobic sentiment among Chinese and a memory of 'the Chinese Martyrs' among Westerners may persist for a long period of time. This is best summarized in an article in *The Economist* on 16 December 2010, entitled "Remembering the Boxer Uprising: A righteous fist", stating that:

> "Ever since the uprising, memories of it have troubled the relationship between China and the West. For the West, 'Boxerism' became synonymous with a rabid, anti-foreign demon that was thought to lurk in China, ready to wreak bloody havoc if given a chance. As *The Economist* advised its readers in 1905: 'The history of the Boxer movement contains abundant warnings as to the necessity of an attitude of constant vigilance on the part of the European Powers when there are any symptoms that a wave of nationalism is about to sweep over the Celestial Empire.'"

Accordingly, the mutual hostility and mistrust between Chinese and foreigners may persistently discourage foreign trade and exchange in these anti-missionary regions up to the present. We explore this hypothesis empirically.

3. Data

3.1. Anti-missionary movements

Our first contribution to the debate is to construct a panel data set on the distribution of anti-missionary movements across the 269 prefectures in China proper.[6] Our primary measure is the number of anti-missionary cases, arising from conflicts and disputes between local Chinese and Christian missionaries (and their Chinese converts). The conflicts were mostly launched by local Chinese to assault and blame the Christian missionaries. The motivations behind each incident varied, ranging from rumors—such as the Organ-Snatching Tales associated with missionaries' medical practices—to real conflicts of interest, including disputes over property rights. Violence was frequently used, including killing missionaries and Chinese Christians, and burning their churches.

The data is collected from *jiaowu jiao'an dang* (Historical Archives on Missionary Affairs and Cases) kept by the Qing Dynasty's Ministry of Foreign Affairs between 1860 and 1911. These archives provide the most original and complete sources on missionary affairs in Qing China, recording each missionary case on an annual basis. For each case, the archives provide documents ranging from memorials to diplomatic notes, and to letter correspondence between officials and the court, among others, from which we can find the time and place of each case. Given the huge collection of more than 900 volumes and 30,000 pages, we leveraged a carefully curated collection of case summaries in the First Historical Archives of China, *Missionary Cases in Late Qing* (Zhu and Lyu, 1996), to systematically enumerate the anti-missionary cases across prefectures and over time manually. This offers a unique and detailed record with 2,049 missionary cases that significantly enhances the empirical foundation for studying anti-missionary movements in late Qing China. Appendix Figure A2 shows the classifications of anti-missionary events by severity, nationality (of the missionaries), and leadership. From the histogram of leadership, the conflicts were predominantly driven by the masses, and the Confucian elites were not the primary agents mobilizing them.

In addition to the anti-missionary cases, we utilize the number of pamphlets or prints as our secondary measure of anti-missionary movements. Propaganda was another popular form of anti-missionary activity in late Qing China. Local Confucian gentry often used pamphlets to demonize missionaries, spreading rumors and hatred among the local Chinese (Su, 2001). We collected data on the distribution of anti-missionary

[6] China proper refers to the 19 provinces dominated by Han Chinese, excluding the frontier regions of Xinjiang, Inner Mongolia, Northeast, and Tibet where most data used for this study are not available. The prefectures were administrative units between the provinces and the counties in Qing China. We choose prefectures as the units of analysis because the prefectural data are the most systematic and they provide more regional variations relative to the provinces.

publications from *fan yangjiao shuwen jietie xuan* (Collections of Anti-Missionary Books and Pamphlets) (Wang, 1984). Wang collected declarations, announcements, pamphlets, and other published works that were used to demonize Christianity and missionaries. We manually identified the location of each work based on the home prefecture of the author. However, we are unable to measure the diffusion of the works but only their local effect. Furthermore, we count the total words of all works in each prefecture as a supplementary measure of the strength of anti-missionary propaganda. This measure is helpful, as it measures latent and not necessarily realized violence.

The regional distribution of the anti-missionary cases and published works are shown in Figures 1 and 2. The Figures show that the intensity of conflicts and propaganda varied strikingly across China.[7] This motivates (and quantitatively allows) us to investigate why some local Chinese were more tolerant of a heterodox foreign religion but others were not, which we will examine in the following section.

3.2. Data on the origins of anti-missionary movements

Measuring religious competition

To capture the competition between Christian missionaries and Confucian elites, we make use of the variation in the entry of the missionaries into Chinese prefectures and interact it with the strength of local Confucian elites. In a difference-in-differences framework, religious competition would occur following the entry of Christian missionaries into a Chinese prefecture, and the competition would become intensified in prefectures with a stronger Confucian elite, relative to other prefectures with a weaker Confucian elite.

The time and location of Christian entry in China is based on Stauffer's (1922) *The Christian Occupation of China* and Xu's (1932) *Annuaire des missions catholiques de Chine* (Directory of Catholic missions in China), which records the distribution of the Protestant and the Catholic missions, respectively. These sources record the place of entry and time of each mission in China but not the missionaries' biographies. We thus cannot measure the intensive margin of the missionary influence using the number of missionaries. Instead, we focus on the entry shock of the missionaries and observe the responses of the local Confucian elite.

[7] See also Appendix Figure A3 for temporal change in the frequency of anti-missionary conflicts.

To measure the strength of the Confucian elite, we use the number of the highest degree holders (*jinshi*) of the imperial examinations produced in each prefecture. As the masters of Confucianism, the degree holders were promoted as local Confucian gentry. They played a dominant role in consolidating the Confucian order in local societies. They diffused Confucian moral values, taught Confucian classics, and organized Confucian clans (Chang, 1955). Moreover, we treat the strength of the Confucian elite dynamically, in the sense that some regions could not persistently produce degree holders and thus were subject to a changing Confucian influence over time. Accordingly, we use the number of *jinshi* degree holders produced in the past 30 years as the measure, reasoning that the average age of achieving the *jinshi* degree was about 35 and their average life expectancy was about 65 (Chang, 1955). To mitigate the effect of prefectural population size, we normalize the number of *jinshi* degree holders by per million people and take the natural logarithm of it. The data on *jinshi* degree holders are obtained from Chen, Kung, and Ma (2020), and the population data are obtained from Cao (2000).

Certainly, the number of *jinshi* degree holders may not only reflect the strength of the Confucian cultural elite, but also a prefecture's educational level, social mobility, and political status (given the *jinshi* holders were also candidates of bureaucrats). To check the robustness of the *jinshi* as a cultural measure, we also employ the number of Confucian temples and the number of Confucian clans (lineage organizations enforced by Confucian family values and rules) as alternative measures of the strength of Confucianism. Their geographic distributions are highly correlated with that of the number of *jinshi* degree holders. The data on the Confucian temples and clans are obtained from Chen, Ma, and Sinclair (2022).

Measuring the complementarity

In the context of late 19$^{\text{th}}$ century China, a primary economic complementarity between the Christian missionaries and the Confucian elite in China arose from the opening of the treaty ports. The treaty ports were mostly located along the coast and the Yangtze River (the trunk waterway linking the port city of Shanghai to China's interior). Through the treaty ports, the missionaries brought to China new industrial products and useful knowledge. New industries, military weapons, Western medicine and business models, triggered the Chinese elites to learn from the West for self-strengthening

purposes. Missionaries played a pioneering and intermediary role in introducing Western knowledge to the Chinese elite by opening new schools, printing presses, and hospitals (Bai and Kung, 2015).

Given that the Western influence mainly spread in the treaty port areas and the missionaries' intermediary role therein, we assume that prefectures around the treaty ports were more likely to produce economic complementarities between Christian missionaries and Confucian elites, similar to the argument for India by Jha (2013). We thus examine whether anti-missionary conflicts would be reduced in the treaty ports (and their neighboring) prefectures relative to other prefectures after the entry of Christian missions. Between 1842 and 1911, Qing China successively opened 61 treaty ports, as documented by Yan (2012), with 37 of these treaty ports located in our sample prefectures. We use a dummy variable that equals one for the years after a treaty port was opened in a prefecture (or in one of its neighboring prefectures to capture the spatial spillover of the port effect),[8] and zero for the years before the port opening.

The missionaries' complementarities were not confined to the treaty port areas, because they also diffused Western knowledge and institutions to considerable interior regions of China. To gauge this variation, we use the number of public goods (schools, printing presses, charities, and hospitals) erected by Christian missionaries at the prefectural level. Historical narratives indicate that the missionary hospitals and charities substantially complemented Confucian clans' (small-scale) risk-sharing and welfare functions. We enumerate each type of public goods by prefectures and periods (on a five-year basis) from Huang's (2017) *Chronicle of Protestant Missions Development in China (1807-1949)* and Geng's (2009) *Biographies of Catholic Missionaries in China during 16th to 20th Century.*

3.3. Data on the economic impacts of anti-missionary movements

[8] Specifically, we define a prefecture as the 'neighbor' of a treaty port if this prefecture's centroid is located within 136 kilometers from the centroid of the nearest treaty port prefecture on the five-year basis. The 136 kilometers is the average great circle distance between any two contiguous prefectures by centroids in the sample. The results are robust to using the actual neighboring prefectures, i.e., prefectures adjacent to the treaty port prefectures. This approach for capturing potential spillover effects of treaty ports through neighbors and distance bands is also utilized in Li and Han (2019), Keller and Shiue (2021), and Jin (2023).

The anti-missionary conflicts happened during a critical period of China's economic modernization. We examine how Chinese anti-missionary movements frightened foreign investments in China. To measure foreign investments, we use the number of foreign establishments (banks and industrial firms) in China. We focus on the modern banks[9] and especially the industrial firms that represent the fundamental components of modernity: the development of financial markets and technology adoption from the Industrial Revolution. Between 1860 and 1930, 145 foreign banks and 273 foreign industrial firms were opened across 28 prefectures out of 269 prefectures in China proper. These Western-style or modern establishments introduced new capital and business models to China, stimulating Chinese elites to modernize the traditional Chinese economy (Spence, 1990). We obtain the data on banks from Lin et al. (2020), and data on foreign industrial firms from Zhang (1987).[10]

Another (perhaps more interesting) economic consequence of the anti-missionary conflicts lies in Chinese domestic investments in modern firms and banks. On the one hand, given that the missionaries were from the West (especially the UK, the US, France, and other industrial powers), these conflicts may have discouraged even progressive and open-minded Chinese business elites from developing modern, Western-style business institutions. On the other hand, the anti-missionary conflicts could also indirectly inhibit China's economic modernization by expelling the missionaries and Western investments, especially since many modern domestic businesses needed to learn from or establish operations near their foreign counterparts (Kung, 2022). To this end, we use the numbers of modern Chinese banks and industrial firms as outcome variables. We obtained the data on banks from Lin et al. (2020) and on domestic industrial firms from Du (1991).

Lastly, we examine the long-term economic impact of the anti-missionary movements by looking into FDI when China again opened its market to the West after 1978. We use the FDI in each Chinese city from 1990 to 2020 as the outcome measure. We also employ survey data on Chinese people's attitudes toward foreigners to examine the cultural channel underlying the persistent impact of historical anti-missionary conflicts, which will be introduced in the regression analysis of Section 5.

[9] Modern banks refer to the formal, market-based financial institutions, as opposed to Chinese traditional banks (money houses) that operate local small credit businesses.

[10] This data on foreign industrial firms is available up to the period 1915-1919.

4. The Origins of Anti-Missionary Movements: Competition versus Complementarity

4.1. The Main Pattern

We first examine the potential role of religious competition between Christian missionaries and Confucian elites on Chinese anti-missionary movements using the following regression specification from 1860 to 1910:

$$Conflict_{it} = a_i + \lambda_t + \beta_1 Mission_{it} + \beta_2 Confucian_{it} + \beta_3 Mission_{it} \times Confucian_{it} + \mathbf{X}_{it} + \epsilon_{it} \quad (1)$$

where $Conflict_{it}$ denotes the number of anti-missionary cases or prints in prefecture i in a five-year period t. $Mission_{it}$ is a dummy variable indicating the presence of Christian missionaries (hereafter Missionary entry). Alternatively, we also use the number of years since the missionary entry to measure the cumulative (competing) effect of Christian missionaries in each prefecture, for which we define the variable as Missionary duration. Functional form aside, this is an important control, but not the main focus of our analysis. $Confucian_{it}$ refers to the strength of local Confucian elite, which is measured by the number of *jinshi* degree-holders in the recent 30 years. The tension between religious competition is captured by interaction term $Mission_{it} \times Confucian_{it}$, which examines whether the missionaries would trigger greater local resistance if they encountered a stronger Confucian incumbent. This interaction is our main object of interest to assess the role of religious competition.

The prefectural fixed effects, a_i, absorb the effect of any prefectural-level characteristics. The common time shocks are absorbed by the year fixed effects, λ_t. We still worry that some prefectural factors may affect both the level of religious competition and the intensity of anti-missionary conflicts over time. We thus additionally control for three prefectural geographic factors (provincial capital, distance to the coast, and terrain ruggedness index) and initial economic condition (population density),[11] reasoning that they may affect the diffusion of the missionaries. Given the time-invariant nature of these variables, we interact each of them with the dummy of

[11] We use the population density in 1850 as a proxy for economic prosperity in pre-industrial society (see also Ashraf and Galor (2011) and Michalopoulos and Papaioannou (2013)).

mission entry. Moreover, we control for the time-varying prefectural factor of years of extreme weather (droughts and floods), which could be important for conflict (Esherick, 1987; Liang, 2014). These additional controls are denoted by the vector $\mathbf{X}_{it}$.[12]

Our first set of results are on the causes of anti-missionary violence. We start with religious competition and then move to religious complementarity. Table 1 reports the estimates of Equation (1). To provide a benchmark, Column 1 examines the Christian missionaries' entry effect. Not surprisingly, the arrival of a foreign religion would generally stimulate local Chinese resistance. We then examine whether such resistance would be significantly greater in prefectures where there are more Confucian elites (hence intensified competition) in Column 2. The interaction term between the missionary entry and the number of Confucian elites is not statistically significant and even has a negative coefficient. This suggests that a stronger presence of the Confucian elite did not necessarily mobilize resistance toward the new Christian entrants. This hypothesized competition effect still does not stand out after we rule out the potential confounding effects of prefectural geographic characteristics, population density, and weather shocks in Column 3 and when using the Poisson estimation to address the over-zero and count values in the dependent variable (Column 4). Similarly, there is also no religious competition channel behind the number (and length) of anti-missionary publications (Columns 5 and 6). All of the above results remain robust when we employ the density of Confucian clans and temples as alternative measures of Confucian strength (see Appendix Table A2).

To further mitigate the concern that the religious competition effect is confounded by missionaries' selective entry into Chinese prefectures, we remove prefectures that had no missionaries throughout the sample period and repeat the above analysis in Table 1. The variable of religious competition still has little to do with the distribution of anti-missionary conflicts (see Appendix Table A3). In addition, we obtained similar results on the missing competition effect when using the missionary duration to measure the intensity of missionary influence (see Appendix Table A4). These results imply that local Confucians' anti-missionary propaganda may not have been main drivers of the competition with Christians for religious dominance.

Instead, we find that the economic complementarity channel (via treaty ports) significantly attenuates anti-missionary conflicts. For this we repeat the specification of

[12] See Appendix Table A1 for summary statistics of the variables.

Table 1 while adding the dummy of treaty port and its interaction with missionary entry:

$$Conflict_{it} = a_i + \lambda_t + \beta_1 Mission_{it} + \beta_2 Confucian_{it} + \beta_3 Mission_{it} \times Confucian_{it} + \beta_4 TreatyPort_{it} + \beta_5 Mission_{it} \times TreatyPort_{it} + \mathbf{X}_{it} + \epsilon_{it} \quad (2)$$

Table 2 shows that the number of anti-missionary cases and publications are significantly smaller in the treaty port areas. In the non-treaty port areas, where local Confucian elites received fewer benefits or complementarities from the missionaries, there was stronger propaganda denouncing Christianity and more violence against the missionaries. This finding is robust to using different estimation models and controlling for more prefectural characteristics.[13] Again, when we run a horse race between the treaty ports and the Confucian elites in shaping the missionary entry effect, Confucian elites still have no effect on the level of anti-missionary movements, which further indicates that the religious conflicts (between Confucianism and Christianity) in late 19th century China is more likely to originate from economic rather than cultural (religious) reasons. This result is reminiscent of that of Jha (2013) for Indian ports, in reducing Hindu-Muslim violence. Still, the results could be driven by the endogenous location of treaty ports, to which we turn next.

4.2. Identifying the Impact of the Treaty Ports

To substantiate the complementarity effect of the treaty ports, we employ a Propensity Score Matching algorithm to attenuate the confounding effects of the treaty port correlates. For instance, it might be possible that some favorable geographic factors that enabled a prefecture to be opened as a treaty port correlate with anti-missionary conflicts. If this was the case, the treaty port effect would not come from the complementarity of the Christian missionaries, but merely from favorable geographic endowments. To address this concern, we use propensity scores to select 68 non-treaty port prefectures that have similar geographic and economic characteristics as the 68

[13] And is also robust to limiting the analysis to prefectures that had missionaries (Appendix Table A5) or using missionary duration as an alternative measure of the strength of missionary influence (see Appendix Table A6).

actual treaty port prefectures (and their neighbors). After matching, the treatment and control group become more balanced in terms of the geographic characteristics (the distance to the navigable river, the distance to the coast, provincial capital, terrain ruggedness index, longitude and latitude, population density, and the years of missionary presence). To illustrate, one pair resulting from the algorithm is Shenzhou and Hejian prefectures. They are both in Zhili province with similar geographic conditions and population density, neither are provincial capitals, 11 years of missionary presence, around 150 km to coast and 236 km to navigable river, yet the latter had access to a treaty port. By comparing the treaty port prefectures to their similar counterparts in terms of the anti-missionary conflicts, the treaty port effect remains significantly negative (see Appendix Table A7).

Furthermore, for identification, we employ a randomization inference method in the balanced panel data, randomly selecting the counterfactual treaty ports together with their neighbors and assign the opening of ports based on the original waves. We then compare them to the actual treaty ports in terms of the impact on anti-missionary conflicts using a histogram. The counterfactual treaty port prefectures would have been similarly suitable for being selected as treaty ports but eventually were not. We constructed two counterfactual samples based on 1) the matched prefectures using propensity scores, and 2) prefectures along the coastline or the Yangtze River (and their neighboring prefectures) according to Jia (2014). In each sample, we repeated the draw 2,000 times and thus constructed 2,000 sets of counterfactual treaty ports. The results confirm the (actual) treaty port effect on anti-missionary conflicts (Appendix Figure A4). Namely, only true treaty ports have an impact at the conventional significance levels.

The complementarity effect remains significant when we use an alternative measure of complementarity, i.e., the number of public goods provided by the missionaries. As shown in Table 3, in addition to the treaty ports, missionaries' secular contributions to education, charity, and medicine similarly reduced local Chinese people's hostility toward Christianity. Both anti-missionary violence and publications became significantly less when the missionaries provided local population with more charitable and medical resources, as these new or Western resources complemented the traditional Chinese ones managed by the Confucian elite. The overall message from this section is that anti-missionary violence in China rather than being inflamed by religious competition was mostly attenuated by religious complementarities, with regards to treaty ports and other public goods.

5. Economic Consequences of Anti-Missionary Movements

In this section, we examine the extent to which anti-missionary conflicts inhibited foreign investments in China. We further examine the spillover effect of anti-missionary conflicts on Chinese domestic economic development; that is, whether anti-Christian events also discouraged Chinese from developing modern or Western-style productive capacity.

5.1. The short-term effect, 1870-1930

We first examine these questions in the short run, i.e., during and right after the anti-missionary episode (from 1870 to 1930). This is also China's modern transitional period, a period when the country relied on Western technology and investments to modernize. Therefore, Chinese anti-missionary movements would profoundly affect China's modernization progress. To measure foreign investments, we use the number of foreign banks and foreign industrial firms in China. To examine whether the impacts of anti-missionary movements spilled over into Chinese domestic economic modernization, we use the numbers of Chinese banks and modern industrial firms as outcome variables.

Given that anti-missionary data ends in 1910, we first organize the data at the prefectural level and on a five-year basis between 1870 and 1910, when we estimate the anti-missionary impact on the development of modern banks and firms.[14] We run the following regression specification:

$$Y_{it} = a_i + \lambda_t + \beta_1 Conflict_{it} + \mathbf{X}_{it}\boldsymbol{\gamma} + \boldsymbol{\epsilon}_{it} \qquad (3)$$

where Y_{it} measures the number of industrial firms and banks, respectively. $Conflict_{it}$ refers to the number of anti-missionary conflicts in each prefecture in each five-year period (measured using either events or pamphlets). In $\mathbf{X}_{it}$, we disentangle the anti-missionary effects from the missionary effects by controlling for the years of duration of missionary presence, as before. We also control for treaty port duration, the number of

[14] We remove the observations before 1870 to avoid the potentially confounding effects of peasant revolts, in particular the Taiping Rebellion (1850-1864) in southern China and the Nien Rebellions (1851-1868) in the North.

Confucian elites (jinshi degree holders), and the same set of geographic factors, interacted with five-year dummies. The effects of the unobserved (time-invariant) prefectural factors are absorbed by the prefectural fixed effects, a_i, whereas the time effects are absorbed by the period fixed effects λ_t.

We look first at the potential impact on foreign investments. The empirical results show a significant and negative impact of anti-missionary conflicts on the number of foreign banks and firms in China (Table 4, Panel A). This indicates that foreign (Western) merchants reduced investments in regions where local people were hostile to Christianity. Stated differently, religious tension or conflicts discouraged economic investments.

Interestingly, anti-missionary conflicts also significantly reduced the number of modern banks and industrial firms established by Chinese people (Table 4, Panel B). Given that Chinese economic modernization followed the Western model, the anti-missionary movements may discourage Chinese business elites from learning from the West. It appears that local Chinese investments were not able to compensate for the drop in foreign direct investments but co-moved with them. To validate the observed pattern, we first perform a *t*-test comparing domestic establishments across prefectures with and without foreign presence in the full sample. Prefectures with foreign firms have an average of 7.58 domestic firms, compared to 0.28 in prefectures without foreign firms. Similarly, the average number of Chinese modern banks is 3.55 in prefectures with foreign banks, versus 0.32 in those without. Both differences are statistically significant at the 1% level. Second, we explore the potential spillover effect of foreign investments on domestic investments in Appendix Table A8. Domestic investment is significantly influenced by foreign investment in the previous period. In sum, both the demand and the supply of Westernization (modernization) were reduced by the anti-missionary movements.

5.2. Identifying the anti-missionary effect using the Boxer rebellion shock

The causal impact of anti-missionary conflict on economic development can be gleaned from the quasi-experiment of the Boxer rebellion around 1900. This rebellion was the largest and most devastating anti-missionary event during late Qing China. It directly led to the invasion of the Eight-Nation Alliance (about 45,000 troops) in China. The Alliance suppressed the rebellion and further opened China to the Western powers.

The quasi-experimental nature of the Boxer rebellion lies in its sudden rise and fall from 1899 to 1901, together with its unique geographic distribution. Specifically, the Boxers plundered mainly the northern provinces of Zhili, Shanxi, and Henan but rarely entered the South, because of the mutual protection of provincial governors in southeastern China (see Figure 3). The Southeast Mutual Protection ensured that provincial governors protected foreign residents and maintained local military control to suppress Boxer activity. Thus, there is a clear boundary defending southeastern provinces from the Boxer violence. This regional dynamic aligns with the patterns observed in the distribution of Christian martyrs. This unique setting allows us to use the difference-in-discontinuities design to identify the effect of the Boxer rebellion on economic development,[15] based on the following specification:

$$Y_{it} = a_i + \lambda_t + \beta Post_t \times Boxer_i + f(location_i) + X_{it}\gamma + \epsilon_{it} \quad (4)$$

where $Post_t$ is a dummy variable indicating the years after the Boxer rebellion, so it equals one after 1900 and zero otherwise. $Boxer_i$ is an indicator variable that equals 1 if the prefecture is under the Boxer threat (i.e., outside the southeastern mutual protection areas). $f(location_i)$ is a second-order polynomial used to control flexibly for the effect of geographic location (i.e., distance to the boundary of the Boxer region), which we interacted with $Post_t$ dummy. Besides the usual set of control variables, we also include the distance to nearest garrisons of Western powers in China. The sample period spans from 1870 to 1930 on a five-year basis, in which 1870-1900 are the reference years.[16] We extend the treatment period to 1930 to capture the possible enduring effect of the rebellion.

We find that the Boxer rebellion frustrated foreign investments in China, especially in the regions plundered by the Boxers. The growth of foreign industrial firms and banks in China becomes significantly smaller in the Boxer regions relative to the Protection regions after the Boxer rebellion (Table 5, Panel A). It is worth mentioning that the Boxer rebellion was soon exterminated jointly by the Eight-Nation Alliance and

[15] For the geographic difference-in-discontinuities design, see Grembi et al. (2016) and Butts (2023).

[16] Although several events took place during this period, including the First Sino-Japanese War (1894-96), the Hundred Days' Reform (1898), and the Late Qing Constitutional Reform (1901-1911), the Boxer Rebellion remains the most critical in terms of anti-missionary conflict and its subsequent economic impacts. We also control for two-way fixed effects, leveraging within-prefecture and within-period variation to account for broader historical and temporal trends from other events.

the Qing army, and that foreigners were promised better protection and privileges in China upon the signing of the Boxer Protocol between the Qing dynasty and the Western powers in 1901. Despite this, the Boxer shock destroyed foreigners' trust and confidence in China, and more specifically the Boxer regions to which their missionary compatriots had been devoted to for years. They rather invested in southeastern China where the local elites deliberately protected foreigners from the Boxers' invasion. Likewise, the Boxer unrest also negatively affected the development of Chinese industrial firms and modern banks (Table 5, Panel B).

To examine the trend and break of the Boxer effect, Figure 4 shows the dynamic effect of the Boxer rebellion by interacting the Boxer regions with a full set of five-year time dummies. First, there does not appear to be a pre-trend in the economic difference between the Boxer and the protected southeastern regions before 1900. The divergence in industrial and financial development between the two regions did not appear until after the Boxer rebellion. Moreover, the Boxer rebellion casted a long shadow until at least the 1930s, which spans basically the 'golden age' of China's modern economic growth. These findings remain robust when we restrict the sample to the more homogenous northern China or to the prefectures located near the Boxer boundary (within 200 kilometers).[17]

The above discontinuity analysis omits the within-treatment variations in the level of the Boxer influence. To address this concern, we employ the number of Christian martyrs who were killed by the Boxers in each prefecture, as an intensive margin measure. The martyrs were reported and memorialized in the Western media and thus may directly stimulate anxiety. We obtained the name and residence of each martyr in China from Forsyth's (1904) *The China Martyrs of 1900* and Clark's (2011) *China's Saints: Catholic Martyrdom during the Qing (1644–1911)*. Appendix Table A10 shows that the number of martyrs significantly hindered foreign investments in China. Furthermore, the effect of Catholic martyrs is greater than that of the Protestant equivalents, possibly because of the longer history and thus deeper influence of the Catholic churches in China.

Overall, the above results suggest that anti-missionary events negatively impacted foreign direct investment and exerted a chilling effect on China's domestic economy, hindering economic development nationwide.

[17] A 200-km bandwidth precisely covers all neighboring prefectures along the boundary. The results also remain robust to other different distance cutoffs from the boundary. See Appendix Table A9.

5.3. The long shadow

Lastly, we would like to know whether the anti-missionary movements of the late 19th century China left a lasting legacy on contemporary economic development and how this effect may have evolved over time. To this end, we regress the volume of FDI since China's market reform (1990 to 2019) on the distribution of anti-missionary cases in 1860 to 1911 at the city level.[18] Given that China's economic development experienced continuous institutional changes since the 1980s, we allow for the effect of anti-missionary to vary over time, conditional on China's market access and degree of liberalization. Thus, we interact the distribution of anti-missionary cases with the five-year dummies between 1990 and 2019, controlling for the period and city fixed effects, with the 2015-2019 period omitted as the reference. To account for factors potentially associated with the distribution of anti-missionary events and their long-term economic impact, we control for historical foreign direct investment (firms and banks in 1870-1930), treaty ports, missionary presence, and average density of Confucian elites in 1860-1930. We also control for contemporary provincial capital dummy and the Special Economic Zone (SEZ) dummy by interacting them with the five-year fixed effects.

The results are reported in Table 6. We first use the anti-missionary dummy to compare the prefectures that experienced anti-missionary conflicts to the prefectures without any anti-missionary events in terms of the growth of FDI for estimating extensive margin, before we use the continuous measure (number of anti-missionary cases) to examine the marginal effect of anti-missionary conflicts for estimating intensive margin. Both show that historical anti-missionary conflicts have a persistent negative impact on foreign investment in China. Overall, there are fewer FDI flows in modern times in prefectures where there were more anti-missionary conflicts in the past. This suggests that, when China opened its market to foreign investors after the 1980s, the latter still preferred to locate their businesses in regions that were less subject to historical anti-Christian movements.

However, the negative effect of historical anti-Christianity shrank over time, as evidenced by the declining magnitude of coefficients in Table 6. The anti-missionary effect was most marked when China opened during the 1990s. At the time, foreign

[18] We matched the prefectures in 1820 to the city administrative units in 2015 based on their GIS maps (Harvard CHGIS, version 6; National Geomatics Center of China, version 2015).

investors may have been more skeptical about investing in China, given the uncertain business environment there, and hence they would be more likely to refer to the historical experience, i.e., the business environment faced by their precedent investors in late 19th and early 20th century China. With the progress of Chinese market reforms after the 1980s, the negative impact of the collective remembrance of historical violence became smaller.

We also confirm the long shadow of anti-missionary effect on FDI by the RD results based on the Boxer boundary (see Appendix Figure A5). There is a discontinuity of average city-level FDI from 1990 to 2020 for cities around the boundary. Cities within the historical protection zone, hence with less memory of anti-missionary violence, on average hold 1.81 times the amount of FDI flows (in log value) as compared with their neighboring cities north of the boundary. Furthermore, even though we only have data on domestic enterprises from 2003 to 2020,[19] we still observe 1.67 more times of domestic enterprises (in log number) on average for cities within historical protection as opposed to those outside even in a small bandwidth of 136.7 km.[20]

A potential channel through which the persistent impact of historical religious conflicts sustained is people's trust and attitudes toward each other. Lower trust or even hatred would inhibit trade and cooperation between the two parties. We examine whether historical anti-Christianity fostered a hostile attitude toward foreign investments in China among local Chinese people. To this end, we refer to the *Attitudes towards Citizenship in China* survey conducted in 2009 and employ the survey questions "Whether you agree to restrict foreign imports to protect the domestic economies" and "Whether you trust foreigners" as measures of local Chinese people's attitudes. The results are reported in Table 7. In prefectures where there were more anti-missionary conflicts, people are generally less likely to trust foreigners and more inclined to support restrictions on foreign investment in China. Moreover, the anti-missionary effect is significantly attenuated in prefectures with historical treaty ports, echoing the complementary role of treaty ports discussed in Section 3. By and large, the legacies of the historical Chinese anti-missionary violence against the West have proven to be long-

[19] The data are obtained from *China City Statistical Yearbooks* (2003-2020).

[20] We use the STATA command *rdrobust* to estimate the regression discontinuity (RD) model with robust bias-corrected confidence intervals. For the FDI data, the optimal bandwidth is 153.7 km, yielding an RD coefficient of 1.806 with a standard error of 0.55 (significant at the 1% level). For the domestic enterprises data, the optimal bandwidth is 136.7 km, with an RD coefficient of 1.667 and a standard error of 0.49 (also significant at the 1% level).

lasting, reflected in both modern foreign investment patterns and local attitudes. These enduring effects underscore the significant economic legacy of historical religious conflicts, extending beyond the short and medium-term impacts to shape long-term economic behaviors and preferences.

6. Conclusion

In this paper we study the nexus between religion and conflict, focusing on the anti-missionary violence in China, during the late Qing dynasty. In the first part of the analysis, we look at two competing channels for the causes of violence: religious competition and economic complementarities. We find evidence for the second hypothesis: anti-missionary violence was largely attenuated through economic complementarities provided by the treaty ports and the provision of public goods by the Christian missionaries. We then examine the economic costs of anti-missionary violence. We find a negative effect on the investments by foreigners on firms and banks, as well as an accompanying chilling effect on Chinese domestic economic development. We employ a series of empirical strategies, including a matching specification, randomization inference and a spatial difference-in-discontinuities using the southeastern provinces' mutual defense pact that confirm our findings, providing a more causal interpretation of our results. In the longer term, the legacies of the anti-missionary events are reflected in FDI flows in contemporary era, especially during the 1990s. They are also present in the trade attitudes and trust responses of the local population, even today.

The anti-missionary events of the 19^{th} century in China offer important economic lessons beyond their historical significance. Anti-missionary violence is tied to the history of China's relationship with the West since the Opium Wars. The empirical results point towards the importance of economic forces in mitigating religious conflict, in line with Jha (2013) for India. They also show that conflict, in this case motivated by religion, can have important economic costs and spillovers in the medium run, extending well beyond its obvious short-term devastation. The echoes of the Boxer rebellion can be seen even today, economically and culturally, as China continues to negotiate its complex economic and cultural relationship with the West.

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Figures and Tables

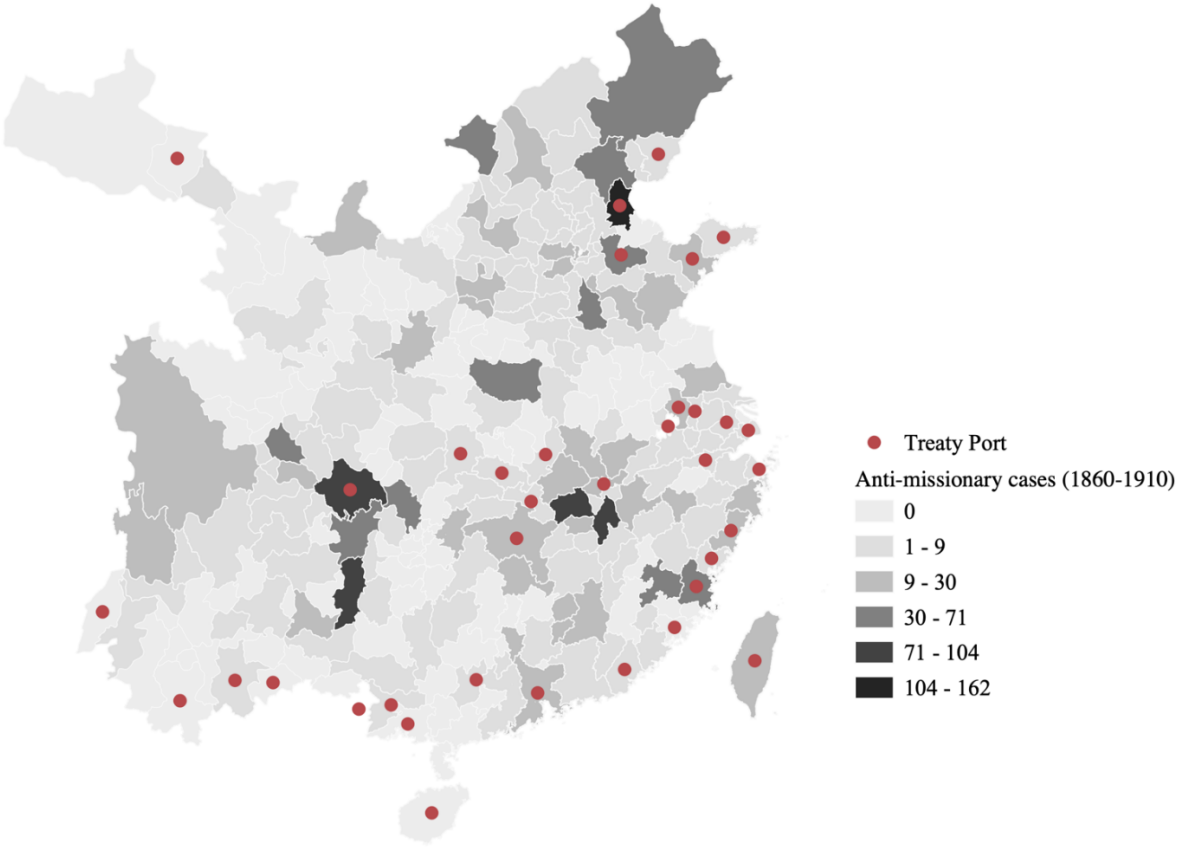


Figure 1. Distribution of Anti-missionary Cases, 1860-1911

Notes: This map shows the distribution of the number of anti-missionary cases between 1860 and 1910 across 269 prefectures of China proper. The map is based on the Qing dynasty's prefectural divisions in 1820 in the China Historical Geographic Information System (CHGIS) (2016). Anti-missionary cases include the conflicts and disputes between local Chinese and Christian missionaries, which are recorded by the Qing Ministry of Foreign Affairs in the Archives of Missionary Affairs and Cases (*Jiaowu Jiaoan Dang*).

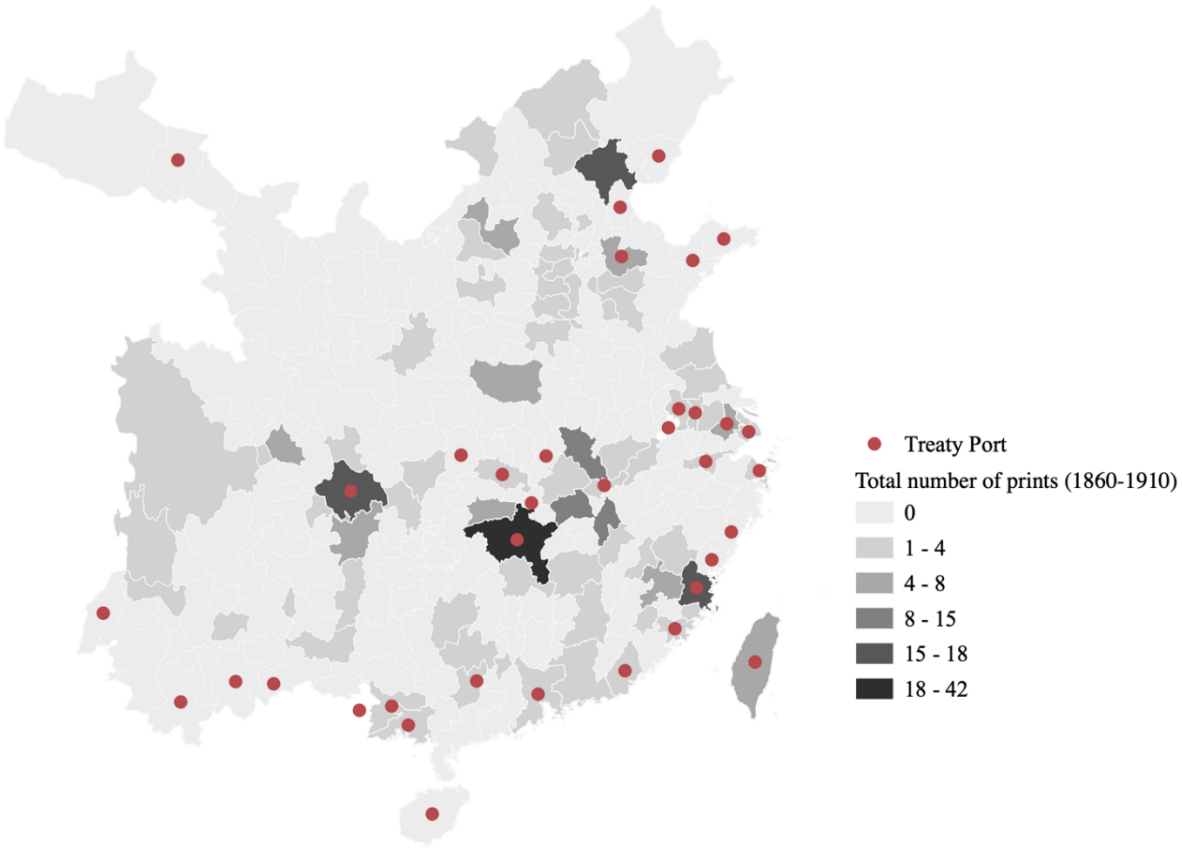


Figure 2. Distribution of Anti-missionary Prints, 1860-1911

Notes: This map shows the distribution of the number of anti-missionary prints between 1860 and 1910 across 269 prefectures of China proper. The map is based on the Qing dynasty's prefectural divisions in 1820 in CHGIS (2016). Anti-missionary prints were mostly made by local Confucian elites to demonize Christianity and missionaries, including but not limited to declarations, announcements, and pamphlets. The data are from Wang (1984).

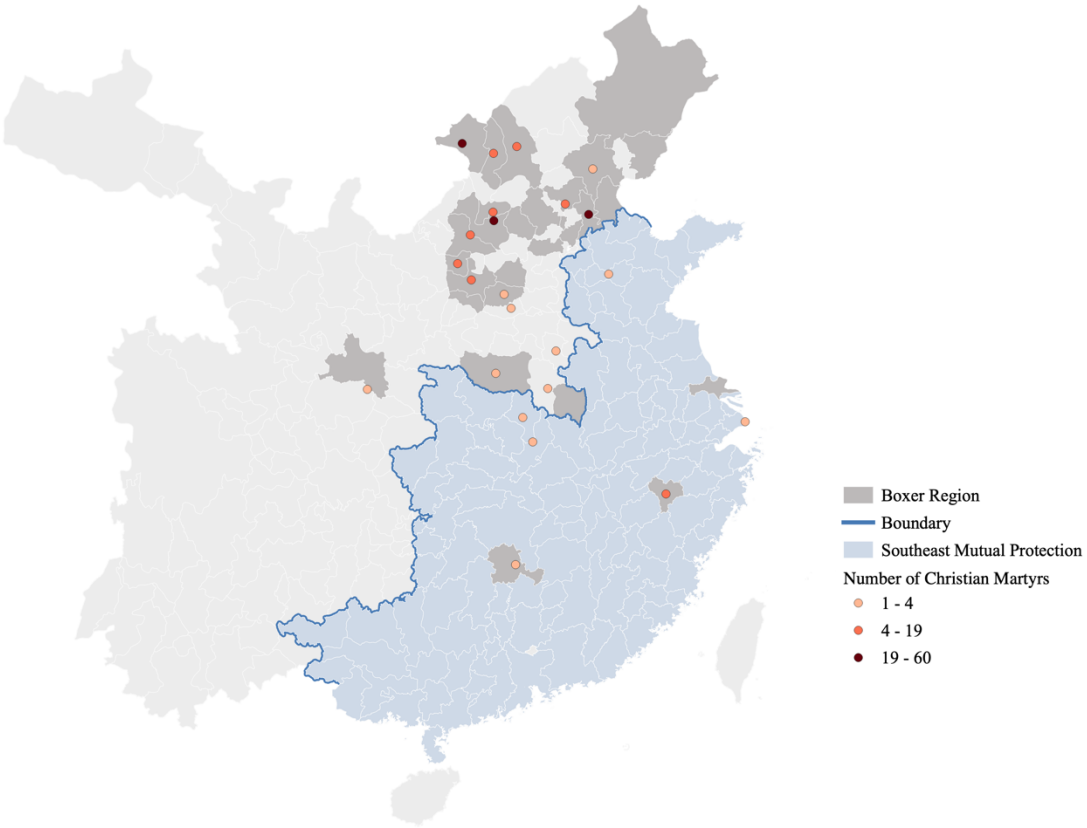
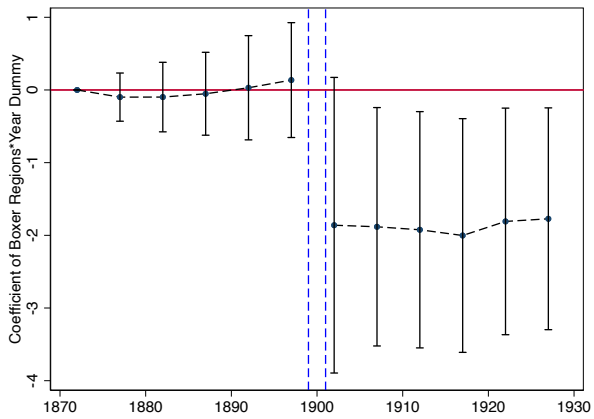
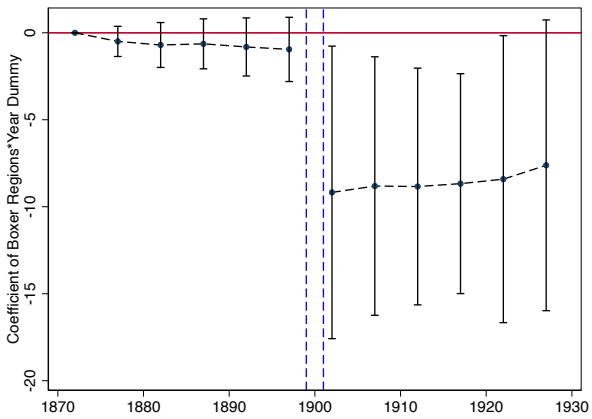


Figure 3. Boxer Rebellion and the Southeast Mutual Protection, 1900-1901

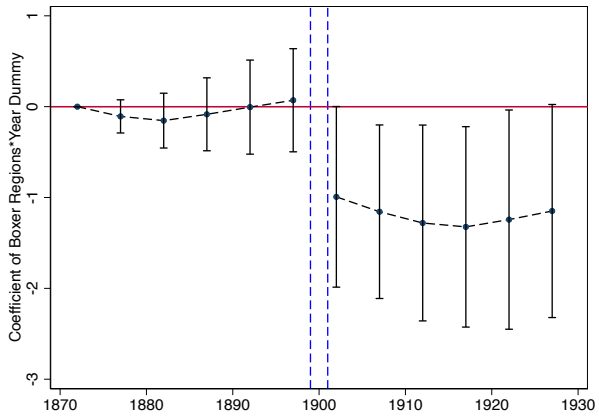
Notes: This figure shows the division of the Boxer rebellion region and the Mutual Defense Pact of the Southeastern Provinces *(Dongnan Hubao)* region. The distribution of the Boxer rebellions is based on the records in the *Boxer Protocol* in 1901. The distribution of the Boxer Christian martyrs is based on the records in Forsyth's (1904) *The China Martyrs of 1900* and Clark's (2011) *China's Saints: Catholic Martyrdom during the Qing (1644–1911)*. The pact boundary is drawn from the agreement among the governors of the southeastern provinces of Zhejiang, Shandong, Jiangsu, Jiangxi, Anhui, Hunan, Hubei, Fujian, Guangdong, and Guangxi, and the Western powers in June 1900 to jointly defend these provinces from the Boxers' invasion.



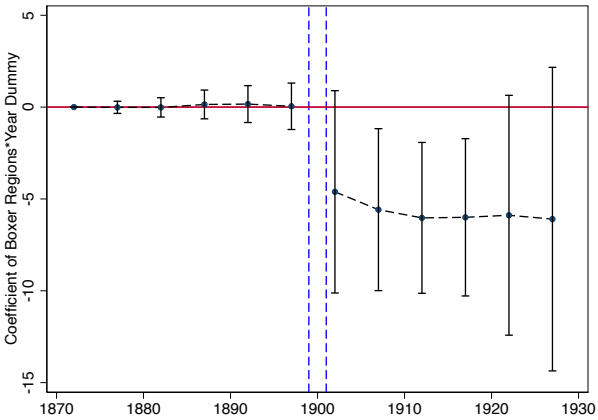
(a) Foreign Banks and Firms (North China)



(b) Domestic Banks and Firms (North China)



(c) Foreign Banks and Firms
(200 km away from the Protection boundary)



(d) Domestic Banks and Firms
(200 km away from the Protection boundary)

Figure 4. The (pre-) trend in the economic impacts of the Boxer rebellion

Notes: The figures show the estimates on the economic impacts of the Boxer rebellion by each five-year interval. We compare the Boxer prefectures and the prefectures under the southeastern provinces' pact in terms of the number of banks and industrial firms around the Boxer shock in 1900. The reference period is 1870-1874. We control for the same set of prefectural factors as those in Table 5 and additionally the 2nd-order polynomial of the distance to the pact boundary.

Table 1. Religious competition and religious conflicts

	Number of anti-missionary cases				Number of anti-missionary prints	Word count of anti-missionary prints (log)
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	Poisson	OLS	OLS
Missionary entry	0.397***	0.484*	1.051	1.874	0.309**	1.312**
	(0.148)	(0.274)	(1.315)	(1.537)	(0.155)	(0.553)
Confucian elites		-0.082	-0.073	-0.288	-0.023	-0.094
		(0.122)	(0.122)	(0.359)	(0.019)	(0.072)
Missionary entry × Confucian elites		-0.059	-0.061	-0.053	-0.025	-0.108
		(0.129)	(0.138)	(0.278)	(0.028)	(0.074)
Prefecture fixed effects	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y
Additional controls			Y	Y	Y	Y
Observations	2,690	2,690	2,690	1,730	2,690	2,690
Number of prefectures	269	269	269	269	269	269
R-squared	0.231	0.232	0.234		0.202	0.268
Mean of DV	0.593	0.593	0.593	0.923	0.099	0.335

Notes: The sample comprises 269 Chinese prefectures in 10 five-year time points between 1860 and 1910. Confucian elites are measured by the number of the highest civil examination degree holders produced in each prefecture in the previous 30 years (per million population and in natural logarithm). Missionary entry is a dummy variable that indicates when the missionaries had entered a prefecture. Columns (1)-(4) winsorize the top 1% distribution of the dependent variable to mitigate the extreme value bias. Additional controls include population density, years of floods, years of droughts, and the interaction terms between missionary entry and the time-invariant prefectural factors (provincial capital dummy, distance to the coast, and terrain ruggedness index). Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 2. Complementarity (through treaty ports) and religious conflicts

	Number of anti-missionary cases			Number of anti-missionary prints	Word count of anti-missionary prints (log)
	(1)	(2)	(3)	(4)	(5)
	OLS	OLS	Poisson	OLS	OLS
Treaty port	-0.201	-0.124	0.614	0.059	0.404**
	(0.222)	(0.222)	(0.558)	(0.058)	(0.183)
Mission entry	0.479***	1.446	1.355	0.342**	1.284**
	(0.156)	(1.267)	(1.544)	(0.157)	(0.529)
Mission entry × Treaty port	-0.631***	-0.821***	-1.446***	-0.160**	-0.466**
	(0.229)	(0.236)	(0.493)	(0.069)	(0.189)
Confucian elites		-0.072	-0.368	-0.024	-0.102
		(0.123)	(0.361)	(0.019)	(0.072)
Mission entry × Confucian elites		-0.040	-0.002	-0.021	-0.095
		(0.137)	(0.291)	(0.028)	(0.073)
Prefecture fixed effects	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y
Additional controls		Y	Y	Y	Y
Observations	2,690	2,690	1,730	2,690	2,690
Number of prefectures	269	269	269	269	269
R-squared	0.235	0.238		0.203	0.269
Mean of DV	0.593	0.593	0.923	0.099	0.335

Notes: Treaty port is a dummy variable that equals one if a prefecture (and its adjacent prefectures) had been opened as a treaty port. We use treaty ports to indicate the existence of economic complementarity between Christian missionaries and local Confucian elites, reasoning that the Confucian elites could benefit from Western (modern) influence around the treaty port areas. Columns (1)-(3) winsorize the top one percent distribution of the dependent variable to mitigate the extreme value bias. Additional controls are the same as those in Table 1. Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3. Complementarity (public goods provision) and religious conflicts

	(1)	(2)	(3)	(4)	(5)
Public goods type	Total	Schools	Charities	Printing Presses	Hospitals
Panel A	Dependent variable is the number of anti-missionary cases (mean = 0.65)				
Public goods	-0.069*	-0.098*	-0.706	-0.725*	0.037
	(0.039)	(0.054)	(0.482)	(0.398)	(0.133)
R-squared	0.247	0.248	0.247	0.246	0.245
Panel B	Dependent variable is the number of anti-missionary prints (mean = 0.11)				
Public goods	-0.014	-0.004	-0.440**	0.040	-0.096**
	(0.013)	(0.017)	(0.174)	(0.108)	(0.037)
R-squared	0.209	0.209	0.215	0.208	0.212
Prefecture fixed effects	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y
Additional controls	Y	Y	Y	Y	Y
Observations	2,270	2,270	2,270	2,270	2,270
Number of prefectures	227	227	227	227	227

Notes: All columns report the OLS estimates. The sample is restricted to prefectures where there were missionaries. Public goods include schools, charities, printing presses and hospitals established by the missionaries in China. Additional controls include the average number of missionaries of each five-year period, treaty port, population density, years of floods, years of droughts, and the interaction terms between missionary entry and time-invariant variables (provincial capital, distance to coast, terrain ruggedness). Robust standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4. The short-term economic impacts of the religious conflicts, 1870-1910

	(1)	(2)	(3)	(4)
	OLS	OLS	OLS	OLS
Panel A: Foreign Investments	Number of foreign industrial firms		Number of foreign banks	
Number of anti-missionary cases	-0.008***	-0.006**	-0.009**	-0.009**
	(0.002)	(0.003)	(0.004)	(0.004)
Mean of DV	0.093	0.093	0.155	0.155
R-squared	0.741	0.749	0.913	0.917
Panel B: Domestic Investments	Number of Chinese industrial firms		Number of Chinese banks	
Number of anti-missionary cases	-0.018**	-0.015**	-0.004***	-0.004***
	(0.009)	(0.006)	(0.001)	(0.001)
Mean of DV	0.389	0.389	0.035	0.035
R-squared	0.478	0.549	0.247	0.310
Prefecture fixed effects	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y
Additional controls		Y		Y
Observations	2,152	2,152	2,152	2,152
Number of prefectures	269	269	269	269

Notes: The sample includes 269 prefectures between 1870 and 1910 (on a five-year basis). Panel A examines the effect of the anti-missionary conflicts on foreign direct investments in China measured by the numbers of foreign firms and banks. Panel B examines the effect of the anti-missionary conflicts on China's domestic economic modernization measured by the number of modern industrial firms and banks established by the Chinese. The controls are treaty port duration, missionary duration, Confucian elites, and the interaction terms between five-year dummies and the time-invariant prefectural factors (population density in 1850, provincial capital dummy, distance to the coast, and terrain ruggedness index). Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5. The medium-term economic impacts of the Boxer rebellion, 1870-1930

	(1)	(2)	(3)	(4)
	Full sample	North China	Full sample	North China
Panel A: Foreign Investments	Number of foreign industrial firms		Number of foreign banks	
Post 1901 × Boxer regions	-0.113*	-0.223*	-0.283*	-0.769**
	(0.061)	(0.117)	(0.146)	(0.300)
Mean of DV	0.092	0.077	0.229	0.195
R-squared	0.721	0.499	0.753	0.766
Observations	2,690	770	3,228	924
Panel B: Domestic Investments	Number of Chinese industrial firms		Number of Chinese banks	
Post 1901 × Boxer regions	-0.762*	-1.749***	-0.894*	-2.390**
	(0.460)	(0.656)	(0.486)	(1.196)
Mean of DV	0.829	0.602	0.725	1.048
R-squared	0.535	0.566	0.419	0.525
Prefecture fixed effects	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y
Additional controls	Y	Y	Y	Y
Observations	3,228	924	3,228	924
Number of prefectures	269	77	269	77

Notes: In this table, we replicate Table 4 but focus on the effect of the Boxer rebellion (1899-1901). Given that the Boxers were prevented from plundering southeastern China by the southeastern provinces' mutual defense pact (see Figure 3), we make use of the 'discontinuity' along the boundary dividing the Boxers and the compact regions to compare the two regions' economic development after the Boxers were suppressed in 1901. Columns 1 and 3 use the full sample of 269 China proper prefectures. Columns 2 and 4 limit the sample to northern China (i.e., 77 prefectures in Shandong, Henan, Anhui, Shanxi, and Zhili provinces) to mitigate the possible confounding effect of the north-south differences. Post 1901 is the time dummy indicating the years after the Boxer rebellion. Additional controls include the treaty port duration, missionary duration, Confucian elites, and the interaction terms between five-year dummies and prefectural factors (population density in 1850, provincial capital dummy, distance to the coast, terrain ruggedness index, and distance to the nearest garrisons of Western powers in China). Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6. The long shadow of religious conflicts on foreign direct investment in real use (in billions), 1990-2019

	Independent variable: Dummy			Independent variable: Continuous		
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	OLS	OLS	OLS
Anti-missionary cases × Year 1990-1994	-0.897***	-0.601***	-1.431*	-0.469**	-0.348**	-0.203*
	(0.224)	(0.195)	(0.754)	(0.189)	(0.153)	(0.119)
Anti-missionary cases × Year 1995-1999	-0.765***	-0.539***	-1.326*	-0.428**	-0.340**	-0.201*
	(0.216)	(0.199)	(0.708)	(0.170)	(0.143)	(0.108)
Anti-missionary cases × Year 2000-2004	-0.647***	-0.444**	-1.201*	-0.374**	-0.294**	-0.173*
	(0.192)	(0.176)	(0.648)	(0.154)	(0.131)	(0.096)
Anti-missionary cases × Year 2005-2009	-0.497***	-0.342**	-0.994*	-0.324**	-0.265**	-0.172**
	(0.173)	(0.163)	(0.566)	(0.125)	(0.109)	(0.081)
Anti-missionary cases × Year 2010-2014	-0.161	-0.105	-0.340	-0.112*	-0.092*	-0.058
	(0.098)	(0.092)	(0.257)	(0.067)	(0.053)	(0.046)
Historical FDI		Y	Y		Y	Y
Other controls			Y			Y
Observations	1,393	1,393	1,393	1,393	1,393	1,393
Number of cities	247	247	247	247	247	247
Mean of DV	0.497	0.497	0.497	0.497	0.497	0.497

Notes: The table reports the estimates on the effect of the total number of anti-missionary cases (1860 to 1910) on foreign direct investment in China from 1990 to 2019. We employ a flexible difference-in-differences estimation by interacting the dummy/number of anti-missionary cases with a full set of five-year dummies, omitting 2015-2019 as the reference. Historical FDI includes the average number of foreign-invested banks and the total number of foreign-invested firms from 1860 to 1930. Other controls include whether the city had missionaries, treaty ports, historical Confucianism, provincial capital, and Special Economic Zone (SEZ). Columns (1)-(3) use the dummy measure of anti-missionaries to compare the prefectures that had anti-missionary cases to the prefectures without anti-missionary cases in terms of the contemporary growth of foreign and domestic enterprises. Columns (4)-(6) examine the intensive margin of the anti-missionary effect using the log number of anti-missionary cases in 1860-1910 as the measure. Standard errors are clustered at the city level.

Table 7. The long impact of religious conflicts on people's attitudes toward *Restricting foreign imports to protect domestic economies* and trust toward foreigners

	Dependent variable: Whether you agree to restrict foreign imports to protect the domestic economy			Dependent variable: Whether you trust foreigners		
	(1)	(2)	(3)	(4)	(5)	(6)
	Logit	Logit	Logit	Logit	Logit	Logit
Anti-missionary cases	0.396***	0.378***	0.384***	-0.505***	-0.456***	-0.438***
	(0.151)	(0.144)	(0.139)	(0.180)	(0.166)	(0.155)
Treaty port	0.306	0.131	0.184	-1.010***	-1.041***	-1.018***
	(0.350)	(0.367)	(0.366)	(0.314)	(0.288)	(0.280)
Anti-missionary cases × Treaty port	-0.400**	-0.265	-0.283	0.734***	0.671***	0.627***
	(0.186)	(0.194)	(0.199)	(0.199)	(0.189)	(0.184)
Missionary duration		-0.182*	-0.259*		0.050	0.072
		(0.107)	(0.154)		(0.125)	(0.154)
Historical Controls		Y	Y		Y	Y
Individual Controls			Y			Y
Observations	2,175	2,175	2,047	1,619	1,619	1,509
Number of cities	51	51	51	51	51	51
Mean of DV	0.514	0.514	0.515	0.256	0.256	0.254

Notes: The dependent variable is measured at the individual level based on the survey of the *Attitudes towards Citizenship in China (2009)* (Shen et al., 2016). The original survey answers are graded from 1 (always agree) to 4 (never agree) for Columns (1)-(3), 1 (always trust) to 4 (never trust) for Columns (4)-(6). We code the grades 1 and 2 as 1, and 3 and 4 as zero. Anti-missionary cases are measured at the city level by aggregating the number of anti-missionary cases from 1860 to 1910 (in log). Historical controls include historical Confucianism (measured by the average density of Confucian elites) from 1860 to 1910 and foreign investment (measured by average number of foreign-invested banks and total number of foreign-invested firms) from 1860 to 1930. Individual controls include employment status, gender, ethnicity, marriage status, education level, and birth cohort. OLS regressions report similar results. Standard errors are clustered at the city level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Appendix

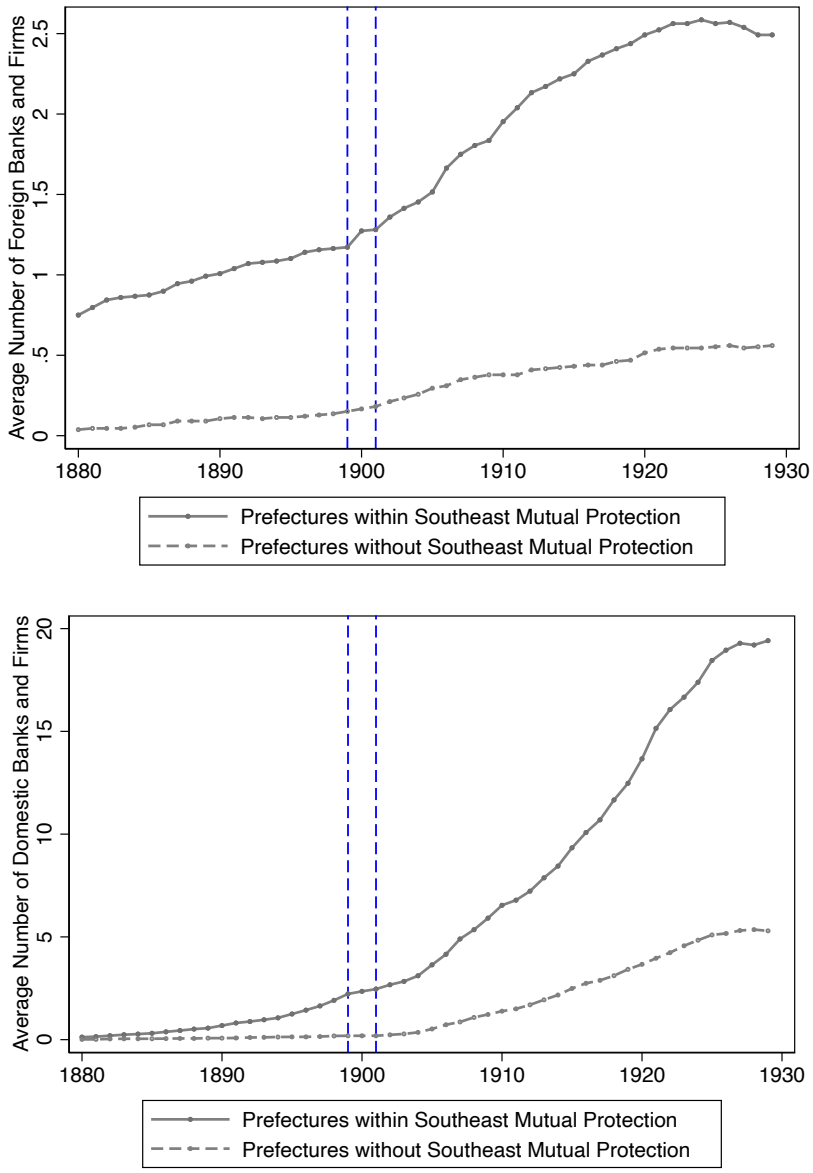


Figure A1. The Boxer rebellion and comparative development of modern banks and firms

Notes: The two figures show the divergent growth of modern banks and industrial firms between the prefectures raided by the Boxers in 1899-1901 and those outside (i.e., within the southeastern provinces' mutual defense pact).

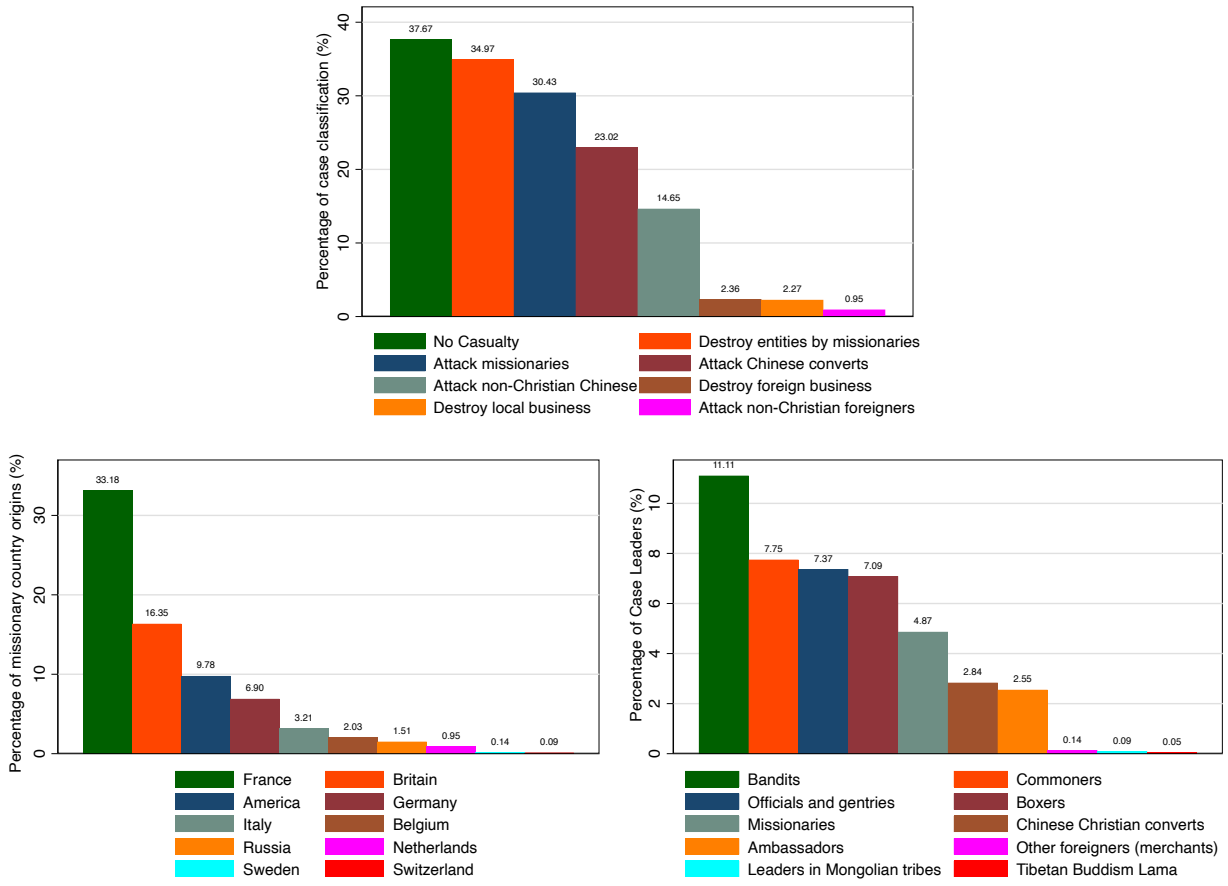


Figure A2. Classifications of anti-missionary cases

Notes: We classified the anti-missionary cases into different categories and calculated the percentage of cases in each category.

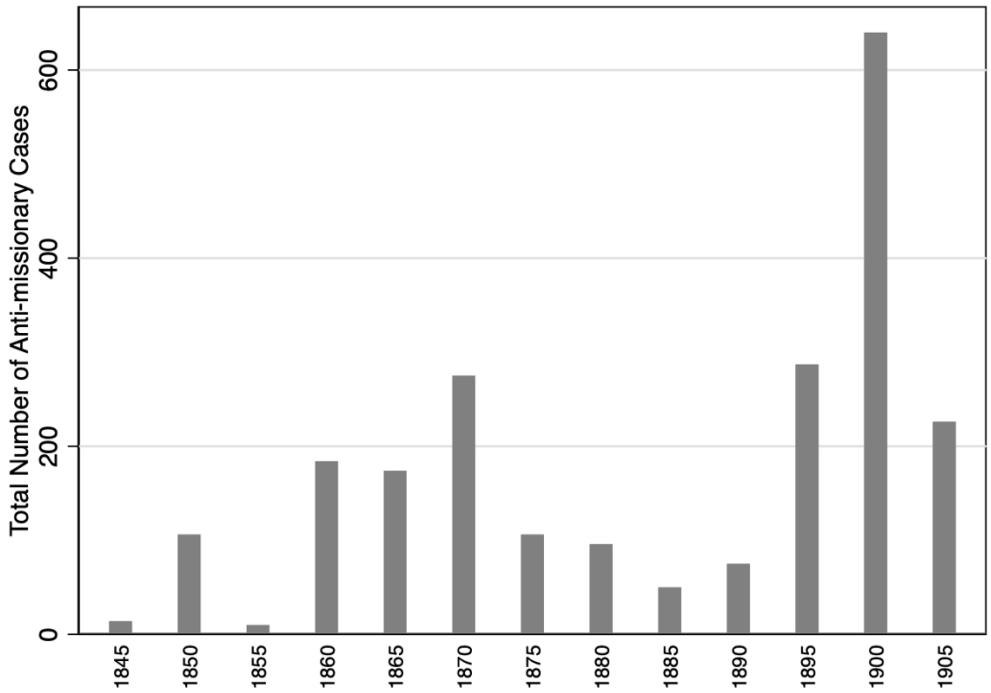
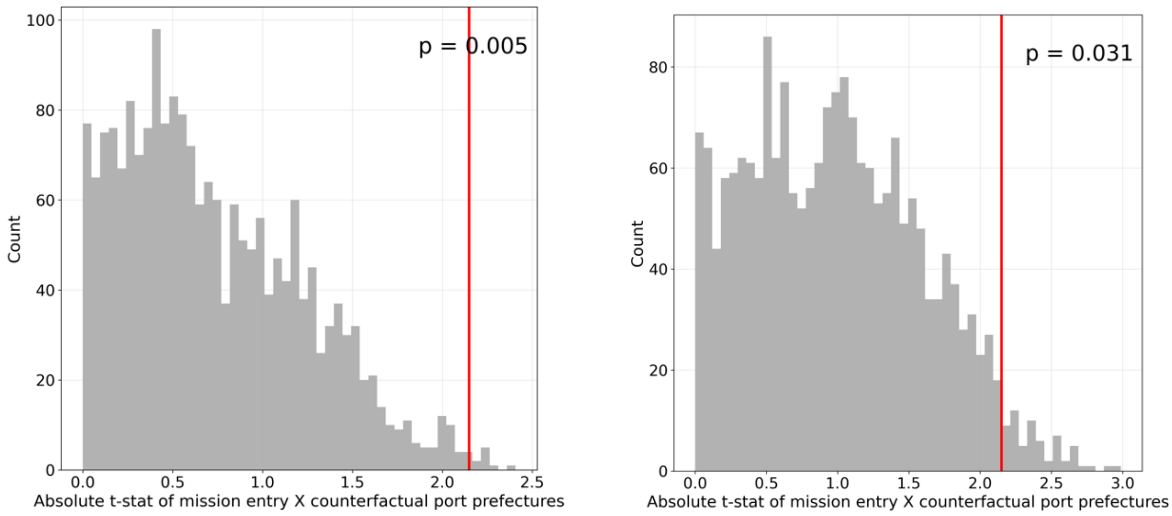


Figure A3. Dynamics of the anti-missionary cases in China (five-year aggregate, 1845 to 1910)

Notes: Anti-missionary cases include the conflicts and disputes between local Chinese and Christian missionaries, which are recorded by the Qing Ministry of Foreign Affairs in the Archives of Missionary Affairs and Cases (*Jiaowu Jiaoan Dang*) (see, The Institute of Modern History of the Academia Sinica (1974)).

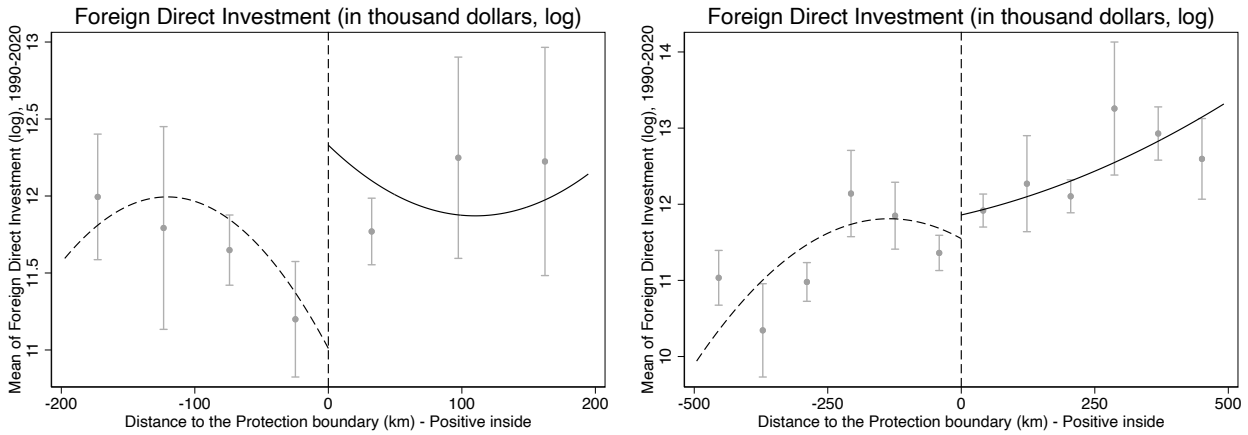


(a) Sample: Propensity scores matching

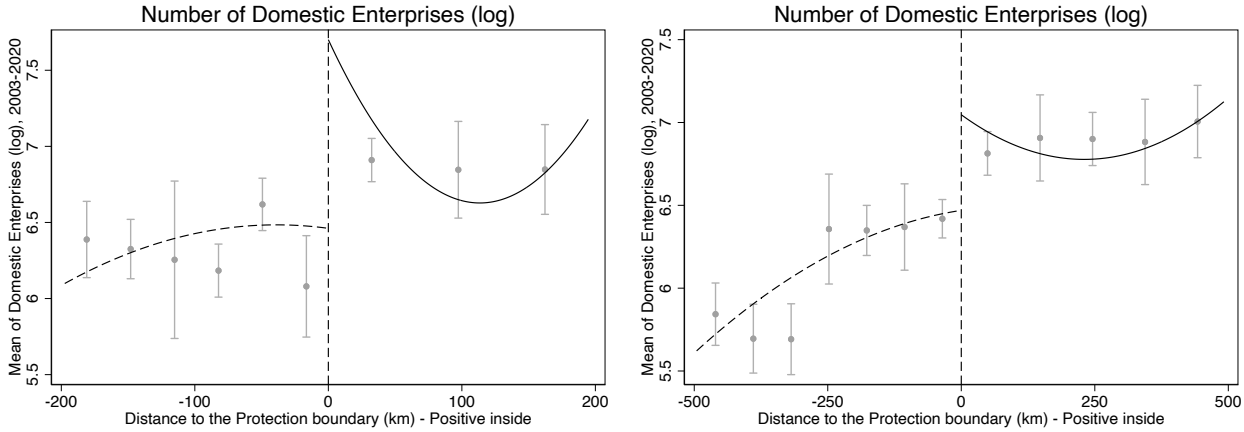
(b) Sample: Coast and Yangtze River

Figure A4. Randomization tests for the treaty port effect

Notes: The figures plot histograms of the absolute t statistics of the interaction between the missionary entry dummy and the treaty port dummy. All results are OLS estimates conditional on the same set of geographic factors as in Table A4. There are 37 treaty ports that were opened successively between 1845 and 1911 in our sample regions. In each five-year bin, we randomly select the same number of counterfactual treaty ports as that of the actual treaty ports. In Figure (a), the counterfactual treaty ports are drawn from the prefectures matched with the actual treaty ports based on the propensity scores in Table 4a. In Figure (b), the counterfactual treaty ports are drawn from all the 69 prefectures along/near the coast or the Yangtze River, in light of their geographic potential of becoming the treaty ports. Both samples exclude the 37 prefectures with actual treaty ports. In each sample, we repeat the drawing 2,000 times and thus construct 2,000 sets of counterfactual treaty ports that vary by the years of openings. The p-value refers to the share of the number of counterfactual t statistics that are greater than the t statistics of the actual treaty ports (red vertical line). For each figure, the vertical axis stands for the number of occurrences for the t statistics lying in a given range on the horizontal axis.



(a) City-level average foreign direct investment, 1990-2020



(b) City-level average number of domestic enterprises, 2003-2020

Figure A5. Discontinuity in contemporary economic outcomes by historical boundary of the Boxer rebellion

Notes: Panel (a) examines the discontinuity in average FDI (1990-2020) along the boundary of the Boxer rebellion. For robustness, we limit the sample areas to 200 km and 500 km, respectively, away from the boundary. Panel (b) examines the discontinuity in the average number of domestic enterprises (2003-2020) in the same vein of Panel (a). Additional controls include historical missionary presence, historical treaty port status, historical Confucian elites, historical foreign-invested banks and firms, provincial capital, average GDP per capita (1990-2020), and Special Economic Zone. Standard errors are all clustered at the prefectural level. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A1. Summary Statistics

Variable name	Obs.	Mean	S.D.	Min	Max
Economic origins (1860-1910)					
Number of anti-missionary cases	2,690	0.79	4.91	0	161
Number of anti-missionary prints	2,690	0.09	0.78	0	32
Word count of anti-missionary prints	2,690	72.19	631.67	0	24,287
Missionary entry	2,690	0.48	0.50	0	1
Missionary duration	2,690	9.77	16.11	0	104
Confucian elites (past 30 years)	2,690	6.97	11.20	0	94.12
Confucian temples	2,690	80.26	67.01	0	694.55
Confucian clans	2,690	13.12	36.26	0	331.12
Treaty port	2,690	0.21	0.41	0	1
Treaty port duration	2,690	3.99	10.00	0	45
Schools	2,690	0.81	3.45	0	55
Charities	2,690	0.03	0.21	0	4
Printing Presses	2,690	0.01	0.11	0	1
Hospitals	2,690	0.28	1.07	0	14
Population density (1850)	269	4.53	1.05	0.38	6.83
Flood	2,690	0.49	0.69	0	4
Drought	2,690	0.30	0.59	0	3
Provincial Capital	269	0.07	0.25	0	1
Distance to Coast	269	511.64	369.33	2.19	1,924.74
Terrain Ruggedness	269	233.82	181.76	4.42	972.47
Economic consequences (1870-1930)					
Number of foreign banks	3,228	0.23	1.48	0	33
Number of domestic banks	3,228	0.73	3.89	0	101
Number of foreign industrial firms	2,690	0.09	1.05	0	28
Number of domestic industrial firms	3,228	0.83	5.84	0	186
Number of anti-missionary cases	2,152	0.82	5.04	0	161
Number of Christian martyrs	269	1.07	6.13	0	60
Number of Protestant martyrs	269	0.32	4.16	0	46
Number of Catholic martyrs	269	0.75	3.76	0	56
Economic consequences (1990-2020)					
Attitudes toward Restricting foreign imports to protect domestic economies	2,175	0.51	0.50	0	1
Trust toward foreigners	1,619	0.26	0.44	0	1
Foreign direct investment	1,630	0.47	1.36	0	18.07
Number of domestic enterprises	1,460	981	1,248.98	3	10,141
Number of anti-missionary cases	51	7.95	9.74	0	46.70

Table A2. Religious competition and religious conflicts: Confucian temples and clans as alternative measures of Confucian strength

	Number of anti-missionary cases		Number of anti-missionary prints		Word count of anti-missionary prints (log)	
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	OLS	OLS	OLS
Missionary entry	1.645	0.863	0.414**	0.375**	1.649***	1.576**
	(1.254)	(1.415)	(0.173)	(0.174)	(0.591)	(0.624)
Missionary entry × Confucian clans	0.041		0.001		-0.007	
	(0.033)		(0.004)		(0.015)	
Missionary entry × Confucian temples		0.089		0.005		0.026
		(0.058)		(0.009)		(0.041)
Prefecture fixed effects	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y
Additional Controls	Y	Y	Y	Y	Y	Y
R-squared	0.234	0.234	0.201	0.201	0.265	0.266
Observations	2,690	2,690	2,690	2,690	2,690	2,690
Number of prefectures	269	269	269	269	269	269
Mean of DV	0.593	0.593	0.0985	0.0985	0.335	0.335

Notes: This table replicates Table 1 except we use the Confucian temples and clans to measure the strength of Confucianism. Confucian temples refer to the log number of temples worshipping Confucian figures in the 19th century (normalized by per million population). Confucian clans refer to the log number of genealogy books compiled during the Qing dynasty (1644-1840) (normalized by per million population). Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A3. Religious competition and religious conflicts: restricted sample of mission entry

	Number of anti-missionary cases				Number of anti-missionary prints	Word count of anti-missionary prints (log)
	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	Poisson	OLS	OLS
Missionary entry	0.278	0.440	0.840	1.802	0.328**	1.409**
	(0.173)	(0.287)	(1.332)	(1.518)	(0.160)	(0.557)
Confucian elites		-0.032	-0.019	-0.091	-0.038	-0.132
		(0.106)	(0.107)	(0.291)	(0.025)	(0.094)
Missionary entry × Confucian elites		-0.120	-0.128	-0.193	-0.015	-0.070
		(0.117)	(0.124)	(0.219)	(0.026)	(0.074)
Prefecture fixed effects	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y
Additional controls			Y	Y	Y	Y
Observations	2,200	2,200	2,200	1,540	2,200	2,200
Number of prefectures	220	220	220	220	220	220
R-squared	0.239	0.240	0.243		0.203	0.276
Mean of DV	0.672	0.672	0.672	0.960	0.113	0.377

Notes: The sample replicates Table 1 except that we only include the 220 Chinese prefectures that ever-had missions in 10 five-year time points between 1860 and 1910, with the purpose of mitigating the concerns on the endogenous selection of mission entry. Confucian elites are measured by the number of the highest civil examination degree holders produced in each prefecture in the previous 30 years (per million population and in natural logarithm). Missionary entry is a dummy variable that indicates when the missionaries had entered a prefecture. Columns (1)-(4) winsorize the top one percent distribution of the dependent variable to mitigate the extreme value bias. Additional controls include population density, years of floods, years of droughts, and the interaction terms between missionary entry and the time-invariant prefectural factors (provincial capital dummy, distance to the coast, and terrain ruggedness index). Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A4. Religious competition and religious conflicts: Missionary duration (years) as the alternative measure of missionary influence

	Number of anti-missionary cases		Number of anti-missionary prints	Word count of anti-missionary prints (log)
	(1)	(2)	(3)	(4)
	OLS	Poisson	OLS	OLS
Missionary duration	0.529***	0.591**	0.043	0.124
	(0.187)	(0.283)	(0.030)	(0.092)
Confucian elites	0.026	-0.044	-0.019	-0.078
	(0.119)	(0.349)	(0.021)	(0.070)
Missionary duration × Confucian elites	-0.098	-0.059	-0.014	-0.052
	(0.063)	(0.074)	(0.013)	(0.034)
Prefecture fixed effects	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y
Additional Controls	Y	Y	Y	Y
R-squared	0.240		0.202	0.271
Observations	2,690	1,730	2,690	2,690
Number of prefectures	269	269	269	269
Mean of DV	0.593	0.923	0.0985	0.335

Notes: This table replicates Table 1 except we use the missionary duration (years since the missionary entry in a prefecture) to measure the strength of missionary influence. Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A5. Complementarity (through treaty ports) and religious conflicts in prefectures where there were missionaries

	Number of anti-missionary cases			Number of anti-missionary prints	Word count of anti-missionary prints (log)
	(1)	(2)	(3)	(4)	(5)
	OLS	OLS	Poisson	OLS	OLS
Treaty port	-0.149	-0.009	0.496	0.019	0.375
	(0.315)	(0.308)	(0.651)	(0.089)	(0.278)
Mission entry	0.355**	1.195	1.281	0.364**	1.365***
	(0.176)	(1.289)	(1.529)	(0.157)	(0.519)
Mission entry × Treaty port	-0.709***	-0.950***	-1.278**	-0.124*	-0.418*
	(0.263)	(0.264)	(0.571)	(0.067)	(0.226)
Confucian elites		-0.020	-0.161	-0.038	-0.134
		(0.104)	(0.287)	(0.025)	(0.094)
Mission entry × Confucian elites		-0.109	-0.163	-0.012	-0.064
		(0.122)	(0.223)	(0.026)	(0.074)
Prefecture fixed effects	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y
Additional controls		Y	Y	Y	Y
Observations	2,200	2,200	1,540	2,200	2,200
Number of prefectures	220	220	220	220	220
R-squared	0.243	0.248		0.203	0.277
Mean of DV	0.672	0.672	0.960	0.113	0.377

Notes: Treaty port is a dummy variable that equals one if a prefecture (and its adjacent prefectures) had been opened as a treaty port. We use treaty ports to indicate the existence of economic complementarity between Christian missionaries and local Confucian elites, reasoning that the Confucian elites could benefit from Western (modern) influence around the treaty ports areas. Additional controls are the same as those in Table 1. Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A6. Treaty port and anti-missionary movements: Missionary duration (years) as the alternative measure of missionary influence

	Number of anti-missionary cases		Number of anti-missionary prints	Word count of anti-missionary prints (log)
	(1)	(2)	(3)	(4)
	OLS	Poisson	OLS	OLS
Missionary duration	0.598***	0.783***	0.077**	0.138*
	(0.137)	(0.279)	(0.035)	(0.073)
Treaty port	0.044	0.613	0.153**	0.565**
	(0.226)	(0.567)	(0.060)	(0.230)
Missionary duration × Treaty port	-0.441***	-0.496***	-0.115**	-0.245***
	(0.120)	(0.157)	(0.046)	(0.084)
Prefecture fixed effects	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y
Additional Controls	Y	Y	Y	Y
R-squared	0.245		0.205	0.274
Observations	2,690	1,730	2,690	2,690
Number of prefectures	269	269	269	269
Mean of DV	0.593	0.923	0.099	0.335

Notes: This table replicates Table 2 except we use the missionary duration (years since the missionary entry in a prefecture) to measure the strength of missionary influence. Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A7. Complementarity (through treaty ports) and religious conflicts: Results of propensity score matching

	Number of anti-missionary cases		Number of anti-missionary prints	Total word count of anti-missionary prints (log)
	(1)	(2)	(3)	(4)
	OLS	Poisson	OLS	OLS
Treaty port	-0.363	1.165*	0.065	0.415**
	(0.270)	(0.595)	(0.060)	(0.185)
Mission entry	1.880	1.832	0.456	2.108**
	(2.481)	(2.334)	(0.298)	(0.945)
Mission entry × Treaty port	-0.824***	-2.025***	-0.167**	-0.414**
	(0.283)	(0.584)	(0.080)	(0.182)
Confucian elites	-0.019	-0.109	-0.044	-0.143
	(0.135)	(0.477)	(0.041)	(0.140)
Mission entry × Confucian elites	-0.071	-0.282	-0.024	-0.166
	(0.152)	(0.295)	(0.048)	(0.107)
Prefecture fixed effects	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y
Additional Controls	Y	Y	Y	Y
R-squared	0.239		0.195	0.291
Mean of DV	0.715	1.034	0.138	0.416
Observations	1,360	940	1,360	1,360
Number of prefectures	136	136	136	136

Notes: This table replicates Table 2 except for using a restricted sample region based on propensity score matching. We use propensity scores to identify 68 prefectures that have similar geographic and economic characteristics as the 68 actual treaty ports (and their neighboring prefectures). The geographic and economic characteristics include the distance to the coast, the distance to navigable river, terrain ruggedness index, longitude, latitude, population density, provincial capital, and missionary duration. Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A8. The spillover effect of foreign investment on domestic investment, 1870-1920

	(1) OLS	(2) OLS
	Number of Chinese industrial firms	Number of Chinese banks
Foreign banks (lag)	-0.219	1.269**
	(0.818)	(0.521)
Foreign industrial firms (lag)	2.713***	0.086
	(1.043)	(0.190)
Chinese banks (lag)	2.214***	
	(0.773)	
Chinese industrial firms (lag)		0.208***
		(0.052)
Observations	2,690	2,690
R-squared	0.809	0.689
Prefecture fixed effects	Y	Y
Year fixed effects	Y	Y
Number of prefectures	269	269
Mean of DV	0.633	0.295

Notes: This table examines the potential spillover effect of foreign investment in the last five-year period on domestic investment. The analysis is restricted to the period up to 1920 due to data limitations on foreign industrial firms. The controls are treaty port duration, missionary duration, Confucian elites, and the interaction terms between five-year dummies and the time-invariant prefectural factors (population density in 1850, provincial capital dummy, distance to the coast, and terrain ruggedness index). Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A9. The short-term economic impacts of the Boxer rebellion: Alternative bandwidths along the Boxer boundary

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	OLS	OLS	OLS	OLS	OLS
Panel A: Foreign Investments	Number of foreign industrial firms			Number of foreign banks		
Post 1901 × Boxer regions	-0.158**	-0.172*	-0.151*	-0.432***	-0.215*	-0.231*
	(0.078)	(0.094)	(0.077)	(0.159)	(0.118)	(0.126)
R-squared	0.501	0.504	0.500	0.806	0.805	0.805
Observations	980	760	1,010	1,176	912	900
Number of prefectures	98	76	101	98	76	59
Bandwidth along the boundary of the Southeast Mutual Protection	200 km	150 km	207 km	200 km	150 km	143 km
Panel B: Domestic Investments	Number of Chinese industrial firms			Number of Chinese banks		
Post 1901 × Boxer regions	-1.299***	-0.724**	-1.312***	-1.386***	-0.717*	-1.035*
	(0.427)	(0.309)	(0.445)	(0.509)	(0.419)	(0.566)
R-squared	0.581	0.544	0.580	0.529	0.494	0.487
Observations	1,176	912	1,212	1,176	912	1,668
Number of prefectures	98	76	101	98	76	139
Bandwidth along the boundary of the Southeast Mutual Protection	200 km	150 km	209 km	200 km	150 km	296 km
Year fixed effects	Y	Y	Y	Y	Y	Y
Prefecture fixed effects	Y	Y	Y	Y	Y	Y
Additional controls	Y	Y	Y	Y	Y	Y
Polynomial distance to the boundary of the Southeast Mutual Protection	Y	Y	Y	Y	Y	Y

Notes: This table replicates Table 5 but uses different samples along the boundary of the southeastern provinces' mutual defense pact. Columns (3) and (6) use Epanechnikov kernel to calculate the optimal bandwidth, whereas the other columns limit the sample region within 200 and 150 kilometers (which covers approximately two to three prefectures along the pact boundary). The controls are treaty port duration, missionary duration, Confucian elites, and the interaction terms between five-year dummies and the time-invariant prefectural factors (population density in 1850, provincial capital dummy, distance to the coast, terrain ruggedness index, and distance to the nearest garrisons of Western powers in China). Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table A10. The medium-term economic impacts of the Boxer rebellion: Alternative measure of the Christian martyrs, 1870-1930

	Number of foreign industrial firms		Number of foreign banks		Number of Chinese industrial firms		Number of Chinese banks	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
Post 1901 × Total martyrs	-0.009*		-0.039***		-0.095***		-0.105***	
	(0.005)		(0.012)		(0.036)		(0.029)	
Post 1901 × Prot. martyrs		0.005		-0.124		-0.396		-0.183
		(0.050)		(0.079)		(0.241)		(0.228)
Post 1901× Cath. martyrs		-0.010**		-0.035***		-0.079***		-0.101***
		(0.004)		(0.007)		(0.016)		(0.025)
R-squared	0.496	0.497	0.805	0.807	0.576	0.581	0.527	0.527
Prefecture fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y
Additional controls	Y	Y	Y	Y	Y	Y	Y	Y
Observations	980	980	1,176	1,176	1,176	1,176	1,176	1,176
Number of prefectures	98	98	98	98	98	98	98	98
Mean of DV	0.074	0.074	0.245	0.245	0.535	0.535	0.830	0.830

Notes: This table replicates Table 5 but uses the 200 km sample along the boundary of the southeastern provinces' mutual defense pact to make the control and treatment group more balanced. We use the continuous measure of Christian martyrs during the Boxer Uprising to replace the Boxer region dummy. The controls are treaty port duration, missionary duration, Confucian elites, and the interaction terms between five-year dummies and the time-invariant prefectural factors (population density in 1850, provincial capital dummy, distance to the coast, terrain ruggedness index, and distance to the nearest garrisons of Western powers in China). Standard errors are clustered at the prefectural level and reported in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.