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## The Legal Origins of Financial Development: Evidence from the Shanghai Concessions

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#### **ABSTRACT**

The primary challenge to assessing the legal origins view of comparative financial development is identifying exogenous changes in legal systems. We assemble new data on Shanghai's British and French concessions between 1845 and 1936. Two regime changes altered British and French legal jurisdiction over their respective concessions. By examining the changing application of different legal traditions to adjacent neighborhoods within the same city and controlling for military, economic, and political characteristics, we offer new evidence consistent with the legal origins view: the financial development advantage in the British concession widened after Western legal jurisdiction intensified and narrowed after it abated.

THE LEGAL ORIGINS VIEW OF comparative financial development stresses that economies with a common law tradition better protect private contracts and investors, enhancing the functioning of financial markets and institutions (La Porta et al. (1997, 1998)). This view further asserts that legal traditions developed in Europe spread to other countries through conquest and colonization. Researchers exploit differences in legal origin as exogenous determinants of differences in legal systems and financial development. Extensive research confirms the main prediction of the legal origins view: countries with a common law tradition have more developed financial systems than those with a French civil law tradition (e.g., La Porta et al. (1997, 1998, 2002), Beck, Levine, and Loayza (2000), Levine, Loayza, and Beck (2000), Barth, Caprio, and Levine (2004), Berkowitz and Clay (2005, 2011), Durnev and Kim (2005), Morck, Wolfenzon, and Yeung (2005), La Porta, Lopez-de-Silanes, and Shleifer (2006), Djankov, McLiesh, and Shleifer (2007), Djankov et al. (2008), Brown, Martinsson, and Petersen (2013)).

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However, as La Porta, Lopez-de-Silanes, and Shleifer (2008) point out in their literature review, the primary challenge to assessing the legal origins view is the degree to which one can interpret legal origin as an exogenous source of variation in the legal framework affecting financial development (e.g., Pistor (2009), Musacchio and Turner (2013)). For example, a country's legal tradition could proxy for culture (e.g., Stulz and Williamson (2003), Licht, Goldschmidt, and Schwartz (2005), Voigtländer and Voth (2012), Pascali (2016), Pierce and Snyder (2017), D'Acunto (2019)), social capital (e.g., Guiso, Sapienza, and Zingales (2004), politics (e.g., Glaeser and Shleifer (2002), Rajan and Zingales (2003), Pagano and Volpin (2005), Perotti and von Thadden (2006), Roe (2006)), or other factors omitted from the analysis. To address this concern, researchers have controlled for various potentially confounding factors to better identify the impact of legal systems on financial development (e.g., Beck, Demirgüç-Kunt, and Levine (2003a), Djankov et al. (2003), Fisman and Love (2004), Jappelli, Pagano, and Bianco (2005), La Porta et al. (2006, 2008), Safavian and Sharma (2007), Brown, Martinsson, and Petersen (2013)). Nevertheless, without randomly assigning legal systems to otherwise similar economies and assessing the ramifications for financial development, identifying the impact of legal origin on financial development remains a challenge.

In this paper, we exploit the unique history of Western concessions in China between 1845 and 1936 to assess the legal origins view of financial development. In Shanghai, China granted Britain and France concessions over adjacent and similar plots of land following the First Opium War. These lands were uncultivated and thus had no banks or financial markets before China conceded them to Britain and France. The British applied the common law tradition in their concession, while the French concession applied the French civil law. We evaluate the impact of the different legal traditions on financial development within the same city. In addition to the spatial discontinuity in legal traditions, another unique advantage of examining the Shanghai concessions is that there were two pivotal changes in legal jurisdiction over the concessions. The first intensified the application of British common law and French civil law in their respective concessions, while the second eliminated the application of Western legal traditions in their concessions. We can therefore examine two changes in the degree to which the British common law and French civil law regimes shaped financial development in the respective concessions. Examining the comparative financial development effects of changes in the application of different legal traditions on similar plots of land within the same city addresses several identification challenges associated with crosscountry comparisons.<sup>1</sup>

To motivate our econometric strategy, we briefly describe the two pivotal changes in legal jurisdiction over the Shanghai concessions, offering a fuller description in Section I. From the founding of the British concession in 1845

<sup>&</sup>lt;sup>1</sup> Brown, Cookson, and Heimer (2017) examine the implications of imposing federal or state courts on different Native American reservations. We study the impact of imposing different legal systems on different areas of the same city.

and the French concession in 1849 until 1869, the British and French administered their concessions, but the Western powers had yet to operationalize their respective legal systems formally—the respective consulates handled legal cases that arose in their jurisdictions. As more Chinese individuals and businesses moved into the concessions, the number of "mixed" cases involving Chinese and foreigners increased. In response, in the first pivotal change in the concessions' legal systems, the British and French established their own Mixed Courts to handle the full range of legal disputes, including mixed cases. The British Mixed Court applied the common law, and the French Mixed Court applied French civil law. The second pivotal change in the legal systems governing the concessions occurred in 1926 when the Provisional Rendition Agreement triggered a change from British common law and French civil law to Chinese civil law in the respective concessions. Specifically, under the Agreement, while the Western powers maintained administrative control, they returned legal jurisdiction to Chinese-run courts. These two changes in the legal systems governing the concessions serve as critical breakpoints in the difference-in-differences methodology described below. Since British and French administrative influence over the concessions started to wane with the Second Sino-Japanese War, we end our analyses in 1936.

We manually collect data on financial development. Our primary measure of financial development is the number of banks per square kilometer in each concession-year. While many studies of bank development use measures of credit as a share of gross domestic product (GDP) (e.g., King and Levine (1993)), data on bank credit and concession GDP are unavailable. We therefore focus on bank density. The bank density measure includes data on foreign banks, Chinese modern (joint-stock) banks, and Chinese traditional banks (qianzhuang). We compute the exact location of each bank by combining historical information on street addresses and mapping those addresses to Geographic Information System (GIS) coordinates. We also compile annual information on the stock returns of all traded companies after 1866. Using these data, we examine how financial development changes following changes in legal jurisdiction over the Shanghai concessions.

To assess the impact of the British common law and French civil law traditions on comparative financial development, we begin by evaluating the first pivotal change in legal jurisdiction over the concessions using a difference-in-differences strategy. As noted above, creating the Mixed Courts in 1869 constituted a regime change, as the British and French formally implemented their legal systems in their respective concessions. The legal origins view predicts that financial development in the British concession should grow more quickly than the French concession after 1869. The difference-in-differences analyses include concession and year fixed effects to help isolate the independent relationships between the two legal traditions and comparative financial development. To further distinguish the legal effect associated with the creation of the Mixed Courts from other factors, we control for the concession effects associated with the founding of the concessions, when Britain and France administered but did not have complete legal jurisdiction over their

concessions. By controlling for differences in comparative financial development during the pre-Mixed Courts period, we shed light on whether financial development increased more quickly in the British concession compared to the French concession after the establishment of the Mixed Courts in 1869 above and beyond differences due to the establishment of the two concessions.

Consistent with the legal origins view of comparative financial development, we find that bank density in the British concession grew more quickly than that in the French concession after 1869. The British concession had, on average, about two more banks per square kilometer each year than the French concession before the 1869 establishment of the Mixed Courts. This gap increased by six to nine banks per square kilometer after 1869 (i.e., between 1870 and 1925). Furthermore, when examining parallel trends, there is no sign of a change in comparative financial development before 1869. However, there is a notable and statistically significant break in the evolution of comparative financial development following the application of the different legal traditions in the concessions.

These analyses may suffer from two potential concerns. First, foreign bank entry may have been driven by differences in British and French empire-building rather than by differences in legal systems. We address this concern by rerunning analyses on the subsample of Chinese banks. We find that Chinese banks drive the increase in comparative financial development in the British concession, not the entry of foreign banks. Second, although historical descriptions indicate that Britain and France established concessions on similar, adjacent lands, potential differences between the two areas may have affected bank entry. We control for such within-concession variation by dividing the concessions into 200 m by 200 m grid cells and then repeat our analyses at this more granular level, including grid-cell fixed effects to account for within-concession variation. The results continue to hold.

Although the analyses include concession and year fixed effects, and they also control for the concession effect, time-varying omitted factors could trigger a break in comparative financial development around 1869. To address this concern, we condition on differences in five concession-level characteristics and five indicators of Britain's and France's global military, economic, and political power. Regarding concession characteristics, namely, differences in (i) nonlegal governance institutions in concessions, (ii) population, (iii) infrastructure expenditures, (iv) the number of international trading companies, and (v) the impact of violent conflict in China on the concessions. We also condition on differences in the British and French empires, namely, differences in (i) the number of concessions in other Chinese cities, (ii) the number of naval ships, (iii) the number of war victories around the world, (iv) the political systems of Britain and France, (v) GDP, and (vi) stock market performance between Britain and France. Furthermore, because the creation of the concessions could have set in motion different financial system dynamics not fully captured by concession and year fixed effects or by the array of time-varying control variables, we also include the interactions between a British concession dummy variable and both linear and quadratic trends.

The results are robust to controlling for these additional covariates: we find a sharp increase in comparative financial development in the British concession following the establishment of the British and French Mixed Courts. These findings alleviate concerns that an omitted factor drives the break in comparative financial development in 1869. While other historical factors also affected comparative financial development, the findings suggest a robust, independent impact of the two legal systems on comparative financial development.

To further reduce the potentially confounding effects of other historical events, we rerun the analyses on two subperiods and on aggregated data. First, we limit the sample period to the Qing dynasty (1840 to 1910), thereby excluding the tumultuous change to Republican rule. Second, we restrict the sample period to the comparatively peaceful period between the Taiping Rebellion and the First Sino-Japanese War (1864 to 1894). The subsample analyses indicate whether the results hold for narrower windows around the 1869 formation of the Mixed Courts. Third, we use data averaged over five-year periods. This analysis focuses on the longer-run relationship between legal traditions and comparative financial development. All of the results continue to hold when implementing these additional strategies.

We next investigate the second pivotal change in legal jurisdiction over the concessions—the rendition of the Mixed Courts in 1926. The rendition returned legal jurisdiction to Chinese-run courts without changing the administration of the concessions. The legal origins view predicts that since British common law has a comparative advantage over French civil law in supporting financial activities, the rendition of the Mixed Courts should have a stronger adverse impact on financial development in the British concession. To test this prediction, we again employ a difference-in-differences approach. The first difference in these rendition analyses compares the British and French concessions. The second difference compares the years before and after the 1926 rendition of the Mixed Courts to Chinese control. We also include the complete set of controls in these analyses. Examining the 1926 rendition further reduces concerns about omitted variable bias, as omitted variables would have to account for the findings concerning both the 1869 and the 1926 changes in legal systems.

The results from the rendition analyses are consistent with the legal origins view of comparative financial development. In particular, the British concession experienced a much sharper decline in bank density following 1926. Moreover, using data on individual bank performance as measured by return on assets (ROA), we find a larger decrease in ROA among banks in the British concession. Evidence from changes in stock returns over a 24-month window around the 1926 Provisional Rendition Agreement further supports the legal origins view—stock returns in the concessions decrease materially following the rendition of the Mixed Courts, with the decline more pronounced among firms in the British concession. Taken together, our findings that the financial development advantage of the British concession surged after the 1869 application of the British common law and French civil law traditions in their

respective concessions, and then decreased with the 1926 rendition of the Western legal systems to Chinese-run courts support the legal origins view.

In a final analysis, we examine 16 concessions in three cities outside of Shanghai: Guangzhou, Hankou, and Tianjin. These concessions were granted to countries with a common law tradition (Britain and the United States) or a civil law tradition (Austro-Hungarian Empire, Belgium, France, Germany, Italy, Japan, and Russia). We analyze these three cities because each contains at least one common law and one civil law concession within its borders which allows us to continue to compare financial development across concessions with different legal systems in the same city. However, the concessions in these cities did not experience the sharp intertemporal breakpoints in legal jurisdiction that characterize the Shanghai concessions, which reduces our ability to distinguish the effects of legal tradition from other characteristics of the concessions that might shape financial development. Nevertheless, we provide these analyses to augment our examination of the Shanghai concessions. Consistent with the Shanghai results, we find that financial development is materially greater in the common law concessions than in their civil law counterparts.

Our work relates to several lines of research. We contribute to the broad literature on the effects of European colonization on economic development by examining the impact of Western legal traditions on financial development in China (see, e.g., Acemoglu, Johnson, and Robinson (2001) and the review by Levine (2005)). We also add to a growing body of research on how the West shaped Chinese economic development during the 19th and 20th centuries (e.g., Fairbank (1978), Feuerwerker (1983), Kung (2022)). Several recent studies explore the effect of Western influences on international trade and the diffusion of knowledge following the First Opium War (1840 to 1842) on Chinese economic growth, firm dynamics, and domestic trade (e.g., Jia (2014), Bai and Kung (2015), Keller, Santiago, and Shiue (2017), and Keller and Shiue (2021)). Xin and Yan (2021) compare risk management by banks in the British and French concessions in the 1930s and argue that the French concession had a more authoritarian governance structure than the British concession, leading to a less stable environment and lower loan-to-deposit ratios. More closely related to our work, Keller and Shiue (2021) examine the relations between Western legal institutions and interest rates across Chinese prefectures between 1820 and 1900. Using the existence of a Western consulate to capture the presence of Western legal institutions, they find a negative relationship between the presence of a consulate and prefecture interest rates and show that this relationship is driven mainly by whether the prefecture has a British consulate. We focus on identifying the effect of legal origins on comparative financial development by (i) examining two adjacent plots of land in the same city, (ii) evaluating the impact of two changes in legal regime (the establishment of the Mixed Courts in 1869 and the rendition of those courts in 1926), and (iii) analyzing the response of foreign banks, Chinese modern banks, Chinese traditional banks, joint-stock companies, and stock returns to these changes in legal regime. We stress that the British and French consulates administered their respective concessions from before the first until after the second change in legal regime, and the analyses condition on various concession- and empire-level factors to isolate the impact of legal reforms on comparative financial development. Finally, we confirm that the results based on the Shanghai concessions hold when examining other cities in China with multiple Western concessions.

The remainder of the paper is organized as follows. Section I provides a more detailed history of the Shanghai concessions. Section III describes the data. Section III presents the results on changes in comparative financial development after Britain and France created the Mixed Courts. Section IV reports results on changes in comparative financial development associated with the rendition of the courts to Chinese rule. Section V investigates the relationship between different legal systems and comparative financial development in cities outside of Shanghai. Section VI concludes.

#### I. Shanghai Concessions

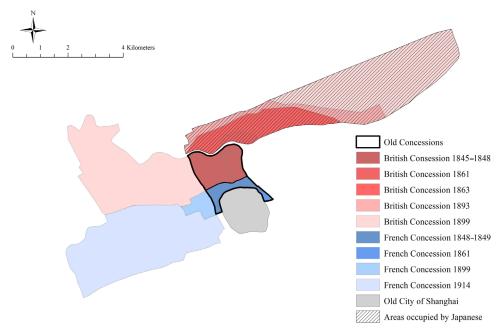
In 1845, the British concession in Shanghai was formally established after Britain defeated China in the First Opium War (1839 to 1842) and demanded greater access to Chinese markets. Britain forced the Qing Dynasty to cede 830 acres of land in Shanghai. This concession was an enclave for British settlement, business, and trade, not a military occupation. In later years, China agreed to Britain's request to expand the concession as the number of foreign and Chinese settlers increased. The United States also received a Shanghai concession that bordered the British concession. The British and American concessions merged in 1863 and became known as the Shanghai International Settlement. The concession reached a maximum size of 33,503 acres in 1899. Although more than 10 countries had consulates within the Settlement, Britain dominated the administration of the International Settlement. For example, British citizens accounted for about 90% of the executive members of the concession's Municipal Council (Wang (1998)). Accordingly, we follow the literature and use the term "British concession" in referring to the International Settlement.

In 1849, the French also established a concession bordering the British concession in Shanghai. Specifically, France signed the Treaty of Huangpu with the Qing dynasty, obtaining the same trade and settlement privileges as Britain's concession. Fauvel (1899) notes that the first French Consul in Shanghai, Charles de Montigny, required that the concession be accessible by river and closer to Shanghai than the British concession. The Shanghai Prefect agreed, and the French concession was established on land between the British concession and Shanghai. The Suzhou River forms the border between the two concessions. The French concession also experienced several expansion waves, from the original 164 acres to over 15,000 acres in 1914. Figure 1 shows the geographic expansion of the Shanghai concessions.

After 1936, British and French influence over the concessions waned notably with the Second Sino-Japanese War (1937 to 1945). As a result, we end our



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**Figure 1. Evolution of the Shanghai concessions.** The figure shows the expansion of the British and French concessions between 1845 and 1914. The areas in different shades of red depict the British concession at different dates, and these areas highlighted in shades of blue correspond to the French concession. The gray area denotes the Old City of Shanghai County under Chinese administration. The two areas with boundaries outlined in black, that is the dark red and dark blue areas, depict the concessions in 1860, which we refer to as the "old concessions." The old British concession covers 512 acres (2.07 sq. km.), and the old French concession covers 180 acres (0.73 sq. km). (Color figure can be viewed at wileyonlinelibrary.com)

analyses of the Shanghai concessions in 1936. Britain and France formally returned the concessions to the Chinese government in 1943.

#### A. The British and French Legal Systems in the Concessions

Britain and France applied their common and civil law legal systems to their respective Shanghai concessions. During the initial decades, the British and French consulates handled disputes involving their citizens. As more Chinese moved into the concessions and economic activity boomed, the British and French consulates struggled to address the burgeoning array of mixed cases that involved financial and commercial disputes between Chinese and foreign individuals, firms, and banks. In 1863, officials began to negotiate an arrangement to replace these consular courts with legal institutions that could better serve the community's needs (Hudson (1927)).

In 1869, a new charter was finalized that allowed the British and French concessions to each establish their own Mixed Courts (*Huishen Gongxie*) to address cases involving Chinese and foreign plaintiffs and defendants. The

1869 Statutes of the Mixed Courts in Shanghai set clear, formal jurisdictional boundaries between the Mixed Court of the International Settlement (British Mixed Court) and the Mixed Court of the French Settlement, specified which of the Mixed Courts would adjudicate cases involving people and businesses within the concessions (Jernigan (1905, pp. 203–4)), and detailed rules concerning legal jurisdiction when disputes included people, businesses, or properties outside the concessions. The British and French courts handled disputes involving concession residents (foreigners or Chinese) or their assets (Lee (1990), Hou (2017)). For instance, if a bank in the British concession sued a client in another Chinese district, the British Mixed Court would hear the case. When the plaintiffs were creditor banks in other Chinese cities and the defendants were residents of or businesses in a concession, the corresponding Mixed Court in Shanghai would try the case.

The Mixed Courts worked with Chinese authorities to enforce the law beyond the concessions. For example, the Chinese authorities would apprehend defendants outside of the concessions for the Mixed Courts (Lee (1990)). During the initial decades of the Mixed Courts, Chinese and foreign judges jointly heard cases involving Chinese citizens and foreign residents (Internet Appendix Figure IA.1 provides an example), but foreign judges dominated the courts. As noted by the U.S. State Department (1880, p. 158), Chinese officials mainly assisted in executing decisions. Hudson (1927), Yang (2006), and Cai (2013) note that the Chinese officials participating in the Mixed Courts tended to have very low rank within the Chinese hierarchy, were chosen by foreign officials to serve in the Mixed Courts, and had little to no influence over decisions. By 1911, the Mixed Courts had jurisdiction over civil cases, including cases involving only Chinese citizens within the concessions, as well as the appointment, supervision, and payment of Chinese judges, control over prisons, and the execution of arrests (Hudson (1927), Shanghai Shehui Kexueyuan (1981)).

Due to rising nationalism after World War I, China began negotiating a rendition whereby the Mixed Courts would surrender legal jurisdiction to the Chinese authorities (Hudson (1927)). These negotiations started in 1916 but failed to reach an agreement. In 1925, violent demonstrations in the concessions over foreign "imperialism" reenergized negotiations. The Provisional Rendition Agreement was signed on August 31, 1926. Formal rendition of the British Mixed Courts to Chinese-run courts occurred on January 1, 1927. This was significant as it involved a change from British common law to Chinese civil law. The French Mixed Court was also materially changed in 1927, as Chinese cases were assigned to Chinese judges and lawyers. Chinese courts assumed complete legal jurisdiction over the French concession in 1931.

#### A.1. Common Law in the British Concession

The historical record of lawsuits demonstrates that the British concession followed a common law tradition. The courts decided cases based on a mixture

<sup>&</sup>lt;sup>2</sup> The Internet Appendix may be found in the online version of this article.

of statutory law, precedent, and the application of those laws and precedents to cases arising within the concession. In the concession, British common law applied to foreign residents and local Chinese. With the accumulation of court cases in the concession, the Court gradually invoked local cases as precedents in deciding new cases, which is typical of British common law outside of Britain (e.g., Levine (2005)). For example, in a 1911 case, American publishing house Messrs, Ginn & Co. sued the Commercial Press of China for copyright infringement. The lawyer cited two verdicts from cases in 1896 and 1907 within the British concession in which Chinese businesspeople were convicted of pirating foreign books. The American publishing house won the case, and Commercial Press had to reimburse Messrs, Ginn & Co. This case is discussed in newspaper reports in the *North-China Herald* on April 8, April 10, and October 7, 1911.

Another noteworthy feature of the common law tradition is its ability to adapt to and incorporate local customs in addressing specific cases, as discussed in Beck, Demirgüç-Kunt, and Levine (2003b) and La Porta, Lopez-de-Silanes, and Shleifer (2008). Evidence of this exists in the British concession, as legal practitioners regularly referred to Chinese customs when addressing disputes. Thus, without violating common law principles, the law could evolve in the British concession to efficiently resolve disputes in a manner respecting local customs. For example, in 1876, Sassoon & Co., Ld., E.D. sued Wang, the owner of a Chinese company, in the Mixed Court for the overdue payment of a promissory note. Wang argued that the promissory note with 500 tael principal was transferred to the Chinese merchant Guo to purchase opium. However, Guo's opium business went bankrupt, which led to the suspension of the repayment of the note. The verdict was that since there is a stamp of the Chinese company on the promissory note, Wang must repay the note to Sassoon & Co. The judgment was based on the Chinese convention that the validity of notes depends on an official Chinese seal. If there is a default on the payment, the issuer with a seal on the promissory note is financially responsible.<sup>4</sup>

#### A.2. Civil Law in the French Concession

Consistent with the French civil law tradition, the French Mixed Court decided cases based on the statutes passed in France, not on precedent or local custom. The Court's archives show that judges resolved commercial cases based on strict applications of French commercial codes.<sup>5</sup> For example, in 1910,

<sup>&</sup>lt;sup>3</sup> We confirmed the operation of the British common law in the Shanghai concession by reviewing commercial and financial lawsuits regarding property rights, financial instrument transactions, bankruptcy, creditors' residual rights after the liquidation of a company, and shareholders' rights and shares in joint ventures. It is worth noting that well-developed law libraries emerged in the Municipal Council of the British concession, which benefitted both legal practitioners of the day as well as our research.

<sup>&</sup>lt;sup>4</sup> Cai (2013) cites this case, which is discussed in the article "Case on opium business promissory note (Zhipiao Fayin)" from the Chinese daily newspaper Shun Pao on January 22, 1876.

<sup>&</sup>lt;sup>5</sup> The cases are located at the Diplomatic Archives in Nantes, France.

a French merchant sued a Chinese broker who traded gold futures for him, alleging that the speculative behavior of the Chinese broker resulted in the French merchant losing more than 10,000 silver taels. Citing Section 1965 of the French Civil Code on the recovery of debts, the French court rejected the French merchant's argument, reasoning that the contract did not specify precise limits on trading by the Chinese broker, and thus there was no basis for classifying the broker's trade as illegal (Hou (2017) cites this case as "Séance du 27 November 1907 S. Somekh contre Hi Kai Song" [no. 635PO/C/371] from the Diplomatic Archives in Nantes, France). Also consistent with the French civil law tradition, judges in the French concession exerted power over investigating cases, calling and questioning witnesses, etc. Accordingly, lawyers in the French concession—as in France—mainly dealt with drafting and submitting documents to the court and replying to judges' queries (Hou (2017)). Finally, we reviewed all civil cases in the two concessions. Relative to cases in the British concession, more than three times as many cases in the French courts cite statutory codes, and less than half cite earlier cases, consistent with the comparative law literature's description of the two legal traditions.

#### B. Financial Development

The concessions were established on relatively undeveloped land, with few prior inhabitants and no preexisting financial institutions or markets. For example, Montalto de Jesus's (1919, pp. 27–29) history of Shanghai describes the land ceded for the British concession as uncultivated, with several creeks and a few small hamlets. Likewise, French settlers described the initial condition of their concession as "primitive, covered with houses in poor condition, graves, and rubbish dumps" (Fauvel (1899, p. 17)).

By the late 19<sup>th</sup> century, however, Shanghai had become the most prominent financial hub in Asia, with the British concession the financial center of Shanghai. For example, two years after the foundation of the British concession, the English Oriental Bank opened its first branch in China within the concession. Foreign banks steadily entered the British concession, with the total number of foreign banks in the British concession reaching 30 by 1925. In contrast, the total number of foreign banks in the French concession reached only four in the same period. These foreign banks dominated the foreign exchange market and foreign trade financing.

Over time foreign banks collaborated with Chinese traditional banks, called qianzhuang ("money house"), to provide a broader range of financial services to local businesses. The qianzhuang were generally small sole proprietorships or partnerships in which the founders were from wealthy merchant families. The qianzhuang blossomed in Shanghai after the mid-19<sup>th</sup> century. Their activities included providing local currency exchanges for the metallic

<sup>&</sup>lt;sup>6</sup> Furthermore, there is no evidence that the British concession enjoyed a superior location. Indeed, as noted above, the French strategically chose their concession to give it an advantage over the British.

currencies circulating in China, issuing notes, and extending credit to firms and households. While foreign banks had abundant capital, qianzhuang had local expertise. The two sets of financial intermediaries enjoyed fruitful business relations in the Shanghai concessions. Indeed, many qianzhuang moved their headquarters into the concessions, and some even relocated their Shanghai Monetary Association (Shanghai qianye gonghui) from Shanghai's old city to the British concession in 1917.

According to the legal origins view, the British legal system offered advantages over French civil law in accommodating the growth of Chinese traditional banks. Before the concessions, Chinese traditional banks developed their own business rules, enforced by their Association. The legal origins view stresses that British common law tends to adapt to and incorporate local customs in enforcing contracts and deciding cases to a much greater degree than does French civil law (e.g., Beck, Demirgüç-Kunt, and Levine (2003b), Levine (2005), Gennaioli and Shleifer (2007), La Porta, Lopez-de-Silanes, and Shleifer (2008)). As a result, the British concession should have a comparative advantage in fostering the development of Chinese traditional banks and facilitating collaboration between qianzhuang and British foreign banks. Indeed, British Mixed Court verdicts involving Chinese traditional bankers often cited the rules and customs of the Association of Chinese traditional banks (Du (2006)), as shown in the archives of the British Mixed Court.<sup>7</sup>

In 1897, the Imperial Bank of China—the first Chinese "modern" bank—opened in the Shanghai British concession. Unlike the qianzhuang, the Imperial Bank of China was a limited liability, joint-stock company with regular shareholder meetings, a separate board of directors, and financial and accounting disclosure statements based on international standards. Many such Chinese modern banks soon emerged. By 1925, the number of Chinese banks in the British concession reached 194, more than six times that of foreign banks (30). However, the number of Chinese banks in the French concession grew much less rapidly, reaching 29 banks in 1925. Banks in the Shanghai concessions, especially those in the British concession, established branches and made loans outside the concessions. During the 1869 to 1926 period, 32% of Chinese banks in the British concession had branches outside the Shanghai concessions, whereas less than 1% of banks in the French concession had such branches.

Besides modern banks, nonfinancial Chinese stock companies with limited liability and traded shares also emerged and flourished in the Shanghai concessions (Wang (1965)). Before the concessions, there were no limited liability, joint-stock companies in China. Investors could purchase stocks directly from the company or through qualified brokers (Liu (2004)). An active secondary

<sup>&</sup>lt;sup>7</sup> For example, the British Mixed Court decided that a promissory note issued by trade company Hongyu Hao, was invalid because the company was the subject of fraud. However, the British Mixed Court reversed this decision after the Association demonstrated that their rules specify that all certifiable promissory notes are redeemable regardless of fraud. Du (2006) discusses many such cases.

market emerged in the 1860s. The most influential newspaper in Shanghai, *The North-China Herald*, published daily stock prices in "Shares and Stocks" (see Internet Appendix Figure IA.2). During the early years, stocks were traded mainly through foreign banks and foreign stock trading companies. The Shanghai Share Broker's Association was founded in 1891, giving rise to the Shanghai Stock Exchange in 1903. Most publicly traded companies were in the British concession. For example, by 1925, 74 publicly traded companies operated in the British concession and four in the French concession.

#### II. Data and Textual Analyses of Cases

In Sections II.A and II.B, we first define the unit of analysis and describe the data on banks and stock prices. In Section II.C, we report results of textual analysis of several court cases to illustrate differences in the operation of the British and French legal systems in the concessions. We define additional control variables and discuss details related to the non-Shanghai concessions when conducting robustness tests below.

#### A. Unit of Geographic Analysis

We compare the development of finance in the British and French concessions from the establishment of the British concession in 1845 until the eve of the Second Sino-Japanese War in 1936, which reduced Western dominance over the concessions. We define the geographic boundaries of the concessions as those lands that were part of the concessions before 1861, which we call the "old concessions." The results are robust, however, to using the post-1861 concession boundaries. Figure 1 provides a map of the British and French concessions in Shanghai. As noted above, the British and French established concessions on similarly barren lands. Nevertheless, in robustness tests below we account for potential variation in land quality, infrastructure, and other location-specific effects by dividing the concessions into 100 200 m  $\times$  200 m grid cells and including grid-cell fixed effects. We exclude grid cells less than 0.001 sq. km., which leaves 100 grid cells. Internet Appendix Table IA.I reports descriptive statistics for the main variables.

#### B. Banks and Stock Returns

We calculate the number of bank headquarters and branches in a concession or grid cell each year, as banks were the primary financial intermediaries in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. We do not have information on each bank's assets (or liabilities). Shanghai banks included foreign, Chinese modern, and Chinese traditional banks (i.e., the qianzhuang described above). Banks took deposits, made loans, and provided transaction services. Only foreign and Chinese modern banks had branches, as the qianzhuang had only one office (headquarters). In cases in which a foreign bank headquartered outside of China has branches in a concession, we count the branch as a bank in the

concession. When examining grid cells, we compute the number of headquarters and branches within each grid cell.

We manually collect information on each bank's address and years of operation from the *Shanghai Financial Gazetteer* and other archives and newspapers (Internet Appendix Section II.A lists the data sources). We then map the addresses to the GIS coordinates and identify the banks within concessions and grid cells. We identify 67 foreign banks, 335 Chinese modern banks, and 264 qianzhuang in the two Shanghai concessions from 1846 through 1936.8 Figure 2 shows the distribution of banks across grid cells for the two concessions, using the boundaries of the "old concessions." The figure shows the distributions of banks in 1868, just before the creation of the Mixed Courts, and in 1925, just before the rendition of the Mixed Courts to the Chinese courts. As can be seen, there is much more rapid financial development in the British concession than in the French concession following the creation of the Mixed Courts, which established the British and French legal systems in their respective concessions.

We also collect data on banks' ROA, assets, leverage (loan-to-asset ratio), and age from a 10-year survey by the Research Department of the Bank of China (1933) covering the 1921 to 1931 period. Although we obtain data on only 26 banks, we use this information to shed additional light on the impact of the rendition of the Mixed Courts on comparative bank performance between the two concessions.

Finally, we assemble data on the stock returns of individual firms from the *North-China Herald* and *China Press*. The *Herald* was founded in 1850. It first published stock prices in 1866 and number of shares in 1894. The *China Press* published stock prices in Shanghai between 1911 and 1949. We manually identify the exact location (coordinates) of 205 stock companies based on *The Desk Hong List*, a biannual survey of all Shanghai firms edited by the *North-China Herald* between 1872 and 1941. The survey provides detailed information on each company's name, location, business scope, and other characteristics. We then map the companies to the grid cells of the two concessions.

#### C. Court Cases: Aggregate Data and Textual Analyses of Individual Cases

We collect data on civil cases to document differences in the functioning of the British common law and French civil law systems in the concessions. We first collect summary information on all civil cases from the Municipal Annual Reports of each concession (1908 to 1926). Most civil cases in both concessions involve contractual disputes related to business contracts, debts, and the like. The British court tried 1,132 civil cases per year, about 2.6 times the number of cases in the French court. To assess differences in the functioning of

<sup>&</sup>lt;sup>8</sup> These numbers omit the 43 Chinese modern bank branches and 86 qianzhuang, for which we could not identify the precise location.

<sup>&</sup>lt;sup>9</sup> These stock return data do not include dividends, as there are no firm-level data on dividends during this period.

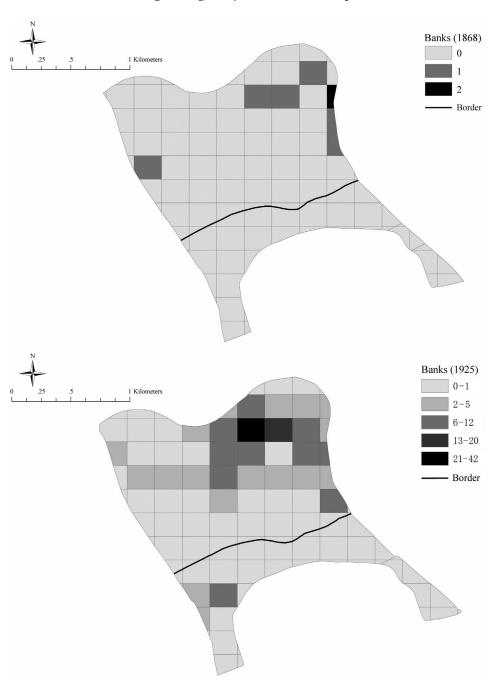


Figure 2. The grid-cell distribution of banks. This figure shows the distributions of banks at the grid-cell level  $(200~m\times200~m)$  within the old concessions. Banks are compared before and after the establishment of the Mixed Courts (1868 and 1925). The British concession is north of the border.

the two courts, we digitize the texts of the verdicts for 460 commercial cases, 315 from the British concession and 145 from the French concession. For the British court, we find 315 commercial cases from the 6,201 cases reported in the Supreme Court & Consular Gazette of the *North-China Herald* from 1870 to 1926. For the French court, we photocopy all court cases from the Diplomatic Archives (1903 to 1926) reserved in Nantes, France, which provides the most extensive collection of the original verdicts from the French court in the Shanghai concession.

We next conduct textual analysis of the verdicts over the 1870 to 1926 period. To do so, we employ three sets of keywords to assess differences in how the British and French legal systems addressed commercial disputes in the two concessions. First, we use keywords associated with local customs and conventions, as the legal origins view holds that the British common law regime is more likely to use local customs and conventions in deciding cases than is the French civil law regime. We then calculate the ratio of the number of keywords associated with customs and conventions to the total number of words in the verdict and multiply by 1,000 to compute the millesimal. Second, we use keywords associated with opinions and consultations, as the legal origins view stresses that British common law tends to refer to past opinions and consultations in interpreting the law, whereas French civil law focuses more on the statutory code written in France when deciding cases. We then compute the ratio of the number of keywords associated with opinions and consultations to the total number of words. Third, as a falsification test, we examine the ratio of the number of keywords associated with default, infringement, and bankruptcy to the total number of words in the verdict. We examine keywords associated with contractual disputes as a falsification test because the legal origins view provides no reason to expect proportionally more such disputes in either the British or the French concession. Internet Appendix Table IA.II provides the three sets of keywords from the verdicts that we employ in these tests. Finally, we examine whether the incidence of these three sets of keywords differs between the British and French Mixed Courts.

Table I reports the results for all cases as well as for the subset of bank-related cases. Compared to cases from the French concession, cases in the British concession are more likely to use words associated with customs or conventions, consistent with the view that the common law tradition is more likely to consider local customs and conventions in resolving disputes. Verdicts in the British concession are also more frequently likely to use words associated with opinions and consultations, consistent with the view that the common law tradition considers various factors in resolving cases, not just statutory law. In contrast, there is no difference in the proportion of cases using words such as "default," consistent with the comparative law literature's characterization of the differences between the British common law and French civil law traditions. In sum, British common law relies more on local customs and past opinions, while French civil law focuses more on statutory code developed in France.

#### Table I Textual Analysis of the Verdicts in Shanghai Concessions, 1870 to 1926

This table examines differences in the texts of verdicts in the British and French courts in the Shanghai concessions. The sample includes verdicts of 406 commercial cases between 1870 and 1926, of which 111 cases involve banks. For each case, we calculate the ratio of keywords indicated in the first column to the total number of words in the verdict and then multiply by 1,000 to compute the millesimal. We test whether the incidence of these keywords differs between the two Mixed Courts using the indicated t-tests. Internet Appendix Table IA.I lists the keywords. \*, \*\*, and \*\*\*\* indicate significance at 10%, 5%, and 1% level, respectively.

	British Mixed Court Mean	French Mixed Court Mean	Difference
Panel A: All Commercial Cases			
Words related to custom and convention Words related to consult and opinion Words related to default	0.46 $0.55$ $0.93$ $(n = 315)$	$0.18 \\ 0.20 \\ 0.80 \\ (n = 145)$	0.28** 0.35** 0.13
Panel B: Bank-Related Cases Only			
Words related to custom and convention Words related to consult and opinion Words related to default	0.61 $0.81$ $1.17$ $(n = 55)$	0.10 $0.24$ $0.69$ $(n = 56)$	0.51*** 0.57** 0.48

#### III. Financial Divergence between the Concessions: 1840 to 1925

#### A. Methodological Overview

The primary challenge to assessing the impact of the British common law and French civil law regimes on comparative financial development in their respective Shanghai concessions is isolating the impact of differences in legal system from other potential factors. As noted above, the British and French concessions were on adjacent lands of similar quality with similar preconcession levels of economic development. However, Britain and France, differed along other potentially important dimensions besides their legal systems. For example, Britain had a larger economy and a more extensive colonial empire. As a result, commerce and finance might have evolved differently in the British and French concessions for reasons having little to do with legal systems.

In this section, we isolate the effect of differences in legal systems on comparative financial development from other differences between Britain and France using four approaches. First, we directly assess the legal effect by examining differences in financial development between the two concessions following the formation of the Mixed Courts in 1869. In these tests, we control for the concession effect associated with the formation of the concessions in 1845 as well as for year and concession (or grid-cell) fixed effects. Second, we test the robustness of the main findings by (i) using two subperiods to reduce

the impact of major historical events on the analyses and (ii) aggregating the data from annual to five-year periods to reduce the impact of annual fluctuations on the findings. Third, we examine whether there is a break in the evolution of comparative financial development around the formation of the Mixed Courts in 1869. Finally, we extend these analyses by conditioning on various time-varying concession, China, and empire characteristics, including measures of the comparative economic, military, and political strengths of Britain and France.

#### B. Results: The Mixed Courts and Bank Density

To assess the impact of the two concessions' legal institutions on their comparative financial development, we begin with the following difference-in-differences equation:

$$Y_{it} = \beta_1 \times British_i \times Post-1845 + \beta_2 \times British_i \times Post-1869 + \gamma_i + \lambda_t + \varepsilon_{it},$$
 (1)

where  $Y_{it}$  denotes the number of banks (per square kilometer) in a concession (or grid cell) i in year t,  $British_i$  is a dummy variable that equals one for the British concession (including all grid cells within the British concession when conducting the analyses at the grid-cell level) and zero for the French concession, and Post-1845 (Post-1869) is a dummy variable that equals one after 1845 (1869) and zero otherwise. Analyses at the grid-cell level address concerns that the British concession might have some especially advantageous areas for financial development, perhaps due to land quality, location, or infrastructure, with these within-concession factors—not legal system differencesaccounting for comparative financial development in the British concession. 10 Given persistence in the dependent variable, we use a GLS estimator designed for panel data to account for potential autocorrelation throughout the analyses. 11 Concession (or grid-cell) fixed effects that capture all time-invariant characteristics of the geographic location are denoted by  $\gamma_i$ , and year fixed effects that capture the common shocks affecting financial development in both the British and the French concessions are denoted by  $\lambda_t$ 

The first interaction term,  $British_i \times Post-1845$ , captures the concession effect, that is, whether more banks started operating in the British concession relative to the French concession after 1845. Since there were no banks in the concessions before 1845, the coefficient on  $British_i \times Post-1845$  provides an estimate of the average annual difference in bank density between the British and French concessions following the creation of the concessions.

The second interaction term,  $British_i \times Post-1869$ , captures the legal effect, that is, whether more banks opened in the British concession relative to the

<sup>&</sup>lt;sup>10</sup> Since there are only two concessions, we do not adjust standard errors for clustering at the concession level when running concession-level regressions. When running grid-cell-level regressions, we adjust standard errors for clustering at the grid-cell level.

<sup>&</sup>lt;sup>11</sup> The GLS estimation considers the autocorrelation between residuals of the estimates by assuming that the residuals follow an AR(1) process and assigning them an autocorrelation parameter given by  $\varepsilon^{\wedge'}\varepsilon_{-}(t-1)/\varepsilon^{\wedge'}\varepsilon_{-}$ , where  $\epsilon$  is the vector of residuals.

French concession after 1869, when the respective legal systems became dominant in the concessions with the creation of the Mixed Courts in 1869. By controlling for the concession effect,  $British_i \times Post\text{-}1845$ , the coefficient on the legal effect,  $British_i \times Post\text{-}1869$ , indicates whether bank density rose comparatively faster in the British concession after the establishment of the Mixed Courts in 1869 beyond any differences in the evolution of bank density due to the establishment of the two concessions in 1845. Accordingly, a positive coefficient, that is  $\beta_2 > 0$ , would suggest that beyond the effect of the formation of the concessions in 1845, bank density increased in the British concession relative to the French concession after the different legal regimes were established in the concessions.

As we discuss above, the creation of the Mixed Courts represents a distinct break in the concessions' operation—the creation of these courts deepened and broadened the jurisdiction of the British and French legal systems in their respective concessions. The legal origins view of La Porta et al. (1998) suggests that (i) financial development in the British concession should be comparatively stronger than that in the French concession after 1869 relative to differences in financial development in the two concessions before the establishment of the Mixed Courts and (ii) the effect of the legal systems on comparative financial development should hold above and beyond any effects of British and French global military, economic, and administrative characteristics. We start our examination of the legal origins view by using data from 1840 through 1925, where the 1840 to 1845 period is the preconcession period.

As shown in Table II, the results indicate that bank density in the British concession was markedly greater than that in the French concession after establishing the Mixed Courts in 1869. Consistent with the view that the 1869 imposition of the different legal systems impacted comparative financial development above and beyond the creation of separate British and French concessions, the results on  $British_i \times Post-1869$  hold when conditioning on the concession effect ( $British_i \times Post-1845$ ). Specifically, based on the coefficient estimates in column (1), while the British concession had about two more banks per square kilometer on average than the French concession before establishing the Mixed Courts in 1869, it had about eight more banks per square kilometer after 1869. In column (2), we rerun these analyses for the subsample of Chinese banks to net out the comparative number of foreign banks establishing affiliates in the concessions. The estimates indicate a comparatively sharp increase in the density of Chinese banks in the British concession, with the gap increasing by nearly seven banks per square kilometer after the establishment of the Mixed Courts. Comparing columns (1) and (2), the estimates suggest that the legal effect is driven by a large increase in Chinese banks in the British concession following the stronger application of the British common law and French civil law regimes following the establishment of the Mixed Courts. Furthermore, as shown in columns (3) and (4), these results hold for

This table presents regression results relating bank density to the formation of the Shanghai concessions and the formation of the Mixed Courts in the British and French concessions. In column (1), the dependent variable is the total number of banks per square kilometer in the respective concession and year. In column (2), the dependent variable is the total number of Chinese-owned banks per square kilometer in the respective concession and year. In column (3), the dependent variable is the total number of banks per grid cell in a year. In column (4), the dependent variable is the total number of Chinese-owned banks per grid cell in a year. We divide the concessions into 200 m × 200 m grid cells for the grid-cell analyses. British is a dummy variable that equals one for the British concession and zero for the French concession. Post-1845 indicates the formation of the concessions, so it equals one after 1845 and equals zero for the years from 1840 through 1845. Post-1869 indicates the formation of the Mixed Courts, so it equals one after 1869 and equals zero for the years from 1840 through 1869. The regressions control for year fixed effects (Year FE) and either concession fixed effects (Concession FE) or Grid-cell fixed effects (Grid-cell FE) as indicated. We report GLS estimates that adjust for autocorrelation of the residuals. Standard errors are reported in parentheses and are clustered at the grid-cell level in columns (3) and (4). \*, \*\*, and \* indicate significance at the 10%, 5%, and 1% level, respectively.

	Bank Density at the Concession Level		Number of Banks at the Grid-Cell Level		
	All Banks	Chinese Banks (2)	All Banks	Chinese Banks	
British * Post-1845	2.084	1.590	0.082	0.060	
	(2.035)	(1.729)	(0.064)	(0.060)	
British * Post-1869	$8.147^{***}$	$6.667^{***}$	$0.317^{***}$	$0.265^{***}$	
	(1.937)	(1.651)	(0.059)	(0.055)	
Year FE	Yes	Yes	Yes	Yes	
Concession FE	Yes	Yes			
Grid-cell FE			Yes	Yes	
Observations	172	172	8,600	8,600	

both the full sample of banks and the subsample of Chinese banks when conducting the analyses at the grid-cell level.  $^{12}$ 

We next address concerns that political, military, and economic disruptions differentially affected financial development in the two concessions by conducting the analyses over subperiods and using lower-frequency data. As stressed above, our analyses focus on comparative financial development. Thus, while political, military, and economic upheavals may have impacted economic and

<sup>&</sup>lt;sup>12</sup> The results hold when we normalize the number of banks by population size or when we take the natural logarithm of bank density at the concession level. Consistent with the findings on bank density, we discover that stock market development is comparatively strong in the British concession following the establishment of the Mixed Courts. To capture stock market development, we use the density of stock companies at the concession and grid-cell levels. The sample period begins in 1866, as there were no stock companies in Shanghai before then. This leaves only three years of data before the creation of the Mixed Courts. We therefore view the results on stock companies around 1869 as suggestive.

financial activity in the concessions, we are interested in whether such disruptions differentially affected financial development in the concessions. In one set of subsample analyses, we limit the sample period to the Qing dynasty (1840 to 1910), which excludes the tumultuous change to Republican rule starting with the 1911 revolution. In another set of subsample analyses, we restrict attention to the comparatively peaceful period in China between the Taiping Rebellion and the First Sino-Japanese War (1864 to 1894), a period that also excludes the Boxer Rebellion (1899 to 1901). Both of these subperiods exclude World War I. By examining these subsamples, we test whether the results hold for narrower windows around the 1869 formation of the Mixed Courts and for periods that exclude several major events. 13 As shown in Panels A and B of Table III, all of the results hold in these two subsamples. Using a second approach, we use data averaged over five-year periods to abstract from higher-frequency relationships that could confound our ability to isolate the long-run relationship between legal tradition and comparative financial development. As shown in Panel C of Table III, the results hold when using these aggregated data, confirming the earlier results based on annual data. In the next two subsections, we employ alternative strategies for identifying the impact of legal traditions on comparative financial development.

#### C. Dynamics: Comparative Financial Development and the Mixed Courts

To provide additional evidence on whether there is a break in the comparative evolution of bank density in the British and French concessions after the 1869 formation of the Mixed Courts, we estimate a dynamic version of equation (1). Specifically, we run the following regression at the grid cell level with 1869 as the reference year:

$$Y_{it} = \sum_{t=1865}^{1880} \beta_t \times British_i \times \theta_t + \gamma_i + \lambda_t + \varepsilon_{it},$$
 (2)

where  $\theta_t$  equals one in year t and zero otherwise, and the other variables are as defined above. To limit the effects of heterogeneity over longer periods and focus on a narrower period around the 1869 establishment of the Mixed Courts, we conduct this examination over the window from 1865 through 1880, that is, five years before the establishment of the Mixed Courts 10 years after that. Note, however, that if we conduct the analyses over a longer period, the same results emerge. We then plot the estimated values of  $\beta_t$  and the 95%

<sup>&</sup>lt;sup>13</sup> Another potential confounding event was the Tianjin Massacre in 1870, during which about 60 French Catholic clergymen were killed by Chinese locals. While this incident led to tensions between China and France, it is unclear how it influenced the French and British concessions in Shanghai. On the one hand, the tensions might have discouraged Chinese merchants from investing in the French concession. On the other hand, France demonstrated its influence in China, as the Qing emperor punished officials and others engaged in the massacre. France's demonstrated power might have attracted Chinese merchants into the French concession. We have not found evidence that the power and prestige of France fell in China after the massacre.

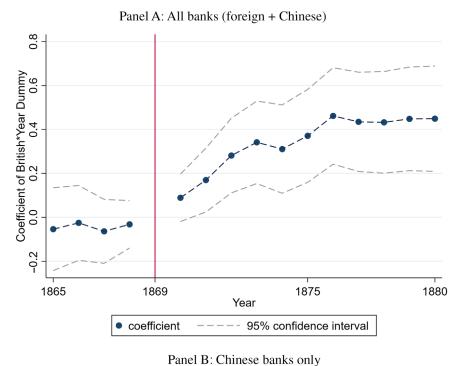
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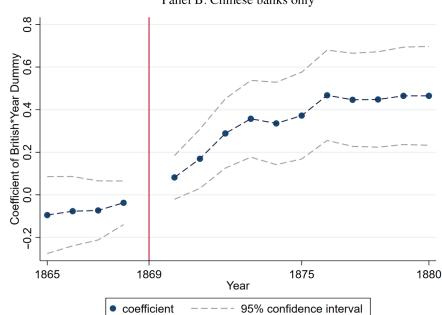
# Table III Bank Density and the Formation of the Mixed Courts in the Concessions: Alternative Samples

This table uses the same methodology as in Table II except it restricts attention in Panel A to the Qing dynasty, from 1840 to 1910, in Panel B to the shorter and more stable period from 1865 through 1894, and in Panel C to data aggregated over five-year periods from year -2 to +2 to reduce the impact of higher-frequency influences. All columns report GLS estimates that adjust for autocorrelation of the residuals. Standard errors are reported in parentheses and are clustered at the grid-cell level in columns (3) and (4). \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% level, respectively.

	•	Bank Density at the Concession Level		Number of Banks at the Grid-Cell Level		
	All Banks	Chinese Banks (2)	All Banks	Chinese Banks		
Panel A. Qing Dynasty	; 1840 to 1910					
British * Post-1845	1.885	1.341	0.048	0.031		
	(1.304)	(1.196)	(0.044)	(0.042)		
British * Post-1869	8.517***	7.720***	$0.222^{***}$	0.183***		
	(1.144)	(1.034)	(0.042)	(0.040)		
Year FE	Yes	Yes	Yes	Yes		
Concession FE	Yes	Yes				
Grid-cell FE			Yes	Yes		
Observations	142	142	7,100	7,100		
Panel B: Period withou	it Wars,1865 to 18	94				
British * Post-1869	4.369***	$4.412^{***}$	$0.126^{**}$	$0.133^{**}$		
	(1.266)	(1.192)	(0.055)	(0.053)		
Year FE	Yes	Yes	Yes	Yes		
Concession FE	Yes	Yes				
Grid-cell FE			Yes	Yes		
Observations	60	60	3,000	3,000		
Panel C: Five-Year Dat	ta, 1840 to 1925					
British * Post-1845	4.745	3.176	0.194	0.121		
	(6.634)	(5.386)	(0.178)	(0.165)		
British * Post-1869	$17.207^{***}$	$14.777^{***}$	$0.671^{***}$	$0.541^{***}$		
	(5.850)	(4.806)	(0.157)	(0.144)		
Year FE	Yes	Yes	Yes	Yes		
Concession FE	Yes	Yes				
Grid-cell FE			Yes	Yes		
Observations	36	36	1,800	1,800		

confidence intervals in Figure 3. If the establishment of the Mixed Courts is associated with a positive change in the comparative evolution of financial development in the British concession, we should see an increase in  $\beta_t$  after 1869. We conduct these analyses for both the full sample of banks (Panel A) and for the subsample of Chinese banks (Panel B).





**Figure 3.** Bank development and the creation of the Mixed Courts in 1869. This figure depicts the estimated annual gap in bank density between the British and French concessions before

and after the establishment of the Mixed Courts in 1869. Panel A uses the number of all banks as the dependent variable, and Panel B uses the number of Chinese banks as the dependent variable. We estimate the following regression at the grid-cell level using GLS to address autocorrelation of the residuals:

$$Y_{it} = \sum_{t=1865}^{1880} \beta_t \times British_i \times \theta_t + \gamma_i + \lambda_t + \varepsilon_{it},$$

where  $Y_{it}$  is the number of banks within grid cell i in year t,  $\theta_t$  equals one in year t and zero otherwise, British is a dummy variable that equals one for grid cells in the British concession and zero otherwise,  $\gamma_i$  and  $\lambda_t$  are grid-cell and year fixed effects, respectively, and 1869 is the reference year. The figure plots the estimated values of and confidence intervals around  $\beta_t$ . (Color figure can be viewed at wileyonlinelibrary.com)

Figure 3 shows that before the formation of the Mixed Courts, the gap in British-French bank density is close to zero and does not exhibit a significant trend. A notable change then emerges after 1869. Consistent with the legal origins view of comparative financial development, the financial development advantage in the British concession starts to rise after the formation of the Mixed Courts. Consistent with the view that it takes time for legal systems to impact financial development, Figure 3 illustrates a growing gap in British-French financial development.

#### D. Mixed Courts and Bank Development: Additional Controls

In this section, we conduct additional analyses to enhance identification. The findings in Tables II and III as well as Figure 3 suggest that bank density in the British concession increased appreciably relative to that in the French concession after 1869, controlling for the pure concession effect, concession (and grid-cell) fixed effects, and year fixed effects. We now control for various time-varying factors to reduce concerns that an omitted variable may account for the surge in comparative financial development starting in 1869. Given the difference-in-differences specification and control variables, the omitted factors would have to be time-varying and induce a break in comparative financial development around the time of the formation of the Mixed Courts to confound our analyses. Thus, an omitted variable would have to not only affect financial development, but also differentially affect financial development around 1869 to bias the findings on the legal effect. Data on the concession-level controls included in these analyses start only after the formation of the concessions, so these analyses begin in 1846.

We include 11 additional time-varying controls in these tests. Five control for concession-level characteristics, and six control for differences in the British and French empires' global military, economic, and political power. We first describe the data and then present the results. For brevity, we provide results for the subset of Chinese banks, but all results hold for the full sample of banks as shown in Internet Appendix Table IA.III. Summary statistics are reported in the Internet Appendix Table IA.I.

#### D.1. Shanghai Concession Controls

First, Britain and France established different governance institutions in Shanghai, and hence it is possible that these governance systems and not the different legal institutions shaped financial development in the concessions (e.g., Xin and Yan (2021)). Although we control for concession fixed effects, here we also control for the dates when the British and French formally established their own governance systems, that is, their own municipal courts, in their respective concessions. The British (French) established their Municipal Council in 1854 (1862). To test whether the creation of these different governance systems accounts for the divergence in bank density in the concessions, we create the variable *Municipal Councils*, which equals one after 1854 (1862) for British (French) concession observations and zero otherwise. <sup>14</sup>

Second, despite starting from similar economic conditions, factors besides differences in legal system may have shaped comparative economic development and hence comparative financial development in the concessions. To address this concern, we control for lagged population per square kilometer (*Population density (lag)*) at the concession-year level to proxy for economic development since there are no data on production in the concessions. <sup>15</sup> We note that these population data are subject to several challenges (Zou (1980), Henriot, Lu, and Aubrun (2018)). If economic, political, or military events encouraged more people to move into the British concession than the French concession, spurring the difference in financial development, including *Population density (lag)* should help distinguish the legal effect on comparative financial development from the effects of these other influences.

Third, we were concerned that Britain may have spent more on infrastructure development around the formation of the Mixed Courts, which may in turn have spurred economic and financial development. To address this concern, we collected data on annual public spending (measured in 1,000 silver taels) on infrastructure and government services in the two concessions from their annual municipal reports (Shanghai Municipal Council (1863–1936); Conseil d'administraction municipal de la concession française a Shanghai

<sup>&</sup>lt;sup>14</sup> Another possibility is that the British concession had lower tax rates, which would foster economic and financial development. However, this was not the case. As Wang (1995) shows, the tax rates on land and property taxes, which accounted for about 80% of fiscal revenues in the concessions, were almost identical in the two concessions.

<sup>&</sup>lt;sup>15</sup> We note that these population data are subject to several challenges (Zou (1980), Henriot, Lu, and Aubrun (2018)). As of 1865, both concessions conducted population census surveys every 5 or 10 years. Annual population data start in 1900 in the British concession and the late 1920s in the French concession. Assuming a linear population growth rate, we interpolated the annual population for the missing years and coded the population as zero in 1845. Another challenge in working with population data is that we do not have separate time-series data on the geographic areas defined as the old concessions (our sample areas). We therefore use the population of the entire British and French concessions, noting that the districts of the old concessions were the most populous. This assertion is based on data illustrated in Internet Appendix Figure IA.3, which presents the within-concession population distribution at the district level in 1935, the only year with district-level population data across the concessions.

(1868–1936)). We then control for *Public expenditures* to assess the independent relationship between the implementation of distinct legal systems in 1869 and the subsequent evolution of comparative financial development.

Fourth, the comparative strength of Britain's global military and economic empire may have encouraged relatively more economic activity and trade in its concession. To control for this potential confounding influence, we include *Trade company density*, the number of trade companies per square kilometer at the concession level in the previous year, in the regressions. We obtain these data from the *Desk Hong List* edited by the *North-China Herald*, which was compiled between 1872 and 1941.

Fifth, we control for the possibility that violent conflicts within China differentially influenced financial development in the concessions. To do so, we construct the variable *Wars in China*, the number of civil wars and foreign wars in China in the previous year, and include the interaction term *British*\**Wars in China* in the regressions. These data come from Chen (1992).

#### D.2. Empire Controls

Differences in military, economic, and political power between Britain and France may have contributed to comparative financial development in the Shanghai concessions, in which case omitting such factors could confound our ability to draw sharp inferences about the effect of differences in legal regime on comparative financial development if those factors both differentially affected financial development in the concessions and induced a break in the evolution of comparative financial development around 1869. Thus, in addition to controlling for the concession-specific factors discussed above, we now also include six "empire controls" to condition on broader features of Britain's and France's global power and in turn influence within China.

First, the British Shanghai concession may have experienced comparatively stronger financial development than the French Shanghai concession to the extent that Britain had greater economic influence and connections throughout China. Although our earlier analyses control for the concession effect (*British\*Post 1845*) and concession fixed effects, here we control for the number of British and French concessions in China (*Concessions in China*). Data on the number of concessions come from Yan (1955). <sup>16</sup>

The second and third controls capture the global military power of the empires. Specifically, *Naval ships* equals the number of naval ships in the British

<sup>&</sup>lt;sup>16</sup> Hong Kong was an important British settlement, raising concerns that financial development in Hong Kong drove financial development in its Shanghai concession. However, the historical evidence suggests that this is unlikely. Before the mid-20<sup>th</sup> century, Hong Kong was much less financially developed than Shanghai. For example, Hong Kong had 10 Chinese modern banks in the 1930s, while Shanghai had 218. Moreover, of the 10 Chinese modern banks in Hong Kong, eight were first established in Shanghai, before opening affiliates in Hong Kong many years later, whereas none of the 218 Chinese modern banks in Shanghai first opened in Hong Kong. The historical evidence thus indicates that Shanghai was the region's financial hub during this period, suggesting that financial development in Hong Kong did not spill over to Shanghai.

and French navies in the previous year. We obtain these data from Colledge and Warlow (2010), Demerliac (2021), Chesneau (1979, 1980), and Gardiner (1985). In addition, *War victories* equals the number of military victories involving Britain or France in the previous year, which may influence the two countries relative power and reputation.<sup>17</sup> These data come from Clodfelter (2002).

Fourth, differences in the political systems of Britain and France, not differences in legal systems, may account for comparative financial development in the Shanghai concession. For example, data from the Polity IV database indicate that democracy grew in Britain during the sample period, while France remained comparatively authoritarian. If democracy fosters investor confidence, then these political differences occurring at the empire level could have influenced comparative financial development in the concessions. To account for the possible confounding effect of political institutions, we control for the annual Polity IV democracy scores of Britain and France between 1846 and 1925. The scores range from -10 (strongly autocratic) to 10 (strongly democratic) (Marshall, Jaggers, and Gurr (2020)).

Fifth, we control for the GDP per capita of Britain and France to address concerns that the relative strength of the British economy, rather than the comparative advantage of British common law, drove comparative financial development in the Shanghai concessions. Specifically, we include *GDP per capita*, which equals the logarithm of British (French) GDP per capita for the British (French) concession. We obtain these data from Maddison (2010).

Sixth, we control for differences in stock market performance in Britain and France to address concerns that the relative domestic financial performance of Britain and France could have influenced comparative financial development in their Shanghai concessions. Using data from Campbell, Grossman, and Turner (2021), Jordà et al. (2019), and Le Bris and Hautcoeur (2010), we condition on *Stock return*, the annual stock return in London (Paris) for the British (French) concession.

#### D.3. Results with Additional Controls

The main results hold when including these additional control variables. Column (1) of Table IV presents the baseline regression, which only includes concession and year fixed effects. We include this baseline because, unlike Table II, the data in Table IV start in 1846 when the control variables become available, hence we cannot control for *British\*Post-1845* (as there is

<sup>&</sup>lt;sup>17</sup> We also note France's defeat in the France-Prussia war in 1870. The defeat may have weak-ened France's influence and reputation in its colonies, potentially reducing economic and financial development. However, the effect of the France-Prussia war on financial development in French Shanghai seems limited. The number of banks and trading companies, as well as the population continued to grow in the French Shanghai concession after the France-Prussia war. That is, there is no evidence of a decline in economic and financial development. Furthermore, France's domestic stock market capitalization did not decline after 1870 (see figure 4 in La Porta, Lopez-de-Silanes, and Shleifer 2008).

#### Table IV

## Chinese Bank Density and the Formation of the Mixed Courts in the Concessions: Additional Controls, 1846 to 1925

This table presents regression results relating bank density to the formation of the Mixed Courts in the British and French concessions while controlling for time-varying characteristics of the concessions and of the home countries. The dependent variable is the total number of Chinese banks per square kilometer in the respective concession and year. Municipal council is a dummy that equals one if a municipal council was established in a concession. The British Municipal Council was established in 1854, and the French one was established in 1862. Population density is defined as the number (in thousands) of people per square kilometer at the concession level in the previous year. Trade company density is the number of trade companies per square kilometer at the concession level in the previous year. Public expenditure is the annual total spending on public infrastructures and government services (in 1,000 silver taels) reported by the Municipal Councils in the previous year. Wars in China equals the total number of civil wars and foreign wars in China in the previous year. Concessions in China equals the total number of concessions of Britain or France in China in the previous year. Naval ships is the number of naval ships in service in Britain and France in the previous year. War victories is the number of victories in wars involving Britain or France in the previous year. Polity score ranges from -10 to 10, and measures the level of democracy in Britain and France in the previous year, based on data from Polity IV. GDP per capita denotes the logarithm of British GDP per capita for the British concession and the logarithm of French GDP per capita for the French concession in the previous year. All columns report GLS estimates that adjust for autocorrelation of the residuals. Standard errors are reported in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% level, respectively.

	Density of Chinese Banks			
	(1)	(2)	(3)	(4)
British * Post-1869	6.417*** (1.714)	9.373*** (1.929)	9.558*** (2.637)	8.482*** (1.832)
Concession/China Characteristics	, , , ,	, , , ,	, , , , ,	,
$Municipal\ council$		-0.739	1.470	0.394
•		(1.589)	(2.051)	(1.286)
Population density		0.033	0.020	$0.063^{**}$
		(0.039)	(0.048)	(0.030)
Public expenditure		0.257	0.563	0.181
-		(0.330)	(0.460)	(0.280)
Trade company density		$0.340^{***}$	$0.573^{***}$	0.124
		(0.114)	(0.146)	(0.094)
British * Wars in China		-0.209	$-0.468^{**}$	$0.293^*$
		(0.182)	(0.228)	(0.150)
British/French colonial power				
Concessions in China			$1.301^{**}$	$2.298^{***}$
			(0.600)	(0.586)
Naval ships			$0.018^{***}$	-0.002
			(0.002)	(0.002)
War victories			0.336	$0.474^{***}$
			(0.276)	(0.171)
Polity score			-0.179	-0.155
			(0.200)	(0.124)
GDP per capita			$-32.592^{***}$	0.252
			(4.803)	(3.508)
Year and Concession FEs	Yes	Yes	Yes	Yes
British * Quadratic time trend since 1845				Yes
Observations	160	160	160	160

no "pretreatment" period). Column (2) adds the five concession controls, and column (3) further adds the six empire controls. Across the different specifications,  $British^*Post\text{-}1869$  enters positively and significantly at the 1% level. After adding the 11 controls, the estimates indicate that the British concession averaged about nine more banks per year than the French concession after the establishment of the Mixed Courts in 1896.

We note that the formation of the concessions in 1845 may have triggered different dynamics in the evolution of bank density in the two concessions. Such dynamics could impede our ability to draw sharp inferences about the relationship between legal origin and comparative financial development. We address this concern by controlling for linear and quadratic trends interacted with the British dummy variable (British\*quadratic time trend since 1845). As shown in column (4), the results hold when including all of the additional controls as well as this linear-quadratic trend. Critically, the estimated coefficient on the legal effect, British\*Post-1869, changes little across columns (2) to (4), suggesting that the results are highly robust to the inclusion of these controls. The results also hold when including Stock return. Although conditioning on Stock return reduces the sample size, Internet Appendix Table IA.IV demonstrates that British\*Post-1869 continues to enter positively and significantly in the financial development regressions.

Finally, we extend the analyses in Figure 3 on whether there is a break in the evolution of comparative financial development in the concessions after the formation of the Mixed Courts. Specifically, we augment equation (2) by also controlling for the interaction between each of the control variables in Table IV (fixed in 1868) and year dummies. We include these interaction terms to address concerns that differences in the concession might lead to different trends in comparative financial development. We continue to find a sharp break in comparative financial development after 1869. However, since most of the individual interaction terms drop out of the analyses due to multicollinearity at the grid-cell level, we report these tests using the first principal component of the Table IV controls in 1868 interacted with year dummies. As shown in Internet Appendix Figure IA.4, we continue to find a distinct break in the evolution of comparative financial development following the formation of the Mixed Courts, with financial development in the British concession rising appreciably relative to that in the French concession after 1869.

In sum, these findings are consistent with the legal origins view of comparative financial development. Specifically, they suggest a strong, independent impact of applying the two legal systems on comparative financial development. Note that we do not argue that other factors are unable to help explain comparative financial development in the Shanghai concessions. Rather, the results suggest a notable increase in the level of financial development in the British concession relative to that in the French concession with the application of the two distinct legal systems in 1869. We next examine whether there is a similarly notable decrease in comparative financial development in the two concessions with the rendition of those legal systems in 1926.

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#### IV. Comparative Financial Development and Rendition of the Courts

Another pivotal change in the concessions' legal system occurred around 1926 with the rendition of the Mixed Courts. Following violent protests in 1925 against Western influence, negotiations with respect to the rendition of the Mixed Courts intensified. The Chinese and the British government signed an agreement in August 1926, and formal rendition of the British Mixed Court to the Chinese authorities occurred on January 1, 1927. Legal jurisdiction in the French concession was also reformed. Chinese courts took over cases involving Chinese citizens in the French concession in 1927 and, later they took over complete legal jurisdiction.

In this section, we examine whether financial development deteriorated comparatively rapidly in the British concession following the rendition. We expect that if British common law provides a comparative advantage over other legal systems in supporting financial development, then eliminating this advantage should have an especially large adverse effect on finance in the British concession. We examine 20 years around the rendition year, so our sample runs from 1917 through 1936.

#### A. Dynamics: Comparative Financial Development and Rendition

To assess whether there was a break in comparative financial development around the rendition of the Mixed Courts, we estimate a dynamic version of equation (1) at the grid-cell level with 1926 as the reference year:

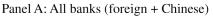
$$Y_{it} = \sum_{t=1917}^{1936} \beta_t \times British_i \times \theta_t + \gamma_i + \lambda_t + \varepsilon_{it},$$
 (3)

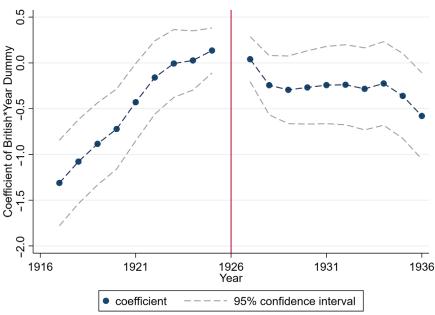
where  $\theta_t$  equals one in year t and zero otherwise, and the other variables are as defined above. Following the same method used to construct Figure 3, we plot the estimated values of  $\beta_t$  from equation (3) and the corresponding 95% confidence intervals in Figure 4. If the rendition of the Mixed Courts has a disproportionately negative effect on financial development in the British concession, we should see a decline in  $\beta_t$  after 1926.

As the figure shows, there is a discrete drop in the comparative financial development of the British concession following the rendition of the courts. This result holds for the full sample of banks (Panel A) as well as for the subsample of Chinese banks (Panel B). The break in comparative financial development is consistent with the legal origins view that moving from the British and French legal systems to the Chinese courts should have a larger adverse effect on financial development in the British concession, given the superiority of British common law in fostering finance. <sup>18</sup> Following our analyses of comparative financial development around the founding of the Mixed Courts, we augment

<sup>&</sup>lt;sup>18</sup> One potential concern is that the May Thirtieth Movement in 1925 may confound the effect of the court rendition on comparative financial development in the two concessions. However, this nationalistic movement influenced both the British and the French concessions in Shanghai as

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### Panel B: Chinese banks only

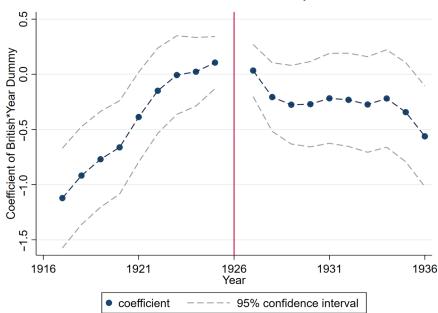


Figure 4. The impact of the Court Rendition (1926) on banking development. This figure depicts the estimated annual gap in bank density between the British and French concessions

before and after the rendition of the Mixed Courts in 1926. Panel A uses the number of all banks as the dependent variable, and Panel B uses the number of Chinese banks as the dependent variable. Specifically, we estimate the following regression at the grid-cell level using GLS to address autocorrelation of the residuals:

$$Y_{it} = \sum_{t=1917}^{1936} \beta_t \times British_i \times \theta_t + \gamma_i + \lambda_t + \varepsilon_{it},$$

where  $Y_{it}$  is the number of banks within grid cell i in year t,  $\theta_t$  equals one in year t and zero otherwise, British is a dummy variable that equals one for grid cells in the British concession and zero otherwise,  $\gamma_i$  and  $\lambda_t$  are grid-cell and year fixed effects, respectively, and 1926 is the reference year. The figure plots the estimated values of and confidence intervals around  $\beta_t$ . (Color figure can be viewed at wileyonlinelibrary.com)

these analyses of the rendition of the courts by including additional controls. Specifically, we compute the first principal components of the Table V controls. We then include the first principal component (computed in 1925) interacted with year dummies. Internet Appendix Figure IA.5 shows that we continue to observe a distinct break in comparative financial development following the rendition of the courts, with financial development in the British concession falling relative to that in the French concession after 1926.

#### B. Rendition and Comparative Bank Density, Bank Performance, and Stock Returns

We next employ a difference-in-differences strategy to examine comparative bank density and then extend the analyses to bank performance and stock returns. The first difference compares the two concessions. The second difference compares (i) the period from 1917 to the rendition of the courts in 1926 to (ii) the period from the 1926 rendition until 1936, when the Second Sino-Japanese War effectively ended British and French influence in the Shanghai concessions. The legal origins view predicts a more substantial decline in financial development in the British concession than in the French concession following the rendition of the Mixed Courts, because removing British common law will have had a larger adverse impact on financial development than removing French civil law. We use 1926 as the rendition date for the difference-in-differences estimation even though the official rendition occurred on January 1, 1927, because the agreement was negotiated in 1926 and finalized in August 1926. Using 1927 instead of 1926 as the breakpoint date in the regressions yields almost identical results. We report results for the subset of

well as other locales. We have not found empirical or historical evidence indicating that growing Chinese nationalism influenced the British concession more than the French concession. Moreover, our data show that population and public expenditures in the British concession did not fall relative to that in the French concession after 1925. To further address this concern, we find consistent results when restricting the sample to the after the end of the Movement (mid-August 1925) and examining stock price changes around the court rendition event (August 1926).

# Table V Chinese Bank Density and the Rendition of the Mixed Courts in the Concessions in 1926

This table examines the comparative changes in Chinese bank density between the British and French concessions after the agreement regarding the rendition of the Mixed Courts in 1926. The sample covers the period from 1917 through 1937, that is, the 20 years around the rendition year. The control variables are identical to those in Table IV, except that *Municipal council* is omitted because both councils were established before the sample period in the respective concession. All columns report GLS estimates that adjust for autocorrelation of the residuals. \*, \*\*\*, and \*\*\*\* indicate significance at the 10%. 5% and 1% level, respectively.

	Density of Chinese Banks			
	(1)	(2)	(3)	(4)
British * Post-1926	$-5.021^{*}$	$-7.346^{*}$	-6.533***	-7.326***
	(2.674)	(3.761)	(2.131)	(1.713)
Concession/China characteristics				
Population density		$1.193^{***}$	$0.857^{***}$	$0.621^{***}$
•		(0.320)	(0.251)	(0.193)
Public expenditure		-2.346	$-16.327^{***}$	$-15.056^{***}$
-		(6.200)	(3.567)	(2.683)
Trade company density		2.605***	$2.997^{***}$	1.681***
		(0.385)	(0.357)	(0.580)
British * Wars in China		0.812	0.853	0.586
		(0.655)	(0.549)	(0.527)
British/French colonial power				
Concessions in China			$1.839^{***}$	-0.239
			(0.647)	(0.625)
Naval ships			0.002	-0.003
			(0.004)	(0.003)
War victories			$-1.904^{***}$	-0.470
			(0.401)	(0.380)
Polity score			0.560	0.448
			(1.530)	(1.203)
GDP per capita			-2.055	4.743
			(8.763)	(7.299)
Year and Concession FEs	Yes	Yes	Yes	Yes
British * Quadratic time trend since 1917				Yes
Observations	40	40	40	40

Chinese banks to save space. Results using all banks are similar, as can be seen in Internet Appendix Table IA.V.

Table V shows that the British concession experienced a much sharper decline in Chinese bank density than did the French concession after 1926. We again employ the extensive set of controls used in Table IV. Column (1) only includes *British* \* *Post-1926* and concession and year fixed effects. Column (2) adds the concession controls, <sup>19</sup> column (3) also conditions on the five empire controls, and column (4) further includes linear and quadratic

 $<sup>^{19}\,\</sup>mathrm{We}$ omit  $\mathit{Municipal}\ council$  because both councils were established before the sample period in Table V.

trends interacted with the British dummy variable (British\*quadratic time trend since 1845). Consistent with the legal origins view, British\*Post-1926 enters negatively and significantly across the different specifications at least at the 10% significance level or better. Furthermore, the estimated coefficient on British\*Post-1926 varies little when using the different conditioning information sets, highlighting the strong, independent relationship between legal traditions and comparative financial development. The estimated coefficient from column (4) indicates that the gap in bank density between the British and French concessions fell by about seven banks per square kilometer due to a drop in bank density in the British concession. This is large, as the gap at the start of the sample period (1917) was about 40 banks per square kilometer.<sup>20</sup>

Next, we extend these analyses to examine bank performance. We collected data on banks' ROA between 1921 and 1931 from a 10-year survey by the Research Department of the Bank of China (1933). Although we could obtain data on only 26 banks, we use them to shed additional light on the impact of the rendition of the Mixed Courts on comparative bank performance in the concessions. We employ two regression specifications in which the dependent variable is a bank's ROA in a given year. The first specification is a simple linear regression that we attribute separately over the prerendition and postrendition periods. The primary explanatory variable is *British*, which equals one for banks in the British concession and zero otherwise. The regression controls for year fixed effects and sometimes conditions on time-varying bank controls. The bank controls include lagged values of the logarithm of bank assets, bank leverage, and the logarithm of bank age. This regression provides evidence on whether average bank ROAs differ in the two concessions before and after the rendition of the Mixed Courts. For example, if British common law more effectively supports banking activities, it could reduce banking costs in the British concession. In turn, this cost advantage could boost banks' ROA if entry barriers limit the extent of competition that can eliminate the cost advantages. Second, we employ a difference-in-differences specification. The main explanatory

<sup>20</sup> There are other potential confounding factors. For instance, Britain's move to the gold standard occurred at about the same time as the rendition of the Mixed Courts, which implies that we cannot include an interaction term between the gold standard and the British concession. However, the analyses condition on many factors that might be associated with adopting the gold standard, including GDP per capita and stock returns in the home countries (Internet Appendix Table IA.VI), population density in the concessions, and the density of trading companies in the concessions. The estimated coefficient on the British\*Post-1927 interaction term changes little when including or excluding these controls, suggesting that omitted variables (e.g., the return to the gold standard) are not significantly biasing the results on the legal origin effect. Another concern is frequent political unrest during this warlord era of China. To address the concern that such unrest disproportionately influenced financial development in the British concession, we control for the interaction between British concession dummy and the annual number of wars. We note that this control will not eliminate the potential impact of various influences on comparative financial development around 1927. However, we unaware of research showing that such events had more adverse effects on the British concession.

## ${\small \begin{array}{c} {\rm Table\,VI} \\ {\bf Bank\,Performance\,and\,the\,Rendition\,of\,the\,Mixed\,Courts} \end{array}}$

This table examines comparative bank performance in the concessions after the rendition of the Mixed Courts to Chinese jurisdiction in 1926. The dependent variable is return on assets (ROA, \*100), that is, net profit divided by assets, at the bank level. *Bank controls* include the logarithm of assets in the previous year, leverage (loan-to-asset ratio, \*100) in the previous year, and the logarithm of bank age. The sample consists of 26 major banks between 1921 and 1931. Standard errors are clustered at the firm level and reported in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5% and 1% level, respectively.

	Prerendition Period 1921–1926		Postrendition Period 1927–1931		Difference-in-Differences Estimation, 1921–1931	
	(1)	(2)	(3)	(4)	(5)	(6)
British	0.819**	1.136***	-0.194	-0.253		
British * Post-1926	(0.363)	(0.393)	(0.401)	(0.460)	$-1.106^{**}$ $(0.525)$	$-1.296^* \ (0.669)$
Bank controls		Yes		Yes	(	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Bank FE					Yes	Yes
$R^2$	0.138	0.527	0.028	0.056	0.420	0.393
Observations	138	112	123	119	261	231

variable is the interaction term *British\*Post-1926*, and the regressions include bank and year fixed effects as well as the same time-varying bank controls discussed above. This regression provides evidence on whether the rendition of the Mixed Courts is associated with a differential change bank ROA in the two concessions.

Table VI reports two main findings. First, we find that banks in the British concession had higher ROAs than those in the French concession during the prerendition period. As shown in columns (1) and (2), *British* enters positively and significantly during the prerendition period when excluding or including the time-varying bank controls. Second, this performance gap disappears following the rendition of the Mixed Courts. As shown in columns (3) and (4), *British* is insignificantly different from zero during the postrendition period. The difference-in-differences analyses also indicate that the ROA performance gap drops after the rendition of the courts. As shown in columns (3) and (4), *British\*Post-1926* enters significantly negatively. The findings in Table VI indicate that while bank ROA was, on average, higher in the British concession before the rendition of the Mixed Courts, it was no longer higher following the rendition of those courts to Chinese rule.

Another way to shed light on the impact of the rendition of the Mixed Courts is to examine the comparative change in the stock returns of firms in the British and French concessions following 1926. To do so in Table VII, we examine the 24 months around August 1926 (September 1925 to August 1927). This window excludes the period of the nationalistic movement that ended in August 1925. The dependent variable is the monthly stock return of each

#### Table VII Stock Returns and the Rendition of the Mixed Courts

This table provides regression results relating stock returns to the rendition of the Mixed Courts to Chinese jurisdiction. The dependent variable is a firm's monthly stock return, defined as the  $\log \text{ difference of month-end prices, } \log(\text{price}_t) - \log(\text{price}_{t\text{-}1}). \text{ The sample period is from September}$ 1925 through August of 1927, that is, the 24-month window around the month of the court rendition announcement (August 1926). Post-August 1926 is a dummy that equals one for the months after the August 1926 rendition announcement. Firm controls include the log duration (of months) since the firm went public (listed) and log market capitalization. Firm FE denotes firm fixed effects that absorb all time-invariant firm characteristics. Standard errors are clustered at the firm level and reported in parentheses. \*, \*\*\*, and \*\*\*\* indicate significance at the 10%, 5% and 1% level, respectively.

	Stock Return			
	(1)	(2)	(3)	(4)
Post-August 1926	-0.039***	$-0.033^{***}$	0.004	0.011
	(0.008)	(0.010)	(0.006)	(0.009)
British * Post-August 1926			$-0.045^{***}$	$-0.046^{***}$
<u> </u>			(0.010)	(0.011)
British			0.029***	, , ,
			(0.008)	
Firm controls	Yes	Yes	Yes	Yes
Firm FE		Yes		Yes
$R^2$	0.011	0.081	0.012	0.082
Observations	1,404	1,404	1,404	1,404

company, defined as the log difference of month-end stock prices. The stock return regressions control for time-varying firm characteristics, namely, the logarithm of the firm's market capitalization and the number of months since the firm went public. Several specifications also condition on firm fixed effects to control for time-invariant traits. To provide a benchmark, we examine the overall event effect on stock returns without distinguishing between the British and French concessions (columns (1) and (2)). Column (1) excludes firm fixed effects, while column (2) includes them. As can be seen, there is a significant drop in stock returns following the rendition of the Mixed Courts, with returns falling by about 3.3% when including the full set of conditioning variables. We next examine the differential stock return response by including the interaction term British\*Post-August 1926. In column (3), we exclude the firm fixed effects and include British as a separate linear term, while in column (4) we include firm fixed effects, so British drops from the estimation. The results indicate that stock returns fell to a greater extent in the British concession following the rendition of the Mixed Courts. Indeed, stock returns of the average British firm fell about 4.6% more than that of the corresponding French firm in its Shanghai concession. The results in Table VII therefore suggest that shifting from British common law to Chinese civil law had a more adverse effect on firms than the concomitant legal system change in the French concession.

#### V. Beyond Shanghai

In this section, we examine concessions outside of Shanghai. Shanghai was the financial center of China in the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, and hence there are much better data on the Shanghai concessions than for other cities. However, examining the non-Shanghai concessions enhances our assessment of how different legal systems within a given city shape comparative financial development within the city.

Specifically, we examine 16 Western concessions in three cities—Tianjin, Hankou, and Guangzhou. The cities and concessions, as well as their legal origins and establishment years, are listed in Internet Appendix Table IA.VII. We focus on these three cities because each hosted concessions with a British common law tradition and concessions with a civil law tradition, 21 which allows us to contribute to compare financial development in common and civil law jurisdictions within the same city. To conduct these comparisons, we implement two strategies. First, we divide the 16 concessions into two groups—those with a common law tradition (Britain and the United States) and those with a civil law tradition (Austro-Hungarian Empire, Belgium, France, German, Italy, Japan, and Russia)<sup>22</sup>—and we then test whether financial development is comparatively stronger in the common law concessions. Second, we focus only on the differences between British and French concessions in these three cities. This second strategy directly extends our Shanghai analyses to these three cities at the expense of excluding the other (non-British and non-French) concessions. As we show below, both strategies yield the same conclusions.

Here, we estimate the following equation over the period from 1850 (10 years before the establishment of the first concession) to 1936 (the eve of the Second Sino-Japanese War):

$$Y_{it} = \beta_1 \times Common\ Law_i \times Post + \beta_2 \times Population\ density_{i-1} + \gamma_i + \lambda_t + \varepsilon_{it},$$
(4)

where  $Y_{it}$  denotes the number of banks (per square kilometer) in concession i in year t,  $Common\ Law_i$  is a dummy variable that equals one if the concession was granted to a common law country and zero if granted to a civil law country, and Post is a dummy variable that equals one after the concession was established and zero otherwise. The coefficient on  $Common\ Law_i \times Post$  indicates the average annual difference in bank density between common law and civil law concessions. As in the earlier analyses, we control for lagged population density at the concession level ( $Population\ density$ ) and concession and

<sup>&</sup>lt;sup>21</sup> Ten other cities in China had concessions between roughly 1845 and 1945. These other cities, however, had only one concession, so we cannot compare the relative impacts of applying common and civil law on financial development in those cities, and hence, we exclude them from our analysis. Moreover, the Qing dynasty also ceded Kulangsu of Xiamen to 10 Western powers (and Japan) as an international settlement, but there were no clear concession boundaries within Kulangsu, so we excluded Kulangsu from the analysis.

<sup>&</sup>lt;sup>22</sup> Internet Appendix Table IA.VII lists each concession, its city, the foreign country (home country) overseeing the concession, and the year it was established. Section II of the Internet Appendix lists data sources.

1540626, 2023, 6, Downloaded from https://onlinelbrary.wile.com/doi/10.1111/jof.1.3284 by University Town Of Sherazhen, Wiley Online Library on [28052024]. See the Terms and Conditions (https://onlinelbrary.wiley.com/terms-and-conditions) on Wiley Online Library for rules of use; OA articles are governed by the applicable Creative Commons License

# Legal Origins and Finance: Concessions in Other Chinese Cities, 1850 to 1936

This table provides regression results relating bank density to the legal origin of the foreign entity with legal jurisdiction over 16 concessions in three cities (Tianjin, Hankou, and Guangzhou). Internet Appendix Table IA.VII provides details on the countries and legal traditions with jurisdiction over these concessions. In columns (1) to (3), the dependent variable is the total number of banks per square kilometer in the respective concession and year. In columns (4) and (5), the dependent variable is the total number of Chinese-owned banks per square kilometer in the respective concession and year.  $Common\ Law$  is a dummy variable that equals one for the concessions ruled by common law countries and zero for the concessions ruled by civil law countries. Post is a dummy variable that equals one after the concession was established.  $Population\ density$  is the number (in thousands) of people per square kilometer at the concession-year level. In columns (3) and (5), we restrict the analysis to the concessions of Britain and France to compare the British common law to French civil law. The regressions control for year fixed effects ( $Year\ FE$ ) and concession fixed effects ( $Year\ FE$ ) as indicated. Heteroskedasticity-robust standard errors are reported in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5% and 1% level, respectively.

	All Banks			Chinese Banks		
	All Concessions	All Concessions	British vs. French Concessions	All Concessions	British vs. French Concessions	
	(1)	(2)	(3)	(4)	(5)	
Common Law * Post	5.911***	4.970***	4.511***	4.384***	3.793***	
Population density (lag)	(1.091)	(1.231) 0.135*** (0.027)	(1.342) 0.225*** (0.029)	(1.139) 0.134*** (0.028)	(1.271) 0.227*** (0.030)	
Year FE	Yes	Yes	Yes	Yes	Yes	
Concession FE	Yes	Yes	Yes	Yes	Yes	
$R^2$	0.354	0.440	0.635	0.436	0.629	
Observations	1,392	1,392	522	1,392	522	

year fixed effects. As noted above, we estimate equation (4) for the full sample of concessions (strategy 1) and for the subsample of concessions that includes only British and French concessions (strategy 2).

Table VIII shows that bank density is materially larger in the common law concessions than in their civil law counterparts. When considering all concessions, we find that, on average, the number of banks per square kilometer in the common law concessions is 4.4 greater than that in the civil law concessions (column (2)). Moreover, this gap is driven mainly by differences in the number of Chinese banks, not differences in the number of foreign banks (column (4)). While subject to greater data limitations than the analyses focused on the Shanghai concessions, these findings on 16 concessions outside Shanghai are consistent with those comparing the Shanghai concessions. The results are again similar when considering only British and French concessions in these cities, as shown in columns (3) and (5). These results provide additional evidence that the common law legal tradition fostered comparatively stronger financial development across different concessions in China.

#### VI. Conclusion

This paper constructs a new database on Western concessions in China from 1845 through 1936 and exploits changes in British and French legal jurisdiction over the respective concessions. We use these data and regime changes to assess the legal origins view of comparative financial development, which stresses that economies with a common law tradition foster greater financial development than economies with a civil law tradition. When applied to the Shanghai concessions, the legal origins view predicts that (i) financial development in the British concession should grow at a faster rate than that in the French concession after Britain and France established legal jurisdiction over their respective concessions in 1869 and (ii) financial development in the British concession should shrink at a faster rate after the rendition of the Mixed Courts to Chinese rule in 1926.

The evidence is consistent with the legal origins view of comparative financial development. The financial development advantage of the British concession emerged with the establishment of the British and French legal systems in the respective concessions in 1869. This financial development gap then shrank after the 1926 rendition of the Mixed Courts that essentially eliminated the application of these Western legal traditions in the concessions. These results hold when controlling for various time-varying military, economic, and political differences between Britain and France and their respective influence within China. Furthermore, when we extend these analyses across 16 concessions in three cities outside of Shanghai, we confirm that financial development is materially greater in the common law concessions than in their civil law counterparts.

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