

PHBS WORKING PAPER SERIES

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

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July 2021

Working Paper 20210703

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Keywords: Comparative law, Financial development, China

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1. Introduction

The legal origins view of comparative financial development stresses that economies with a common law tradition more effectively protect outside investors than economies with a civil law tradition, especially economies with a French civil law tradition, and protecting outside investors from expropriation by corporate insiders, government officials, and others is crucial for financial development (La Porta et al. 1997, 1998). The view further asserts that legal traditions developed in Europe were spread to other countries through conquest and colonization so that researchers can exploit differences in legal origin as an exogenous determinant of legal system differences and hence financial development. An extensive body of research confirms the 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, 2006; Beck et al. 2000; Levine et al. 2000; Barth et al. 2004; Durnev and Kim 2005; Djankov et al. 2007, 2008; Morck et al. 2005; Berkowitz 2011; Brown et al. 2013; D'Acunto 2019).

However, as stressed in the review of the legal origins literature by La Porta et al. (2008), the key 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 shaping financial development or whether legal origin proxies for something else determining financial development (e.g., Pistor 2009; Musacchio and Turner 2013). A country's legal tradition could proxy for culture (e.g., Stulz and Williamson 2003; Licht et al. 2005; D'Acunto et al. 2019), social capital (e.g., Guiso et al. 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 analyses. Aware of this overarching concern, researchers have controlled for many potential confounding factors to identify the impact of differences in legal systems on the operation of financial markets (e.g., Beck et al. 2003; Djankov et al. 2003; Fisman and Love 2004; Jappelli et al. 2005; Safavian and Sharma 2007; La Porta et al. 2006, 2008; Brown et al. 2013). Yet, without randomly assigning legal systems to otherwise similar economies and then assessing the ramifications on financial development, the challenge of identifying the impact of legal origin on financial development remains.

In this paper, we exploit the unique history of Western concessions in China from 1845 through 1936 to assess the legal origins view of financial development. In Shanghai, China granted the British and French concessions over adjacent and very similar plots of land

following the First Opium War. The land was uncultivated and thus had no banks or financial markets before it was conceded to Britain and France. The British applied the common law in their concession, and the French concession used the French civil law. We evaluate the ramifications of applying the common and civil law on financial development within the same city. Besides the spatial discontinuity in legal traditions, another unique advantage of examining the Shanghai concessions is that there were pivotal changes in legal jurisdiction over the concessions during this period. Thus, we evaluate changes in the degree to which British common and French civil law shaped financial arrangements in the respective concessions. Although subject to its own identification concerns that we discuss below, examining the ramifications on financial development from applying different legal systems to different plots of land over time within the same city addresses identification challenges associated with cross-country comparisons.¹

To motivate and frame our econometric strategy, we first provide a brief history of pivotal changes in legal jurisdiction over the Shanghai concessions. From the founding of the British (1845) and French (1849) concessions until 1869, legal cases were handled by the respective consulates. During this period, more Chinese individuals and businesses moved into the concessions, increasing the number of “mixed” cases involving Chinese and foreigners. In 1869, there was a major change in legal systems governing the concessions: The British and French established their own Mixed Courts to handle the full array of legal disputes, including mixed cases. The British Mixed Court used the common law, and the French Mixed Court applied the French civil law. There was another regime change in the legal systems governing the concessions in 1926. The Provisional Rendition Agreement, signed in 1926, triggered a switch from the British common law and the French civil law to the Chinese civil law in the respective concessions, returning legal jurisdiction to Chinese-run courts. British and French influence over the concessions started to wane with the Second Sino-Japanese War, so we ended our analyses in 1936. These regime changes in the legal systems governing the concessions over the 1845 to 1936 period define the key breakpoints in the difference-in-differences methodology that we describe below.

We manually collect data on bank and stock market development. Our primary measure of financial development is the number of banks (per square kilometer) in each concession and year. This bank density measure includes data on foreign banks, Chinese

¹ Brown et al. (2017) examine the implications of imposing federal or state courts on different Native American reservations. We study the impact on comparative financial development from imposing different legal systems on different areas of the same city.

modern (joint-stock) banks, and Chinese traditional banks (qianzhuang). We aggregate the number of headquarters and branches. We have the exact location of each bank using the historical definition of streets and then mapping those addresses to GIS coordinates. We also compile annual information on the identity and location of all stock companies and their market capitalization and monthly data on stock returns. We have information on stock company density (companies per square kilometer) for the full sample period but could obtain data on stock prices only after 1894. Using these data, we assess how bank and stock market development change following changes in legal jurisdiction over the Shanghai concessions.

To assess the impact of the British common law and the French civil law on comparative financial development, we use a series of difference-in-differences strategies. In our core analyses, the first difference compares the British and French concessions. The second difference compares (1) the time period from the founding of the Shanghai concessions until Britain and France create the Mixed Courts in 1869 to (2) the time period from 1869 through the period before the rendition of those courts to Chinese control in 1926. As noted above, creating the Mixed Courts in 1869 was a regime change, as the British and French formally implemented their legal systems in their respective concessions. Thus, the legal origins view predicts that 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 establishing the Mixed Courts in 1869. All of the difference-in-differences analyses include concession and year effects.

Consistent with the legal origins view of comparative financial development, financial development—bank density or stock company density—in the British concessions is materially greater than that in the French concession after 1869. On average, the British concession had about 2.5 more banks per km² per year than the French concession before establishing the Mixed Courts in 1869, and this gap increased by about 22 banks per km² per year after the Courts were established (i.e., between 1870 and 1925). Furthermore, when examining the parallel trends, there is no sign of a change in comparative financial development before 1869. Rather, there is a sharp change following the application of the different legal traditions in the concessions. Since Britain and France may differ in financial development for reasons that have nothing to do with legal origins and those differences could be reflected in the establishment of their banks in Shanghai, we also conducted the analyses focusing only on Chinese banks. We find that substantially more Chinese banks establish affiliates in the British concession than in the French concession; and the gap

increases by about 20 banks per km² per year after 1869. This suggests that the legal effect is primarily composed of a large increase in Chinese banks in the British concession following the establishment of the Mixed Courts. Furthermore, we divide the concessions into 200-by-200 meter grid cells and conduct the analyses while including grid-cell fixed effects to account for within concession variation. The results hold.

We extend these analyses to address a key challenge to drawing inferences about the impact of the British common law and the French civil law on comparative financial development from these analyses: omitted variables. First, non-legal system differences between Britain and France could have shaped comparative economic development in the concessions with concomitant ramifications on comparative financial development. Thus, we control both for population density in the respective concessions. Second, we were concerned that differences in British and French governance systems within the concessions could account for the differences in financial development. Although we include concession fixed effects, we extend these analyses by explicitly controlling for when the British and French formally established different governance systems in their respective concessions. In particular, the British established their Municipal Council in 1854, and the French creating their own Municipal Council in 1862. Third, we were also concerned that the formation of the concessions in the 1840s could have set in motion different financial system dynamics that are not fully captured by the concession and year fixed effects. Therefore, we also include the interaction between a British concession dummy variable and both linear and quadratic trends. However, controlling for these concession-level covariates does not alter the findings that there was a sharp change in financial development in the two concessions following the establishment of the British and French Mixed Courts in 1869.

The comparative financial development between British and French concessions in Shanghai may be subject to not only the above-mentioned concession-level difference but also the comparative development of Britain over France at the time. First, we control for Gross Domestic Product (GDP) in each respective homeland (i.e., the GDP of Britain for the British concession and the GDP of France for the French concession). Second, Britain also differed from France in political institutions, especially the level of democracy. We thus control for the annual Polity IV scores of Britain and France. In addition to these homeland effects, Britain also led France in political and economic influence in China. Consequently, the stronger financial development in British Shanghai concession might reflect the comparative advantage of the British influence in whole China rather than the comparative advantage of the British common law over the French civil law. To address this

concern, we control for the number of concessions respectively controlled by Britain and France in China between 1845 and 1925. Last but not the least, to the extent that Britain dominated foreign trade in China and thus may spur a greater financial demand than France, we control for the number of trade companies established respectively by British and French merchants per year in China. Conditional on all above concession- and homeland-level covariates, the legal effect in Shanghai concessions remains significant; British concession still has 13 more banks per year than French concession after the establishment of the Mixed Courts.

The history of legal jurisdiction over the Shanghai concessions offers an additional and unique way to identify the impact of legal origins on comparative financial development: the rendition of the Mixed Courts in 1926. Without changing the administration of the concessions, the rendition returned legal jurisdiction of the concessions to Chinese-run courts. The legal origins view predicts that since the British common law provides a comparative advantage over the French civil law in supporting financial development, the rendition of the Mixed Courts will negatively affect financial development more in the British concession. To test this prediction, we again employ a difference-in-differences approach. In these rendition analyses, the first difference again compares the British and French concessions. The second difference now compares the years before the rendition of the Mixed Courts to Chinese control in 1926 to the years after the rendition.

The results from the rendition analyses are consistent with the legal origins view of comparative financial development. The British concession experienced a much sharper decline in both bank density and stock company density following 1926. Evidence from changes in stock returns further supports the legal origins view. We examine a 24-month window around the August 1926 Provisional Rendition Agreement. We discover that stock returns in the concessions fall materially following the rendition of the Mixed Courts, and the fall is disproportionately large among firms in the British concession.

Our joint findings that (a) the financial development advantage of the British over the French concession emerges with the application of the British common law and French civil law in the respective concession in 1869 and (b) the financial development gap shrinks with the rendition of the British common law and French civil law to Chinese-run courts after 1926 suggest that the different legal systems help shape comparative financial development. Evidence on stock returns further supports this view.

As a final extension, we examine concessions in three cities outside of Shanghai: Guangzhou, Hankou, and Tianjin. In particular, we study 16 concessions granted to countries

with either a common law (Britain and the United States) or civil law tradition (Austro-Hungarian Empire, Belgium, France, German, Italy, Japan, and Russia). We analyze these three cities because each contains within its borders at least one common and one civil law concession. Thus, we compare financial development across concessions with different legal systems in the same city. There are limitations to examining these 16 concessions, however. These concessions did not experience the sharp intertemporal breakpoints in legal jurisdiction that characterize the Shanghai concessions. This limitation reduces the ability to distinguish the effects of legal tradition on comparative financial development from other features of the concessions that might shape financial development. Nevertheless, we provide these analyses to augment the examination of the Shanghai concessions. Consistent with the Shanghai results, we discover that financial development is materially greater in the common law concessions than in their civil law counterparts. Furthermore, when limiting the analyses to British and French concessions, we find that the British common law concessions are comparatively more financially developed than the French civil law.

The remainder of the paper is organized as follows. Section 2 provides a more detailed history of the Shanghai concessions. Section 3 describes the data. Section 4 presents the results analyzing changes in comparative financial development after Britain and France created the Mixed Courts. Section 5 details the analyses and findings on changes in comparative financial development associated with the rendition of the courts to Chinese rule. In Section 6, we investigate the relationship between different legal systems and comparative financial development in cities outside of Shanghai. Section 7 concludes.

2. Shanghai Concessions

In 1845, the British concession in Shanghai was formally established after Britain defeated China in the First Opium War (1839-1842) and forced the Qing Dynasty to cede 830 acres of land in Shanghai to Britain.² 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 concession in Shanghai that bordered the British concession. The British and American concessions merged in 1863, which was later named the Shanghai International Settlement. It reached a maximum size of 33,503 acres in 1899.³ 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). For this reason, we follow the literature and use the term "British concession" in referring to the International Settlement. In 1849, the French also established a concession in Shanghai that bordered the British concession.⁴ The French concession also experienced several expansion waves, from the original 164 acres to over 15,000 acres in 1914. Figure I illustrates the geographic expansion of the Shanghai concessions.

After 1936, British and French influence over the concessions waned appreciably with the Second Sino-Japanese War (1937-1945). As a result, we end our analyses of the Shanghai concessions in 1936. Both the British and French concessions were formally returned to the Chinese government in 1943.

2.1. *The British and French legal systems in the concessions*

Britain and France transplanted their common law and civil law legal systems into their respective Shanghai concessions. During the initial decades, the British and French consulates handled disputes involving their own citizens. As more Chinese moved into the

² The Opium War broke out from a long tension between the Qing dynasty's autarkic principle (trade ban) and British trade expansion to China since the late 18th century. The military defeat forced the Qing dynasty signed the Treaty of Nanking with Britain in 1843. Upon the Treaty, the Qing dynasty conceded a land in Shanghai to British as their concession (though still under the sovereignty of the Qing dynasty) in order to facilitate British trade and business with China.

³ More than ten countries had consulates within the International Settlement, but they did not play a material role in administering the Settlement (Wang 1998).

⁴ Inspired by Britain's success in opening China, France also sought its economic interest in China. In 1844, France signed the *Traité de Huangpu* (Treaty of Huangpu) with the Qing dynasty, obtaining the same trade and settlement privileges as those of Britain in Shanghai. As the first French Consul in Shanghai, Charles de Montigny began to negotiate with the Shanghai Prefect about the opening up of French concession in 1847. Montigny required that the concession had to be accessible by river and closer to Shanghai (old) city than the English concession. Two years later, the Shanghai Prefect agreed to concede a land between the British concession and the Shanghai city as the French concession. The two concessions are bordered on the Suzhou River (Fauvel 1899).

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 negotiating 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, and both the British and French concessions established their own Mixed Courts (*Huishen Gongxie*) to handle cases involving Chinese and foreign plaintiffs and defendants.⁵ During the initial decades of the Mixed Courts, Chinese and foreign judges jointly heard cases involving Chinese citizens and foreign residents (see an illustration in Appendix Figure A1), but foreign judges dominated the courts. As noted by the U.S. State Department (1880, p. 158), Chinese officials mainly assisted in executing decisions. Research by Hudson (1927), Yang (2006), and Cai (2013) notes that the Chinese officials participating in the Mixed Courts (a) tended to have a very low rank within the Chinese hierarchy, (b) were chosen by foreign officials to serve in the Mixed Courts, and (c) 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, the execution of arrests, etc. (Hudson 1927; Shanghai Shehui Kexueyuan 1981).

Around 1926, there was another “regime change” in the legal system governing the concessions. Due to rising nationalism after the First World War, China began negotiating a plan of 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, there were violent demonstrations in the concessions over foreign “imperialism” that reenergized negotiations about rendition. An agreement, the “Provisional Rendition Agreement,” was signed on August 31, 1926, and the formal rendition of the British Mixed Courts to Chinese-run courts occurred on January 1, 1927. This was a major change as it involved a switch from British common law to Chinese civil law. The French Mixed Court was also materially altered in 1927, as Chinese cases were assigned to Chinese judges and lawyers. Then, in 1931, Chinese courts assumed legal jurisdiction over the French concession.

⁵ There were clear, formal jurisdictional boundaries between the Mixed Court of the International Settlement (British Mixed Court) and the Mixed Court of the French Settlement that specified which of the Mixed Courts would adjudicate cases. The Statutes of the Mixed Courts in Shanghai, which was issued on April 20, 1869, determined these jurisdictional boundaries. Jernigan (1905, pp. 203-4) details the rules governing jurisdiction.

2.1.1. *Common law in the British concession*

The historical record of lawsuits demonstrates that the British concession followed a British common law tradition. The courts decided cases based on statutory law, precedent, and the application of those laws and precedents to emerging cases within the concession.⁶ In the concession, the British common laws applied to both 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 (e.g., Levine 2005). For example, in a 1911 case, an American publishing house, Messrs, Ginn & Co., sued the Commercial Press of China for copyright infringement. The lawyer cited two verdicts from earlier 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 recompense Messrs, Ginn & Co. This case is discussed in a series of newspaper reports in the *North China Herald*, April 8, April 10, and October 7, 1911, and Hou (2017).

Another noteworthy feature of the common law is its ability to adapt and consider local circumstances and customs in addressing specific cases. Evidence of this feature 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 sometimes evolve efficiently in the British concession to resolve disputes while respecting local customs. For example, in 1876, Sassoon & Co., Ltd., E.D. sued Wang, the owner of a Chinese company, in the mixed court for 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, the opium business of Guo 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

⁶ 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 facilitated the law practitioners of the day and our research.

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.⁷

2.1.2. *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 based on precedent or local custom. The Court's archives show that judges resolved commercial cases based on strict applications of French commercial codes.⁸ For example, in 1910, a French merchant sued a Chinese broker who traded gold futures for him, charging 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. So, there was no basis for classifying the broker's trade as illegal (Hou (2017) cites this case "Séance du 27 November 1907 S. Somekh contre Hi Kai Song" [no. 635PO/C/371] from the Nantes branch of the French Ministry of Foreign Affairs Archives.)

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).

2.2. *Financial development*

The concessions were established on relatively undeveloped land, with few prior inhabitants and no pre-existing 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 19th century, however, Shanghai had become the largest financial hub in Asia, and the British concession was 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 British concession. Foreign banks steadily entered the British

⁷ 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.

⁸ The cases are reserved in the *Archives du Ministère de la France des Affaires Etrangère* (Archives of the French Ministry of Foreign Affairs).

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 the financing of foreign trade.

Over time foreign banks collaborated with Chinese traditional banks called qianzhuang (“money house”) to provide a wider 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-19th century. Their activities included providing local currency exchanges for the varieties of metallic currencies circulating in China, note-issuing, and giving credit to firms and households. While foreign banks had abundant capital, qianzhuang had local expertise. The two financial intermediaries formed fruitful business relations in the Shanghai concessions. Indeed, many qianzhuang moved their headquarters into the concessions, and the qianzhuang even relocated their Association (Shanghai qianye gonghui) from the Shanghai old city to the British concession in 1917. Besides the new business chances, the rule of law in the British concession was also an important attraction for Chinese native bankers. Born in a ‘free-banking’ environment, Chinese traditional banks developed their own business rules enforced by the Association. These rules could receive more respect in the British concession, thanks to the flexibility or “problem solving” principle of the common law. Indeed, as shown in the archives of the British Mixed Court, some verdicts involving Chinese traditional bankers were based on the rules and customs made by the Association of Chinese traditional banks (Du 2006).

In 1897, the Imperial Bank of China—the first “modern” Chinese 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 modern Chinese banks soon emerged. By 1925, the number of Chinese banks in the British concession reached 194, more than five times the number of foreign banks (30). However, the number of Chinese banks in the French concession grew much less rapidly, reaching 29 banks in 1925.

Besides modern banks, nonfinancial Chinese stock companies with limited liability and traded shares also emerged and flourished in the Shanghai concessions (Wang 1965). Investors could purchase stocks directly from the company or through qualified brokers (Liu 2004). An active secondary market emerged in the 1860s. The most influential newspaper in Shanghai, *The North-China Herald*, published daily stock prices in the section “Shares and

Stocks” (see Appendix Figure A2). During the early years, the trading of stocks was conducted 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. As shown in Figure II, most of the publicly traded stock companies were located in the British concession. For example, by 1925, there were 74 publicly-traded companies in the British concession and four in the French concession.

3. Data

3.1. 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, however, are robust to using the post-1861 geographic boundaries of the concessions. Figure I provides a map of the British and French concessions in Shanghai. As noted above, the British and French established their concessions on similar and fairly barren lands. Nevertheless, we account for potential variation in land quality, infrastructure, and other location-specific effects by dividing the concessions into 100 200m × 200m grid cells and including grid cell fixed effects in the analyses below.⁹ Appendix Table A1 provides descriptive statistics of the main variables that we now describe.

3.2. Banks

Our primary measure of financial development is the number of banks in a concession in a year, as banks were the primary financial intermediaries in the late 19th and early 20th centuries. Banks in Shanghai included foreign banks, Chinese modern banks, and Chinese traditional banks (i.e., the qianzhuang described above). They operated deposit, loan, remittance, and other normal services of a typically commercial bank, and played a pivotal role in financing trade, commercialization and industrialization in Shanghai and China (Rawski 1989). We aggregate the number of headquarters and branches of these banks to

⁹ Specifically, we exclude grid cells that are less than 0.001 km², which leaves 100 grid cells.

measure financial development.¹⁰ When examining grid cells, we compute the number of headquarters and branches within each grid cell.

To obtain these data, we manually collected information on each bank's address (using the historical definition of streets and addresses in Shanghai) and years of operation from the *Shanghai Financial Gazetteer* and other archives and newspapers (Appendix B lists the data sources). We then map the addresses to the coordinates in the geographic information system (GIS) and identify the banks within concessions and grid cells. There were 67 foreign banks, 335 Chinese modern banks, and 264 qianzhuang in the two Shanghai concessions from 1846 through 1936.¹¹

3.3. Stock market

We measure stock market development in Shanghai using either the number of stock companies or the total market capitalization of listed firms within a concession (or grid cell). We obtain stock market information from the *North-China Herald*, the main source of stock market information during the operation of the concessions. The *Herald* was founded in 1850. It began to publish stock prices in 1864 and the number of shares in 1894.

For our analyses of stock market development, we were able to obtain the exact address of 205 companies located in Shanghai.¹² We manually identified each stock company's location (coordinates) based on *The Desk Hong List*, a bi-annual 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. Then we mapped the companies to the grid cells of the two concessions. Consistent with the distribution of banks, Figure II shows that the British concession also had a much higher density of stock companies than the French concession.

Figure III depicts the distribution of banks and stock companies across the grid cells in the two concessions, using the geographic boundaries of the "old concessions." The figure provides the distributions of banks and stock companies in both 1868, which is just before the creation of the Mixed Courts more firmly established the British common law and French civil law in the respective concessions, and in 1925, which is just before the rendition of the

¹⁰ The headquarters and branches are treated equally. For instance, if a British bank headquartered in London opened a branch bank in Shanghai, it is counted as a bank in Shanghai. In our sample, only foreign and Chinese modern banks had branches. Chinese qianzhuang had only one office (headquarters).

¹¹ These numbers omit the 43 Chinese modern bank branches and 86 qianzhuang for which we could not identify precise location data.

¹² We omit from our analyses 75 firms for which we could find no information about their location.

Mixed Courts to the Chinese civil law courts. As shown, there is much more rapid financial development in the British concession relative to that in the French concession.

4. Financial Divergence between the British and French Concessions

4.1. Methodological overview

The key challenge to assessing the impact of the British common law and the French civil law on comparative financial development in their respective Shanghai concessions is isolating the influences of legal system differences from other potential factors. As noted above, the British and French concessions were on neighboring lands of similar quality that had similar pre-concession levels of economic development. Britain and France, however, were different in other potentially important respects besides their legal systems. 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.

To identify the independent role of legal system differences in shaping financial development in the two Shanghai concessions, we use a series of difference-in-differences strategies to control for many potential confounding factors. In this section, we (1) begin with a simple framework in which we explore differences in financial development between the two concessions following the formation of the concessions in 1845 to assess the “concession effect;” (2) then also assess the “legal effect” by examining differences in financial development in the two concessions following the formation of the Mixed Courts in 1869; and (3) including many controls to reduce the possibility that other factors, besides the legal effect associated with the establishment of the Mixed Courts, account the findings. In the next section, we turn to an additional break in the legal systems governing contracting in the concessions: the rendition of the Mixed Courts to the Chinese authorities.

4.2. Preliminary benchmark: The concession effect

As a preliminary benchmark, we begin with the following difference-in-differences equation to assess the impact of the two concessions on comparative financial development,

$$Y_{it} = \beta_1 \times \text{British}_i \times \text{Post1845} + \gamma_i + \lambda_t + \varepsilon_{it}, \quad (1)$$

where Y_{it} denotes the number of banks (per km²) 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. *Post1845* is a dummy variable that equals one after 1845 and zero before then. The interaction term, $British_i \times Post1845$, captures the concession effect, i.e., 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 estimated coefficient on $British_i \times Post1845$ provides an estimate of the average annual difference in bank density between the British and French concessions following the creation of the concessions. γ_i is a concession (or grid-cell) fixed effect, which captures all time-invariant characteristics of the geographic location. λ_t is a year fixed effect and captures the common annual shock shaping financial development in both the British and French concessions.¹³ We conduct the estimation using data from 1840 through 1926, where the 1840-1845 period is the pre-concession period.

The estimates in Table I indicate that bank density grew much faster in the British concession after 1845. The interaction term, $British_i \times Post1845$, enters with a positive, statistically significant, and economically large coefficient. The estimated coefficient in column (1) indicates that the British concession had 18 more banks per km² than the French concession during the average year from 1846 through 1925. As a reference point, there were four banks per km² in the French concession on average during the same period.

To shed additional empirical light on the comparative advantages offered by the British concession for bank development, we extend these results in two ways. First, as shown in column (2), many more Chinese banks chose to establish affiliates in the British concession. We estimate that the average annual gap in the number of Chinese banks per km² is about 14 greater in the British concession than in the French concession. This estimate for Chinese banks is close to the estimate in column (1) for all banks, suggesting that the concession effect on banking is primarily composed of the growth of Chinese banks. Second, we were concerned that the British concession might have some especially appealing areas for financial development, perhaps due to land quality, location, or infrastructure. It might be these within concession factors that account for comparative financial development in the British concession and not legal system differences. Thus, we conduct the analyses at the grid-cell level. As shown in columns (3) and (4) of Table I, the results hold. These results are consistent with the view that the

¹³ 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 the standard errors for clustering at the grid-cell level.

establishment of the Shanghai concessions led to much faster financial development in the British concession than in the French concession.

4.3. Results: The Mixed Courts and bank density

We next extend the econometric strategy to examine the relationship between the formation of the Mixed Courts and comparative financial development while controlling for the pure concession effect. In this extended difference-in-differences strategy, the first difference involves comparing the British to the French concession. The second difference involves comparing (1) the time period from the founding of the Shanghai concession in 1846 through the creation of the Mixed Courts in 1869 to (2) the time period from 1870 to the rendition of those courts in 1926. The establishment of the Mixed Courts represents a distinct break in the concessions. The creation of these courts deepened and broadened the jurisdiction of the British and French legal systems in their respective concessions. Thus, the “legal origins” view of LLSV (1998) suggests that 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. We empirically evaluate this view.

More specifically, we use the following regression specification:

$$Y_{it} = \beta_1 \times \text{British}_i \times \text{Post1845} + \beta_2 \times \text{British}_i \times \text{Post1869} + \gamma_i + \lambda_t + \varepsilon_{it}, \quad (2)$$

where Y_{it} , British_i , and Post1845 are defined above. The second interaction term, $\text{British}_i \times \text{Post1869}$, captures the legal effect, i.e., whether more banks were opened in the British concession relative to the French concession after their respective legal systems became more prominent in the concessions following the creation of the Mixed Courts in 1869. By controlling for the concession effect, $\text{British}_i \times \text{Post1845}$, the estimated coefficient on the legal effect, $\text{British}_i \times \text{Post1869}$, provides information on 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 triggered by the establishment of the two concessions in 1845. Thus, $\beta_2 > 0$ would suggest that bank density rose in the British concession relative to the French concession after establishing the different legal systems in the concessions.

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. Based on the coefficient estimates from column (1), the British concession had about 2.5 more banks per km² on average than the French concession before establishing the Mixed Courts in 1869, and this gap increased by about 22 banks per km² after 1869. In column (2), we re-do these analyses for the subsample of Chinese banks. The estimates indicate a comparatively sharp increase in the density of Chinese banks in the British concession, with the gap increasing by about 20 banks per km² after the establishment of the Mixed Courts. By comparing columns (1) and (2), the estimates suggest that the legal effect is primarily composed of a large increase in Chinese banks in the British concession following the stronger application of the British common and French civil laws triggered by the establishment of the Mixed Courts. Furthermore, as shown in columns (3) and (4), these results hold for the full sample of banks and the subsample of Chinese banks when conducting the analyses at the grid-cell level.¹⁴ We also replicated Table II using five-year intervals of the data to mitigate annual fluctuations in the number of banks. Again, the results hold (see Supplementary Appendix Table A2).

¹⁴ Following the same empirical strategy, we examine comparative stock market development in the British and French concessions following the establishment of the Mixed Courts in 1869. To measure 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 us only three years of the pre-Courts reference period (1866-1868) when compared to a much longer treatment period of 57 years (1869-1925). Therefore, we treat the results on stock companies suggestive and report them in Supplementary Appendix Table A3. Consistent with the findings on bank density, there are, on average, 10 more stock companies per km² in the British concession than in the French concession following the establishment of the Mixed Courts. Furthermore, we confirm these findings when examining the number of stock companies within each grid cell.

4.4. *Mixed Courts and bank development: Extensions*

In this section, we conduct several additional analyses to identify better the relationship between changes in the operation of the legal systems in the concessions and comparative financial development. In particular, although the findings in Table II that bank density in the British concession rose appreciably relative to that in the French concession after 1869 while controlling for the pure concession effect, $British_i \times Post1845$, concession fixed effects, and year fixed effects is consistent with the view that stronger financial development in the British concession is related to legal system differences per se, the analyses do not eliminate all potential confounding effects. Thus, we now engage in a series of analyses to reduce such concerns and better identify the impact of legal system differences on comparative financial development. Since we control for time-varying features of each concession in many of these analyses and these data on each concession do not exist before the formation of the concessions, we start these investigations in 1846.

First, despite starting from similar economic conditions, many factors besides legal system differences may have shaped economic development in the British and the French concessions. It might be these other factors and their effects on economic development that drove the divergence in bank development. To address this concern, we control for the evolution of economic development in the concessions. In particular, we control for *Population density (lag)*, as there are no data on production in the concessions. We use lagged population density at the concession-year level to assess the robustness of our results while recognizing that these population data are subject to several challenges (Zou, 1980; Henriot et al, 2018).¹⁵

Second, Britain and France also established different governance institutions in Shanghai, and it could be these governance systems and not comparative legal institutions that shaped financial development. Although we control for concession fixed effects and show that the legal effect holds when controlling for $British*Post1845$, we extend these analyses by controlling for the dates when the British and French formally established

¹⁵ From 1865, both concessions conducted population census surveys every five or ten years. Annual population data start in 1900 in the British concession and the late 1920s in the French concession. Assuming a linear growth rate of population, we interpolated the annual population for the missing years and coded the population as zero in 1845. Another challenge to 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). Instead, we use the whole population of the British and French concessions, as the districts of the old concessions were the most populous. We make this assertion based on the data illustrated in Supplementary Appendix Figure A3 for the population distribution at the district level within the concessions in 1935, which is the only year with district-level population data across concessions.

different governance systems in their respective concessions. In particular, historians highlight two substantial changes in the governance of the concessions: the British establishing their Municipal Council in 1854 and the French creating their own Municipal Council in 1862. Based on these changes, we test whether differences in governance systems account for the divergence in bank density in the concessions. To do this, we create the variable *Municipal Councils*, which equals one after 1854 for British concession observations, equals one after 1862 for French concession observations, and equals zero otherwise.¹⁶

Third, we were concerned that the formation of the concessions in 1845 might have triggered different dynamics in the evolution of bank density in the two concessions. We control for linear and quadratic trends that are interacted with the British dummy variable to address this concern.¹⁷

We control for all above covariates at the concession-year level in column 1 of Table III. The common law advantage in banking development remains significant, although the magnitude of coefficient becomes smaller than that of the baseline estimation in Table II. Now British concession had about 11 more banks per year than the French concession after the establishment of the Mixed Courts in 1896.

The comparative financial development between British and French concessions in Shanghai may not only be affected by above concession-level factors but also be associated with comparative development between British and French empires at the time. First, stronger financial development in Britain's Shanghai concession could reflect comparative economic development in Britain during the late 19th and early 20th

¹⁶ A related concern is whether the British concession, due to its more autonomous Municipal Council, had lower tax rates than the French concession. We find that this was not the case. Historical archives show that the land and property tax rates were almost identical between the two concessions. Note that the land and property taxes, which began to be levied from circa 1862 onward, accounted for 70 to 80 percent of the fiscal revenue of the two concessions (Wang 1995).

¹⁷ Financial development in in the late 19th- to early 20th-century China was also confronted with political turmoil, most notably the Taiping Rebellion (1850-1864), the 1911 Revolution that overthrew the Qing dynasty, and the subsequent civil conflicts (known as the Warlord Era) between 1916 and 1928. However, thanks to their extraterritorial status under the protection of Western powers, Shanghai concessions remained an enclave of peace and good governance throughout the political changes and unrest (Stephens 1992). Certainly, the political turmoil caused mass immigration into both British and French concessions in Shanghai, and we have no information on which concession received more Chinese refugees. Nevertheless, this should not be a serious concern, in that we have controlled for the growth of population in the two concessions, and that the major political shocks (and waves of immigration accordingly) did not overlap the time of the Mixed Courts establishment (1869). Moreover, to reduce the possible heterogeneous effects of legal system differences in the concessions across different political regimes in China, we restrict the sample period to the Qing dynasty only, i.e., 1840 to 1910. The results remain robust (see Supplementary Appendix Table A2).

centuries (La Porta et al. 2008) rather than the comparative advantage of the British common law over the French civil law. To test this, we control for the GDP of Britain when assessing financial development in the British concession and the GDP of France when assessing bank density in the French concession. Maddison (2010) provides data on GDP. In particular, we create a variable *Homeland's GDP* that equals (a) the GDP of Britain in year t when examining bank density in the British concession in year t and (b) the GDP of France in year t when examining bank density in the French concession in year t .

Second, different political institutions between Britain and France may also affect their legal and financial performance in Shanghai. For example, Britain remained a steady progress in the level of democracy and political stability in our sample period, whereas France remained relatively authoritarian and experienced revolutions and political changes (the most prominent, Paris Commune). To account for the possible confounding effect of political institutions, we control for the annual Polity IV scores of Britain and France between 1846 and 1925. As a popular measure of the level of democracy, the scores ranges from -10 (strongly autocratic) to 10 (strongly democratic), according to Marshall et al. (2020).

Third, in the late 19th and early 20th centuries, Britain led France in political and economic influence in China. The stronger financial development in British Shanghai concession might reflect a greater British influence in whole China rather than the comparative advantage of the British common law over the French civil law. To address this concern, we employ the number of concessions respectively controlled by Britain and France in China (but Shanghai) to proxy for the strength of their colonial influence in China. This is premised on the reasoning that the Western powers penetrated China mainly through their concessions. Between 1845 and 1925, Britain successively established 12 concessions in China (including Hong Kong),¹⁸ whereas France established five. Specifically, we control for this variable, *Number of British/French concessions in China*, which equals (a) the number of British concessions in China in year t when examining bank density in the British

¹⁸ Hong Kong was an important British settlement (colony) in the Far East. However, before the mid-20th century, Hong Kong was not comparable to Shanghai in financial development. For example, Hong Kong had only 10 modern Chinese banks even in the 1930s, while Shanghai had 218 modern Chinese banks. The number of foreign banks in Hong Kong was also much less than in Shanghai. Moreover, Hong Kong's stock market was opened 25 years later than the market in Shanghai. In view of such drastic difference, it is unlikely that the financial development in British Shanghai concession was caused by the financial development of Hong Kong. Certainly, Shanghai and Hong Kong remained certain economic connections at the time and thus may benefit from each other's development.

concession in year t and (b) the number of French concessions in China in year t when examining bank density in the French concession in year t .

Finally, financial development might also be associated with the growth of foreign trade, especially in Shanghai that was the largest trade hub in China during the late 19th and early 20th century. Moreover, Britain dominated foreign trade in China and thus may spur a greater financial demand than France. We thus control for the number of trade companies owned respectively by British and French merchants per year in China. The data are obtained from Huang (1995).

We further control for above covariates at the empire-year level in column 2 of Table III. The number of British/French concessions and their trade companies in China have a significantly positive effect on the density of banks, suggesting that stronger financial development in British Shanghai concession was also aided by the stronger British power and influence in China. However, this does not mitigate the significance of the common law in financial development in Shanghai. Conditioning on all of these confounding influences, *British*Post1869* continues to enter positively and significantly. Now the British Mixed Court alone accounts for an increase of 13 more banks per year in the British concession than in the French concession after 1869. We replicate all of the above tests on a subsample of only Chinese banks. As shown in columns 3 and 4 of Table III, the results hold. We find that the estimated coefficient on the legal effect changes little (12 banks), again suggesting that the legal effect on banking is primarily composed of the growth of Chinese banks.

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

$$Y_{it} = \sum_{t=1864}^{1879} \beta_t \times \text{British}_i \times \theta_t + \gamma_i + \lambda_t + \varepsilon_{it}, \quad (3)$$

where θ_t equals one in year t and zero otherwise, and the other variables are defined above. To limit the effects of heterogeneity over longer periods and focus on a narrower time period around the 1869 establishment of the Mixed Courts, we conduct this examination over the window from 1864 through 1879, i.e., five years before the Mixed

Courts were established and 10 years thereafter. Note, however, that if we conduct the analyses over a longer period, the same results emerge. We then plot the estimated values and confidence intervals around β_t in Figure IV. 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 β_t after 1869.

As shown in Figure IV, the gap in British-French bank density is close to zero and does not exhibit a significant trend before the formation of the Mixed Courts, and then there is a distinct break. After 1869, bank density rises faster in the British concession than in the French concession. These findings suggest that the financial gap between the British and French concessions began in 1869 and then widened.

5. Rendition of the Courts

Another legal system break occurs around 1926 with the rendition of the Mixed Courts. Following violent protests in 1925 against Western influence, including against British and French control over the courts in the concessions, there was an intensification of negotiations about the rendition of the Mixed Courts. The Chinese and the United Kingdom signed agreement in August of 1926, and the 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 1927, and by 1931, the Chinese courts assumed full legal jurisdiction over the French concession.

This section tests whether financial development deteriorated comparatively rapidly in the British concession following the rendition. If the 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 a ten-year period around the rendition year so that our sample covers from 1917 through 1936.

To illustrate the relationship between the rendition of the Mixed Courts and comparative financial development, consider Figure V. Here, we graph the difference between bank density in the British and French concessions from 1917 through 1936. As shown, there is a discrete change in the bank density gap associated with the rendition. This figure helps motivate our statistical assessment.

We again employ a difference-in-differences strategy. The first difference involves comparing the two concessions. The second difference involves comparing (1) the time period from 1917 to the rendition of those courts in 1926 to (2) the time 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 origin view predicts a stronger decline in financial development in the British concession relative to that in the French following the rendition of the Mixed Courts because removing the British common law will have had a larger adverse impact on financial development than removing the French civil law. As explained above, we use 1926 as the rendition date for the difference-in-differences estimation even though official rendition occurred on January 1, 1927, because the agreement was negotiated during 1926 and finalized in August of 1926. In robustness tests, using 1927 instead of 1926 as the breakpoint date in the regressions yields almost identical results.

As reported in Table IV, the British concession experienced a much sharper decline in financial development than the French concession after 1926. Column (1) indicates that bank density fell significantly. Comparing the average year in the pre- and post-rendition periods, the estimated coefficient on *British*Post1926* indicates that bank density (banks per km²) fell by 8 more in the British concession than in the French concession. This is large, as the bank density in the British concession at the start of the sample period (1917) was 46 per km², while it was 5.5 per km² in the French concession. As shown in columns (2) and (3), we find similar results when examining the density of stock companies in the concessions or the market capitalization of those firms. For example, the estimates indicate that the British concession lost about 11.6 more companies per km² than the French concession after 1926. To gauge the size of this estimated drop, note that the density of stock companies in the British concession at the start of the estimation period (1917) was 34.3 per km². As a robustness test, we re-do these analyses while using a narrower window (five-year window) around the rendition. As shown in columns (4) – (6), all results hold when using only a sample period of five years before and after 1926.

Another way to shed empirical 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, which we offer in Table V. To do this, we examine the 24 months before and after August in 1926 (time of court rendition). The dependent variable is the monthly stock return of each company, defined as the log difference of month-end stock prices, i.e., $\log(\text{price}_t) - \log(\text{price}_{t-1})$. The stock return

regressions control for time-varying firm characteristics—the logarithm of the firm’s market capitalization and the number of months since the firm went public (i.e., duration)—and several specifications also condition on company 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 shown, there is a significant drop in stock returns following the rendition of the Mixed Courts, with returns falling by about 5.5% when including the full set of conditioning variables. We then examine the differential stock return response by including the interaction term, *British*Post-Rendition*, and report the results in columns (3) and (4). In column (3), we exclude the firm fixed effects and include *British* as a separate linear term. In column (4), we include firm fixed effects, so *British* drops from the estimation. The results indicate that stock returns fall by more in the British concession than in the French concession following the rendition of the Mixed Courts. Indeed, the average British firm falls more almost 6%. The Table V results provide further evidence that is consistent with the view that shifting from the British common law to the Chinese civil law had a more adverse effect on firms than the concomitant legal systems changes occurring in the French concession.

6. Beyond Shanghai

In the section, we expand our analyses to concessions outside of Shanghai. Although Shanghai was the financial center of China in the late 19th and early 20 centuries and there are much better data on the Shanghai concessions than those in other cities, examining the non-Shanghai concessions enhances our assessment of how different legal system operating within one country shape financial development.

Specifically, we examine 16 Western concessions in three cities—Tianjin, Hankou, and Guangzhou—that operated in China between circa 1860 and 1943. We choose these three cities because they hosted both concessions with a British common law tradition and concessions with civil law legal traditions.¹⁹ Therefore, we can compare financial development in common law and the civil law jurisdictions within the same city as we did in

¹⁹ Ten other cities in China had concessions between circa 1845 and 1945. These other cities, however, had only one concession. For these cities, we cannot compare the common law to civil law within the same city. Therefore, we exclude them from our analysis. Moreover, the Qing dynasty also ceded Kulangsu of Xiamen to ten Western powers (and Japan) as an international settlement. However, there were no clear concession boundaries within Kulangsu, so we exclude Kulangsu.

the context of Shanghai. To conduct these comparisons, we implement two strategies. First, we divide these concessions into two groups: those with a common law legal tradition (Britain and the United States) and those with a civil law tradition (Austro-Hungarian Empire, Belgium, France, German, Italy, Japan, and Russia).²⁰ We then test whether financial development is comparatively stronger in the common law concessions. Second, we focus only on differences between British common law concessions and French civil law concessions in these three cities. This second strategy directly extends our earlier analyses to these three non-Shanghai cities and avoids combining different civil and common law concessions. This second strategy comes at the expense of excluding the other (non-British and non-French) concessions. As we will show, both strategies yield the same conclusions.

Given these data, we estimate the following equation over the period between 1850 (ten years before the establishment of the first concession) and 1936 (the eve of the Second Sino-Japanese War):

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

where Y_{it} denotes the number of banks (per km²) 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. *Post* is a dummy variable that equals one after the concession was established and zero otherwise. The estimated coefficient on *Common Law_i × Post* provides an estimate of 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 (lag)*) and concession and year fixed effect. 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).

As reported in Table VI, 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 km² in the common law concessions is 4.4 greater than that in the civil law concessions (column 2). And this gap is mainly driven by differences in the number of Chinese banks, not differences in the number of foreign banks

²⁰ Supplementary Appendix Table A4 lists each concession, its city, the foreign country (home country) overseeing the concession, and the year the concession was established. Supplementary Appendix B lists data sources.

(column 4). While subject to greater data limitations than the analyses focused on the Shanghai concessions, these findings on 16 concessions outside of Shanghai are fully consistent with those comparing the British and French concessions within Shanghai. When considering only British and French concessions in these cities, the results are very similar, as shown in columns (3) and (5). These results provide additional evidence that the common law legal tradition fostered comparatively strong financial development across different concessions within China. Certainly, the evidences from Shanghai and other concessions of China might not be necessarily sufficient to eliminate the concern of external validity. Nevertheless, our findings coincide with the financial divergence among the former European colonies, in which colonies inherited the common law outperformed those that inherited the civil law in financial development until the present (La Porta et al. 2008).

7. Conclusion

In this paper, we construct a new database on Western concessions in China from 1845 through 1936 and exploit changes in the degree to which the British common and French civil law traditions held 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 more effectively foster financial development than economies with a civil law tradition. When applied to the Shanghai concessions, the legal origins view predicts that (1) financial development in the British concession should grow comparatively more than that in the French concession after Britain and France establish the Mixed Courts in 1869 and implement British common and French civil law in their respective concessions and (2) financial development in the British concession should shrink comparatively more after the rendition of the Mixed Courts to Chinese rule in 1926.

The evidence is strongly consistent with the legal origins view of comparative financial development. The financial development advantage of the British over the French concession emerges with the application of the British common law and French civil law in the respective concession in 1869. This financial development gap then shrinks after the 1926 rendition of the Mixed Courts that essentially eliminated the application of these Western legal traditions in the concessions. 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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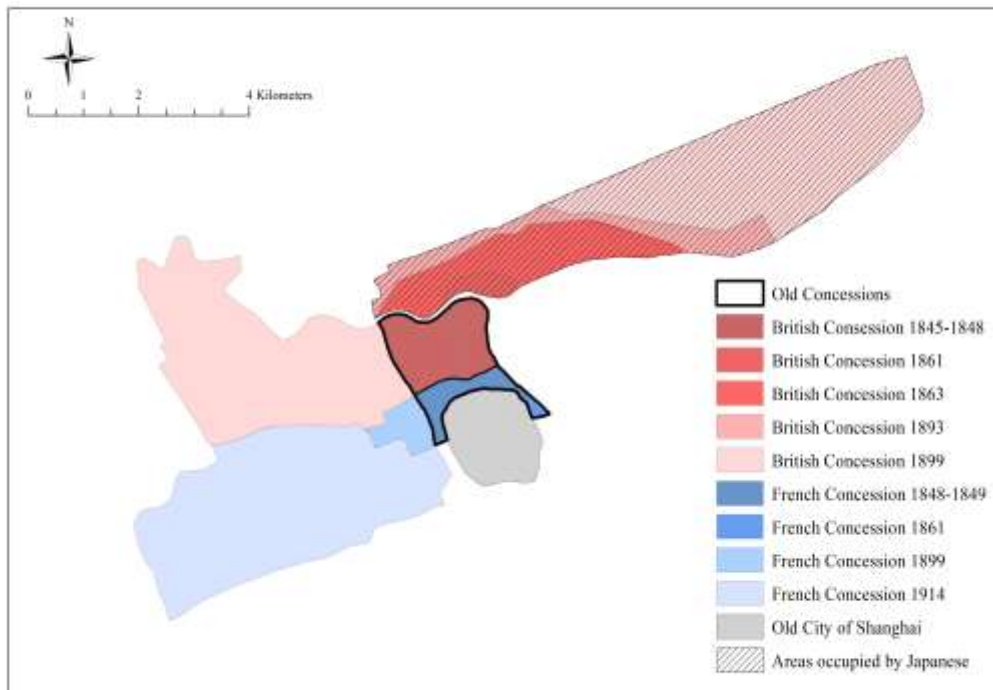


Figure I
Evolution of the Shanghai Concessions

Notes: 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 those areas highlighted in shades of blue are the French concession. The grey area denotes the Old City of Shanghai County under Chinese administration. The two areas with boundaries outlined with bold, black perimeters, i.e., the dark red and dark blue locations, denote the concessions in 1860, which we call the “old concessions.” The old British concession covers 512 acres (2.07km²), and the old French concession covers 180 acres (0.73km²).

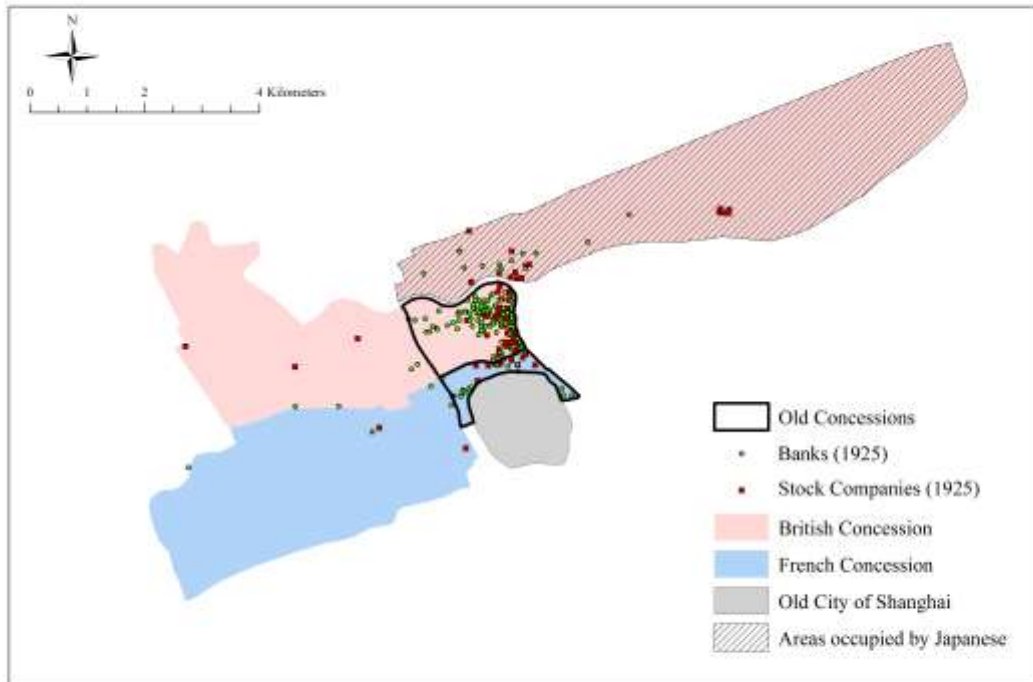


Figure II
Distribution of Banks and Stock Companies in 1925

Notes: The figure shows the distribution of banks and stock companies in the British and French Concessions in Shanghai in 1925. The two areas with boundaries outlined with bold, black perimeters represent our main sample. These are the areas of the concessions in 1860, which we call the “old concessions.”

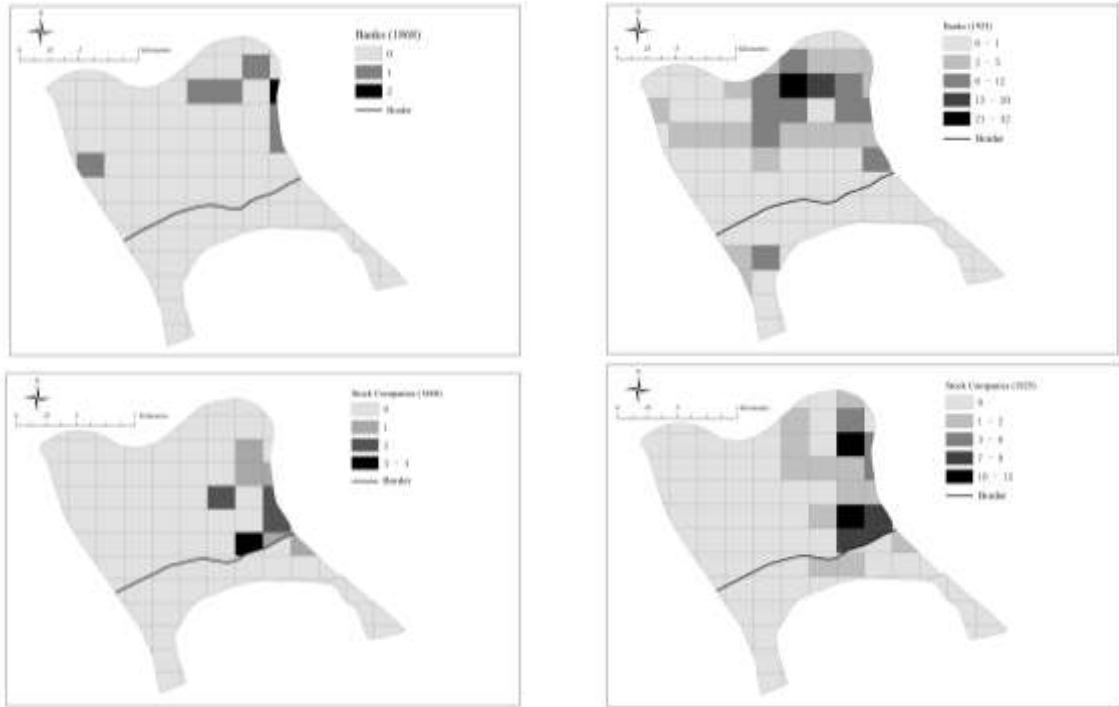


Figure III

The Grid-cell Distribution of Banks and Stock Companies

Notes: These figures show the distributions of banks and stock companies at the grid-cell level (200m*200m) within the old concessions. Banks and stock companies are respectively compared before and after the establishment of the Mixed Courts (1868 and 1925). The British Concession is north of the border depicted with a bold, black perimeter.

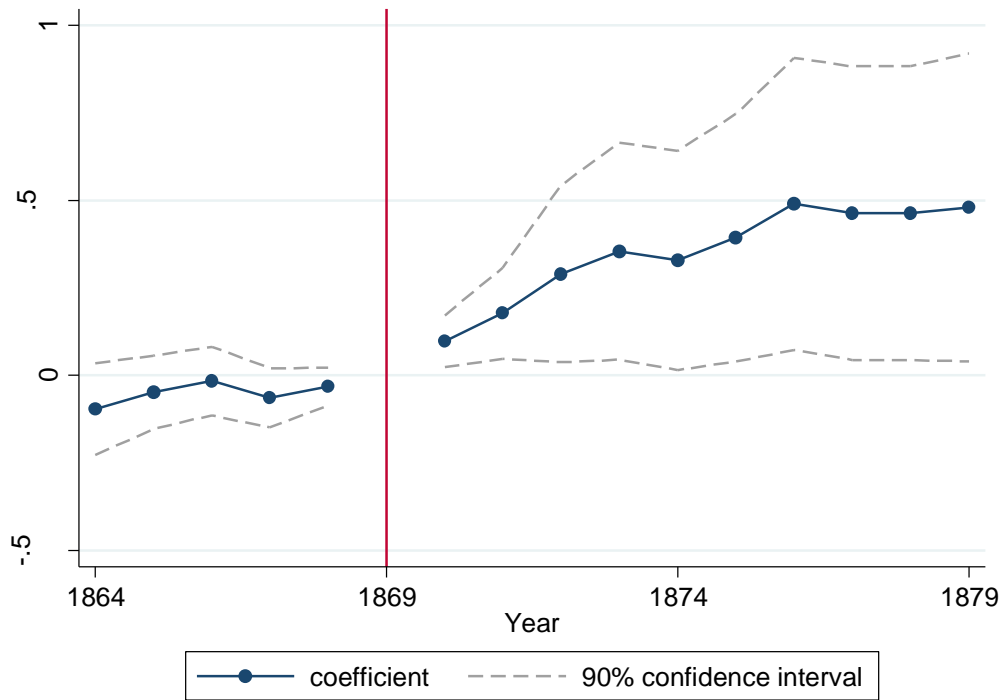


Figure IV

Bank Development and the Creation of the Mixed Courts in 1869

Notes: 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. Specifically, we estimate the following regression at the grid-cell level with 1869 as the reference point:

$$Y_{it} = \sum_{t=1864}^{1879} \beta_t \times British_i \times \theta_t + \gamma_i + \lambda_t + \varepsilon_{it},$$

where Y_{it} is the number of banks within grid-cell i , in year t , and θ_t equals one in year t and zero otherwise, $British_i$ is dummy variable that equals one for grid cells in the British concession and zero otherwise, γ_i and λ_t are grid-cell and year fixed effects respectively. The figure plots the estimated values of and confidence intervals around β_t .

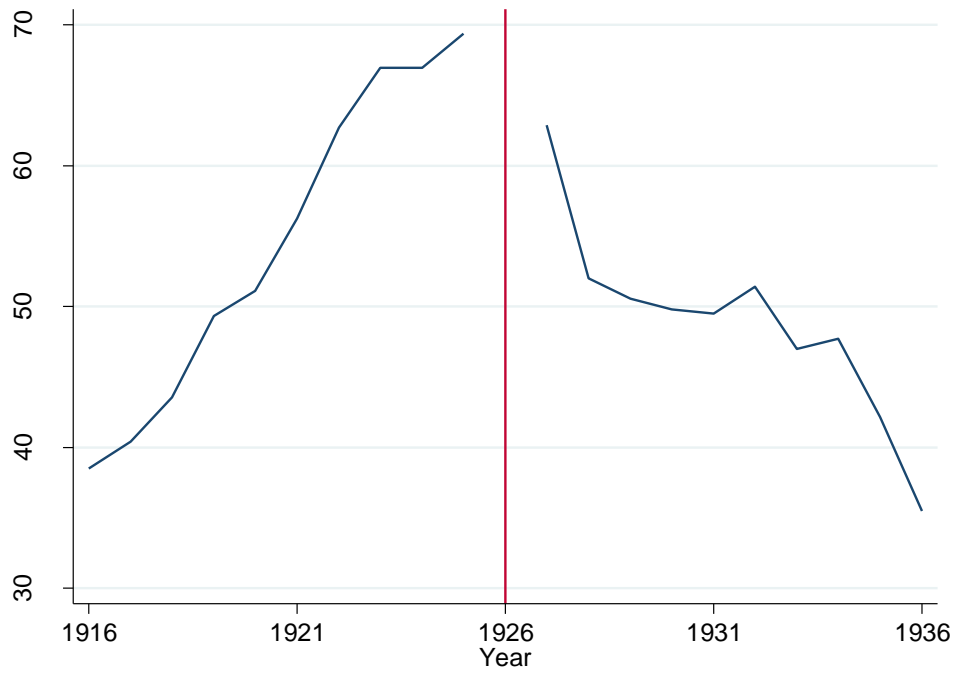


Figure V
The Impact of the Court Rendition on Banking Development

Notes: This figure shows the evolving gap in bank density between the British and the French concessions from ten years before until ten years after the 1926 rendition of the Mixed Courts.

Table I
Bank Density and the Formation of British and French Concessions, 1840-1925

This table presents regression results relating bank density to the formation of the Shanghai Concessions. In column 1, the dependent variable is the total number of banks per square kilometer in the respective concession in a year. In column 2, the dependent variable is the total number of Chinese-owned banks per square kilometer in the respective concession in a 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. *British* is a dummy variable that equals one for the British Concession and zero for the French Concession. *Post1845* is a dummy variable that equals one after 1845 and equals zero for the years from 1840 through 1845. For the grid-cell analyses, we divide the concessions into 100 200m by 200m grid cells. The regressions control year fixed effects (*Year FE*) and either Concession fixed effects (*Concession FE*) or Grid-cell fixed effects (*Grid-cell FE*) as indicated. 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% levels, respectively.

	Bank density at the concession level		Number of banks at the grid-cell level	
	All banks	Chinese banks	All banks	Chinese banks
	1	2	3	4
British * Post1845	18.090** (6.927)	14.289** (5.931)	0.669*** (0.216)	0.533** (0.208)
Year FE	Yes	Yes	Yes	Yes
Concession FE	Yes	Yes		
Grid-cell FE			Yes	Yes
R-Squared	0.799	0.793	0.482	0.473
Observations	172	172	8,600	8,600

Table II
Bank Density and the Formation of the Mixed Courts in the Concessions, 1840-1925

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. *Post1845* indicates the formation of the concessions, so it equals one after 1845 and equals zero for the years from 1840 through 1845. *Post1869* indicates the formation of the Mixed Courts, so it equals one after 1869 and equals zero for the years from 1840 through 1869. The note to Table I provides the definition of Chinese banks and grid cells. 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% levels, respectively.

	Bank density at the concession level		Number of banks at the grid-cell level	
	All banks	Chinese banks	All banks	Chinese banks
	1	2	3	4
British * Post1845	2.456 (5.953)	0.584 (5.023)	0.082*** (0.030)	0.019** (0.009)
British * Post1869	22.334*** (3.182)	19.579*** (2.685)	0.839*** (0.297)	0.733** (0.289)
Year FE	Yes	Yes	Yes	Yes
Concession FE	Yes	Yes		
Grid-cell FE			Yes	Yes
R-Squared	0.874	0.874	0.490	0.480
Observations	172	172	8,600	8,600

Table III
Bank Density and the Formation of the Mixed Courts in the Concessions: Additional Controls, 1846-1925

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. In columns 1 and 2, the dependent variable is the total number of banks per square kilometer in the respective concession in a year. In columns 3 and 4, the dependent variable is the total number of Chinese-owned banks per square kilometer in the respective concession in a year. *Population density* is defined as the number (in thousands) of total people per square kilometer at the concession level in the previous 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. *Homeland's GDP* denotes the logarithm of British GDP for the British concession and the logarithm of French GDP for the French concession in the previous year. *Homeland's polity score* ranges from -10 to 10, measuring the level of democracy in Britain and France in the previous year, based on the data of Polity IV. *Homeland's concessions in China* refers to the number of concessions respectively established by Britain and France in whole China in the previous year. *Homeland's trade companies in China* is the logarithm of the number of trade companies owned respectively by Britain and French merchants in China in the previous year. Standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

	All banks		Chinese banks	
	1	2	3	4
British * Post1869	10.505** (4.143)	13.390*** (4.266)	10.448*** (3.182)	12.287*** (3.423)
Population density	0.074 (0.049)	0.062 (0.038)	0.050 (0.038)	0.040 (0.030)
Municipal council	0.719 (2.937)	6.611** (2.620)	0.439 (2.256)	4.865** (2.102)
Homeland's GDP		-10.316 (6.539)		-7.482 (5.246)
Homeland's polity score		0.129 (0.236)		0.069 (0.190)
Homeland's concessions in China		5.652*** (1.459)		4.131*** (1.170)
Homeland's trade companies in China		10.315*** (3.741)		7.595** (3.001)
British * quadratic time trend since 1845	Yes	Yes	Yes	Yes
Year and Concession FE	Yes	Yes	Yes	Yes
R-Squared	0.970	0.984	0.975	0.986
Observations	160	160	160	160

Table IV
Rendition of the Mixed Courts in 1926

This table examines the comparative changes in bank density, stock company density, and market capitalization between the British and French Concessions after the agreement regarding the rendition of the Mixed Courts in 1926. Bank density and stock company density equal, respectively, the annual number of banks and stock companies per square kilometer in the respective concession. Market capitalization equals the annual total market capitalization of stock companies in a concession per square kilometer. In columns 1-3, the sample period is from 1917 to 1936, i.e., the 10-year window around the court rendition. In columns 4-6, the sample period is from 1922 to 1931, i.e., the 5-year window around the rendition. The regressions control year fixed effects (Year FE) and Concession fixed effects (*Concession FE*). Standard errors are reported in parentheses. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

	Period of analysis is 1917-1936			Period of analysis is 1922-1931		
	Bank density	Stock company density	Market-capitalization	Bank density	Stock company density	Market-capitalization
	1	2	3	4	5	6
British * Post 1926	-8.246*	-11.594***	-1.272***	-13.099***	-6.010***	-0.713**
	(3.988)	(1.967)	(0.205)	(2.779)	(1.702)	(0.251)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Concession FE	Yes	Yes	Yes	Yes	Yes	Yes
R-Square	0.980	0.973	0.986	0.996	0.992	0.990
Observations	40	40	40	20	20	20

Table V
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 difference of month-end prices, i.e., $\log(\text{price}_t) - \log(\text{price}_{t-1})$. The sample period is from September 1925 through August of 1927, i.e., a 24-month window around the month of the court rendition announcement. Post-Rendition 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 the log market capitalization. *Firm FE* refers to the 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 10%, 5% and 1%, respectively.

	Stock return			
	1	2	3	4
Post-Rendition	-0.049*** (0.007)	-0.055*** (0.009)	-0.001 (0.006)	0.003 (0.007)
British * Post-Rendition			-0.051*** (0.010)	-0.060*** (0.010)
British			0.038*** (0.008)	
Firm controls	Yes	Yes	Yes	Yes
Firm FE	No	Yes	No	Yes
R-squared	0.017	0.062	0.017	0.063
Observations	2,909	2,909	2,909	2,909

Table VI
Legal Origins and Finance: Concessions in other Chinese Cities, 1850-1936

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). Appendix Table A4 provides details on the countries and legal traditions with jurisdiction over these concessions. In columns 1-3, the dependent variable is the total number of banks per square kilometer in the respective concession in a year. In columns 4 and 5, the dependent variable is the total number of Chinese-owned banks per square kilometer in the respective concession in a 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 total people per square kilometer at the concession-year level. In columns 3 and 5, we restrict the analysis to only 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 (*Concession FE*) as indicated. Standard errors clustered at the concession and year levels are reported in parentheses. *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively.

	All banks			Chinese banks	
	All	All	British vs.	All	British vs.
	concessions	concessions	French	concessions	French
	1	2	3	4	5
Common Law * Post	5.320*** (0.996)	4.393*** (1.139)	3.793** (1.764)	3.807*** (1.053)	3.076** (1.210)
Population density (lag)		0.134*** (0.028)	0.227*** (0.020)	0.133*** (0.028)	0.229*** (0.030)
Year FE	Yes	Yes	Yes	Yes	Yes
Concession FE	Yes	Yes	Yes	Yes	Yes
R-Squared	0.347	0.435	0.629	0.429	0.622
Observations	1,392	1,392	522	1,392	522

Supplementary Appendix

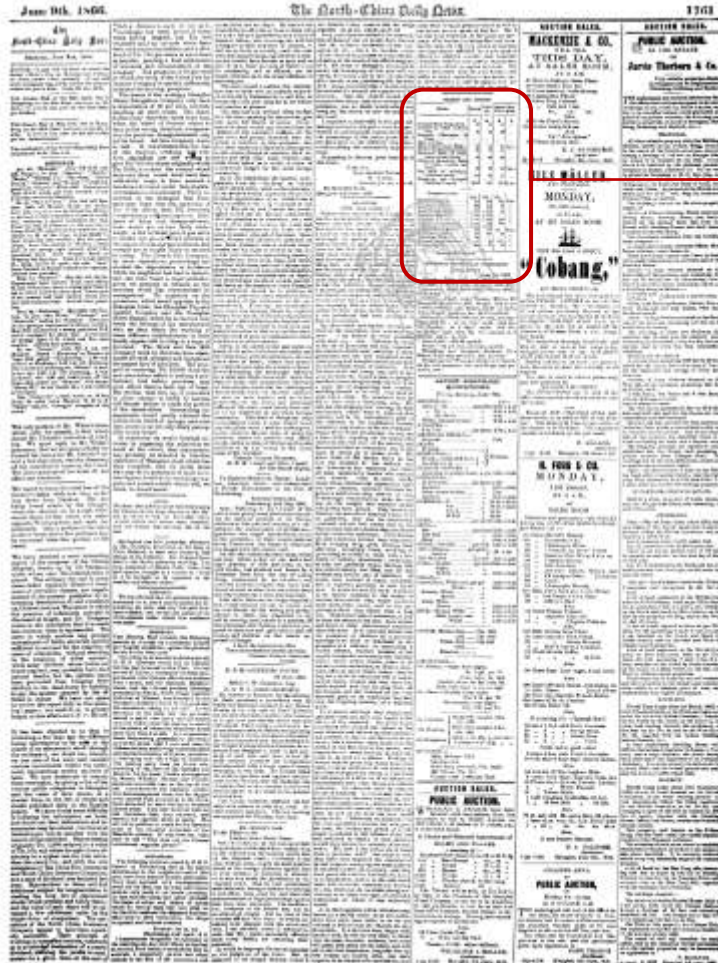
A. Figures and Tables



Figure A1. The Mixed Court at the British Concession of Shanghai (1869 to 1927)

Source: Wikipedia,

https://commons.wikimedia.org/wiki/File:International_Mixed_Court_at_Shanghai7.jpg



SHARES AND STOCKS.

Banks.	Shares	Paid up.	Latest Price.	Dividend
	£	£	£	£
Oriental Bank Corporation.	25	25	47	..
Commercial Bank Corporation	25	25	20	..
Comptoir d'Escompte de Paris	..	..	..	..
Bank of India,	..	..	..	..
Agca & Masternan's Bank ..	50	25	51	8 p. c.
Asiatic Banking Corporation.	20	10	15	..
Chartered Bank of India, Australia and China....	20	20	20	..
Chartered Mercantile Bank of India, London and China	25	25	43	13½ p. c.
The Bank of Hindustan China and Japan	100	25	15	..
Hongkong and Shanghai Banking Company	\$125	125	127	9½ p. c.

COMMERCIAL COS.	Tls.	Tls.	Tls.	
Shanghai Dock Co.	500	500	200	None
Shanghai Club	450	450	15	..
Shanghai Gas Co.	100	100	75	..
Hongque Wharf Co.	1,000	1,000	16	..
Shanghai Wharf Co.	1,000	1,000	..	..
Shanghai S. N. Co.	1,000	1,000	600	..
China Fire Insurance Co.	5,000	500	800	..
North China Insurance Co.	5,000	1,000	..	..
S. Beck & Saw Mill Co.	500	500	Nil.	None
S. Tug & Lighter Co.	850	850	25	..
*Shanghai Brick Co.	100	..	..	..
Shanghai Horse Bazaar,	50	50	0.75	..
French Gas Co.	\$50	50	52	..

* In course of formation.

Figure A2. Record of Stock Quotation in Shanghai Exchange in 1866

Source: The North-China Herald, section "Shares and Stocks" on June 9th, 1866.

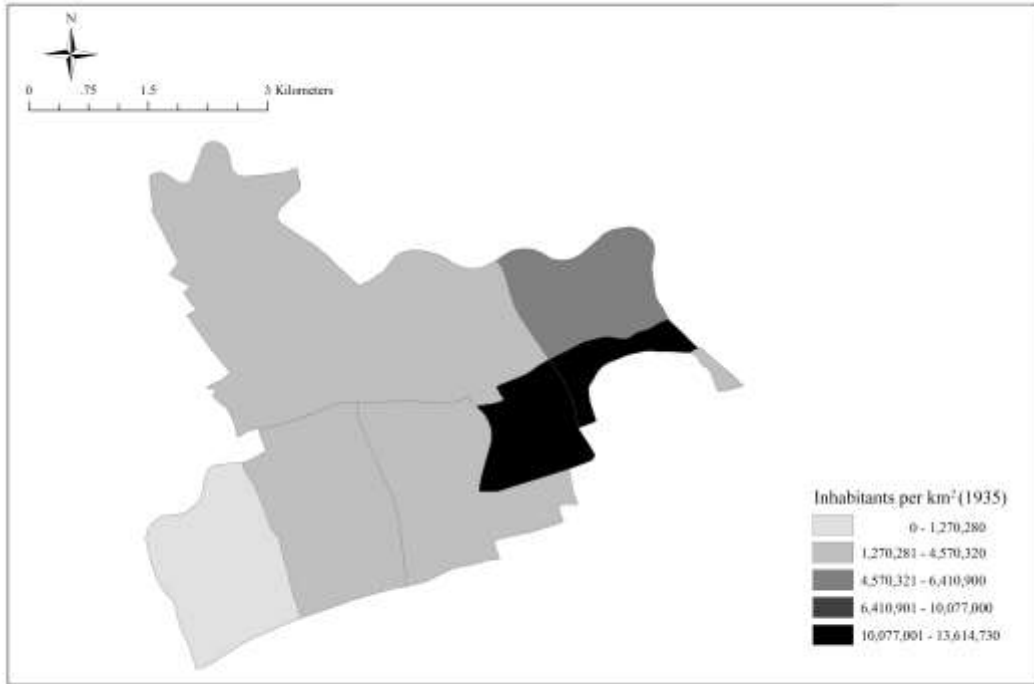


Figure A3. Population Density in 1935

Notes: This figure depicts the population density by census district in Shanghai concessions in 1935, based on Henriot et al. (2018).

Table A1. Summary Statistics

Variable	Obs.	Mean	S.D.	Min	Max
<i>Concession-year level</i>					
Bank density	194	17.821	25.074	0	95.652
Chinese bank density	194	14.788	21.517	0	82.609
Stock company density	142	12.231	11.291	0	36.715
Market capitalization (1,000 Taels/km ²)	86	50,605.35	65,551.21	404.11	241,102.3
Population density (1,000 habitants/km ²)	194	38.156	21.503	3.248	112.779
Homeland's GDP (in Int. GK\$)	194	125,674.9	59,782.19	49,828	284,141.8
Homeland's polity scores	194	5.01	4.802	-8	10
Homeland's concessions in China	194	4.562	3.358	0	10
Homeland's trade companies in China	194	61.742	72.899	0	261
<i>Grid-year level</i>					
Number of banks	9,700	0.629	2.573	0	47
Number of Chinese banks	9,700	0.515	2.432	0	47
Number of stock companies	7,100	0.445	1.636	0	21
Market capitalization (in 1,000 Taels)	6,492	1,341.825	10,087.21	0	213,904.1
<i>Firm-month level</i>					
Stock return (Sept 1925-Aug 1927)	3,356	-0.005	0.232	-4.520	3.401

Table A2. Bank Density and the Formation of the Mixed Courts in the Concessions: Alternative Samples

This table replicates Table II except for restricting the period to the Qing dynasty (1840-1910) (Panel A) and using the 5-year data (Panel B). Standard errors are reported in parentheses and are clustered at the grid-cell level in columns 3 and 4. *, **, and *** indicate significance at 10%, 5% and 1%, respectively.

	Concession level		Grid-cell level	
	1	2	3	4
Qing dynasty, 1840-1910				
British * Post1845	11.553*** (3.436)	2.456 (2.015)	0.414*** (0.140)	0.082*** (0.030)
British * Post1869		14.422*** (1.135)		0.526** (0.206)
Year FE	Yes	Yes	Yes	Yes
Concession FE	Yes	Yes		
Grid-cell FE			Yes	Yes
R-Squared	0.813	0.944	0.512	0.522
Observations	142	142	7,100	7,100
Panel B Five-year data, 1840-1925				
British * Post1845	19.637 (13.654)	2.415 (13.640)	0.729*** (0.232)	0.081** (0.031)
British * Post1869		22.962** (9.093)		0.865*** (0.303)
Year FE	Yes	Yes	Yes	Yes
Concession FE	Yes	Yes		
Grid-cell FE			Yes	Yes
R-Squared	0.803	0.862	0.468	0.475
Observations	36	36	1,800	1,800

Table A3. Stock Companies and the Formation of the Mixed Courts in the Concessions, 1866-1925

This table presents regression results relating stock company density to the formation of the Mixed Courts in 1869. In column 1, the dependent variable is the number of stock companies per square kilometer in the respective concession in a year. In column 2, the dependent variable is the number of stock companies per grid cell in a year. British is a dummy variable that equals one for the British Concession and zero for the French Concession. Post1869 equals one after the formation of the Mixed Courts, so it equals one after 1869 and equals zero for the years from 1866 through 1869. The regressions control year fixed effects (*Year FE*) and either Concession fixed effects (*Concession FE*) or Grid-cell fixed effects (*Grid-cell FE*) as indicated. Standard errors are reported in parentheses and are clustered at the grid-cell level in column 2. *, **, and *** indicate significance at the 10%, 5% and 1% levels, respectively.

	Stock company density at the concession level	Number of stock companies at the grid-cell level
	1	2
British * Post1869	10.085** (4.904)	0.362** (0.157)
Year FE	Yes	Yes
Concession FE	Yes	
Grid-cell FE		Yes
R-Squared	0.801	0.554
Observations	120	6,000

Table A4. Other Concessions in China between 1860 and 1936

City	Concession	Home Country	Legal origin	Year of establishment
Tianjin	British concession in Tientsin	Britain	Common	1860
	American concession in Tientsin	United States	Common	1860
	French concession in Tianjin (Concession française de Tientsin)	France	Civil	1861
	German concession in Tianjin	Germany	Civil	1895
	Japanese concession in Tianjin	Japan	Civil	1898
	Russian concession in Tianjin	Russia	Civil	1900
	Italian concession in Tianjin (La Concessione italiana di Tientsin)	Italy	Civil	1902
	Austro-Hungarian concession in Tianjin	Austro-Hungary	Civil	1902
	Belgian concession in Tianjin	Belgium	Civil	1902
	Hankou	British Concession in Hankou	Britain	Common	1861
French Concession in Hankou		France	Civil	1896
Japanese concession in Hankou		Japan	Civil	1898
Russian concession in Hankou		Russia	Civil	1896
German concession in Hankou		Germany	Civil	1895
Guangzhou	British concession in Shamian Island	Britain	Common	1861
	French Concession in Shamian Island	France	Civil	1861

Appendix B. Data Sources

1. Data sources for banks

- Bank of Communications. 1995. *Zhongguo Jiaotong Yinhang Shiliao, Diyijuan: 1907–1949* (Historical Materials on the Chinese Bank of Communications, Volume One: 1907–1949). Beijing: Zhongguo Jinrong Chubanshe.
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- Zhongguo Yinhang Jingji Yanjiushi. 1934-1937. *Quanguo Yinhang Nianjian* (National Banking Yearbook). Beijing: Zhongguo Yinhang Jingji Yanjiushi.

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