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The Intellectual Origin of Legal Institution and Modern Banking

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We exploit differences in the hometowns of graduates from China's first specialized legal university to estimate the effect of modern court establishment on local financial development. In response to the urgent need for legal modernization, Chaoyang University was founded in 1912 and graduated more than 3,000 legal professionals. Counties with varying numbers of Chaoyang graduates had different opportunities to access specialized knowledge-legal professionalism-and consequently varied prospects for establishing modern courts. The establishment of county-level courts has a significant positive impact on the development of local banking industries, which are heavily dependent on the local legal environment. This effect is achieved through the facilitation of standardized and specialized legal services and the strengthening of trust in modern financial institutions.

The Intellectual Origin of Legal Institution and Modern Banking*

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Abstract

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Keywords: Court, Legal Talents, Bank, Modern China

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1 Introduction

What determines the successful transplantation of institutions to countries that lack their historical or cultural origins?¹ While there is growing consensus that legal institutions are crucial for financial markets and economic growth (La Porta et al., 2008), there is limited understanding of the factors that enable successful legal institution transplantation.² Addressing this gap requires examining a context where a modern legal system was adopted and adapted in a country with no prior equivalent structure. China’s legal modernization between 1912 and 1936, characterized by a shift from rule by rituals to rule of law, offers an ideal setting for such an analysis.³ The key practical difference between rule by rituals and rule of law lies in whether judgments are delivered by professionals with modern legal training who follow codified laws, or by administrative officials relying on subjective interpretations rooted in social norms and Confucian morality. Since Mokyr (2005) differentiated general human capital (e.g., literacy) from specialized knowledge, subsequent studies have unpacked various types of talents. For example, Squicciarini and Voigtländer (2015) highlight the critical role of ingenuity and technical ability during the Industrial Revolution, while other studies emphasize the importance of skills such as mathematics, science, managerial expertise, entrepreneurial abilities, and engineering (Bloom and Van Reenen, 2007; Hanushek and Woessmann, 2008; Gennaioli et al., 2013; Hoenen and Kolympiris, 2020; Maloney and Valencia Caicedo, 2022). In this paper, we extend this literature by demonstrating that legal professionalism—a specialized type of human capital—played a pivotal role in the establishment of modern courts in Republican China and contributed significantly to the growth of the local banking industry.

Banks are crucial in all economies as key financial intermediaries, effectively channeling resources by mobilizing savings, reducing transaction costs, and overseeing corporate governance, which in turn boosts economic growth.⁴ This pivotal role depends heavily on well-functioning legal institutions that manage risk and enforce contracts, the effectiveness of laws and their enforcement fundamentally determines the operation of the entire financial system (Beck and Levine, 2005). In the early stage of China’s financial modernization, development of native banks struggle with competition with foreign

¹Institutional formation can be characterized by two distinct processes. The first is *endogenous* formation, which typically occurs in countries that modernized early. An example is the emergence of the separation of powers in Britain, where institutions organically evolved from historical experiences and cultural contexts. The second process is observed in late-modernized countries, which often adopt institutions *exogenously* from nations that modernized earlier. These countries opt to replace their traditional systems with foreign institutions, including their practice, rules, and knowledge, which are perceived as more efficient and better suited to fostering modern economic growth.

²Legal institutions are the most prevalently transplanted among various types of institutions. This process involves borrowing laws and legal systems from one country and implementing them in another, with the aim of enhancing the recipient’s legal framework (Watson, 1993).

³Rule by rituals, often based on Confucian ethics, governed through a system where legal and social order was maintained via moral authority and traditional customs rather than codified laws. This system prioritized social harmony and the moral rectitude of individuals, potentially leading to variability in legal interpretations and enforcement based on the officials’ discretion. In contrast, rule of law represents a shift to a governance system underpinned by formally established, codified laws that are uniformly applicable and enforced irrespective of individual status. This framework promotes legal certainty and equality, which are critical for economic transactions and investment decisions, as they reduce the risk and unpredictability associated with arbitrary rulings and personal bias in judicial processes.

⁴A substantial body of empirical research has established the significant impact of financial systems on economic growth. The foundational work by Goldsmith (1969) was among the first to test the causal relationship between finance and economic growth. This line of inquiry was further advanced by notable studies such as King and Levine (1993) and Levine et al. (2000), among others.

banks, extraction from the government, mismanagement and a general lack of trust from the public (Cheng, 2021). As Zhang Jian, the earliest and most influential entrepreneur in the early 20th century, noted: “Over the past decades, the recurring failures in various enterprises can be traced back to their inception and operations, fundamentally due to the absence of legal guidance”. Banking, as a credit-reliant industry, depends more heavily on the professionalism of the legal system than most other sectors, making legal modernization particularly critical for its development.

China’s early modernization efforts concentrated on industrial and military enhancements through the introduction of Western machines and technologies. However, following the Qing government’s decisive defeat in the First Sino-Japanese War in 1895, this strategy was proven ineffective, compelling the Qing government to shift toward political and legal reforms.⁵ Among these, legal reforms became a crucial focus. The need for such reforms was further driven by challenges arising from extensive interactions with foreigners after China was forcibly opened to the West. Additionally, the progressive loss of judicial sovereignty due to extraterritoriality highlighted the urgency.⁶ As Sun Yat-sen stated in 1896, “In today’s China, no sector is more urgently in need of thorough reform than the legal system...(in traditional system) civil litigation is an open competition of bribery; criminal procedures are merely a synonym for torture.” Although imperial China had codified laws, it lacked independent courts. Judicial trials were conducted by local officials without formal legal training. These officials made judgments based on social norms and Confucian morality, rather than legal texts. Thus, the three primary goals of legal modernization during the Republican era in China were to ensure: 1) all behavioral norms and procedures are formalized into official decrees; 2) all discretionary actions are based on clear legal standards; and 3) all tasks are managed with professional specialization and hierarchical responsibility (Xu, 2008). These objectives aimed to establish a more structured and predictable legal framework to replace the older, more arbitrary systems influenced by Confucian ideals. All these necessitated a new type of human capital entirely absent in imperial China. In response to this need, *Chaoyang* University, the first modern university specializing in legal education, was founded by prominent legal professionals with overseas educational backgrounds. By 1933, *Chaoyang* University had trained more than 3,000 law graduates, many of whom played pivotal roles in establishing local modern courts. By 1936, more than 300 counties had established specialized courts, marking a significant effort to separate the traditionally combined administrative and legal functions. During the same period, China’s modern banking industry experienced rapid growth, marked particularly by the expansion of native banks in both number and geographic reach (Cheng, 2021).

Using the distribution of local independent courts by 1936 across 1,386 counties as a measure of

⁵The guiding slogan for China’s modernization efforts from 1842 (the First Opium War) to 1895 was “Learn from the advanced skills of the foreigners to strengthen ourselves and enrich our country.”, leaving the political system untouched. As of 1901, the Late Qing New Policy, albeit unsuccessful, aimed to implement a constitutional monarchy and establish legal independence.

⁶Westerners viewed Chinese law as uncivilized due to the normalization of torture, acts of vengeance, and collective punishment, judges’ lack of legal knowledge and moral integrity with prevalent bribery, and the discriminatory legal treatment of foreigners perceived as barbarians (Han, 2003). This provided the impetus and justification for Western powers to request extraterritorial rights. The British first secured extraterritoriality with the Nanjing Treaty, a practice soon adopted by other foreign powers. This issue persisted throughout the Republican era. For instance, the depiction of China’s legal system as ‘non-modern/backward’ remained a central theme in Japanese propaganda during its efforts to colonize the Chinese mainland following the Meiji Restoration(Xu, 2008).

the local legal environment and the number of new bank headquarters established between 1928–1936 as a proxy for local financial development, we find that modern courts have a significant positive impact on the banking industry during China’s Republican era, even after controlling for a wide range of co-variables.⁷ To ensure the reliability of using bank headquarters as a measure, we also analyze the number of new bank branches and the total registered capital of banks established between 1928–1936, which further confirm the positive effects of courts.⁸

To address the potential endogeneity issues associated with the establishment of local modern courts,⁹ we construct an instrumental variable based on the *hometowns* of graduates from *Chaoyang* University, the most influential legal university during the Republic of China era. Specifically, our instrumental variable is the accumulated number of *Chaoyang* alumni from a county up to 1927.¹⁰ This approach is premised on the idea that counties with more *Chaoyang* alumni are more likely to establish modern courts subsequently, given that the most pressing obstacle to legal modernization was the shortage of legal talent. Counties with a greater number of *Chaoyang* alumni could benefit directly from these individuals returning to their hometowns to work as judges or indirectly through preferential treatment from alumni holding influential positions (hometown favoritism). The Two-Stage Least Squares (2SLS) analysis presents estimates consistent with that of the OLS. The analysis reveals a strong first-stage relationship between the cumulative number of graduates from *Chaoyang* University from a county and the establishment of modern courts, an intriguing result in its own right. Our regressions show that each additional graduate of *Chaoyang* University increases the probability of modern court establishment by 3.3%. Moreover, counties with *Chaoyang* graduates are more likely to have well-structured and adequately staffed local courts. The instrumented results indicate that legal modernization has a significant and substantial positive effect on the banking industry. Specifically, legal modernization is associated with a 47.1% increase in the establishment of new banks and a 62.9% expansion in the number of new bank branches.¹¹ The results remain robust and consistent with our main findings. A key concern with our instrumental variable is that individuals from counties with better initial economic and social conditions may have been more likely to enroll in *Chaoyang* University, implying that our outcomes could be demand-driven. To address this, we adopt two strategies to validate our instrument. First, we demonstrate that our instrument is uncorrelated with a county’s

⁷The baseline ordinary least squares (OLS) results indicate that having courts increased the number of bank headquarters by 5.9 percent and bank branches by 25.5 percent.

⁸We focus on new banks established between 1928 and 1936, rather than all banks from 1912 to 1936, for two reasons: 1) After 1928, China was reunified under the Nanjing Nationalist government, which standardized general policies and institutions across all counties, allowing new bank headquarters and branches to diffuse into counties; before 1928, most banks were concentrated in large cities for safety reasons. 2) The largest wave of court establishments occurred after 1926, making it unlikely for modern courts to have significantly impacted bank development prior to that period.

⁹It is plausible that counties with a more developed banking industry may be more likely to adopt or afford a modern legal system. Perhaps more important, counties that are different for a variety of reasons (e.g. culture) will differ both in their legal institutions and in their financial system.

¹⁰The year 1927 is used because it captures students who registered no later than 1924, before the founding of the Nanjing Nationalist government in 1925, which implemented the largest wave of modern court establishments. Therefore, the decision to study law could not have been influenced by any foreseen policies or decisions promoted by local governments under the Nationalist government.

¹¹We also explore the heterogeneous effects of courts on various types of banks, categorizing them by characteristics such as modern versus traditional, foreign versus native, and state-owned versus private. Consistent with our hypothesis, our findings indicate that the improvements in the local legal environment predominantly benefit local, private, native banks.

initial economic conditions, measured by the number of banks and firms up to 1912. Second, we replace our instrument with a binary indicator variable and find that our results remain robust in both significance and magnitude.¹²

The validity of our approach could be threatened if other factors correlated with the estimates of *Chaoyang* graduates (via modern courts) also influence the banking industry. To address this concern, we conduct several robustness checks to ensure our results are not driven by omitted variables. First, we examine whether modern courts have a comparable effect on banks after controlling for a wide range of variables potentially correlated with *Chaoyang* graduates and banking outcomes. These include the initial level of economic development, Western influence, transportation and communication infrastructure, and general human capital stock. Importantly, none of these controls overturn our findings; the estimates remain remarkably stable. Additionally, we show that the exclusion of foreign concessions not only leaves our results intact but also strengthens them. Interestingly, this restricted sample reveals a larger effect of modern courts, suggesting that foreign concessions introduce a downward bias in our estimates. Moreover, we implement a second identification strategy—a staggered difference-in-differences (DID) approach—leveraging the panel nature of our dataset. The results remain robust across both identification methods and alternative constructions of the data.

In accounting for the channels through which modern courts might foster banking development, we first explore the hypothesis that modern courts creating opportunities for the emergence of professional legal practitioners and promote the provision of more specialized and standardized legal services. We use the presence and size of local lawyer unions as proxies for the professionalization channel. Our results indicate that the banking industry develops more robustly where lawyer unions are present and with greater number of union members. This suggests that courts potentially stimulate local banking growth by enabling higher-quality legal services, thereby improving the business environment. Additionally, enhanced trust toward banks is another significant channel. Given that credit is central to financial activities, modern banks—as new financial entities—must secure trust from the public. By fostering a more secure institutional environment and signaling the central government’s commitment to comprehensive modernization, courts likely enhance public trust in modern banks, as reflected in the positive relationship between court presence and the amount of bank deposits. These evidence underscoring trust as a key facilitator of banking development.

Our paper contributes to a growing body of literature on the impact of *specific* types of human capital on economic development. In this regard, our work complements the “unpacking human capital” framework proposed by Mokyr (2005), which distinguishes between the effects of general human capital and “upper-tail” human capital, and was first empirically tested by Squicciarini and Voigtländer (2015). Beyond the extensive literature highlighting the critical role of human capital in economic development (Barro, 1991; Mankiw et al., 1992; Barro, 2001; Cinnirella and Streb, 2017; Valero and Reenen, 2019), contemporary studies further emphasize the significance of specific forms of human capital, such as mathematical, scientific, managerial, entrepreneurial skills, and engineering (Bloom and Van Reenen, 2007; Hanushek and Woessmann, 2008; Gennaioli et al., 2013; Hoenen and Kolympiris, 2020; Maloney and Valencia Caicedo, 2022). To the best of our knowledge, our study is the first to empirically examine

¹²Indicating whether a county had any *Chaoyang* graduate by 1927.

how the supply of legal elites influences the development of legal institutions and, subsequently, the financial system.

Our paper also contributes to the literature on law (institutions), financial development, and economic growth. Specifically, we add to this body of work by examining an often-overlooked aspect of legal institutions: legal professionalism. There has been longstanding interest and growing consensus on the pivotal role institutions play in the process of economic development (North, 1990; Acemoglu et al., 2001; Acemoglu and Robinson, 2013). Within this realm, the law and finance literature has established a relationship between legal institutions (particularly legal origins) and the financial system (La Porta et al., 1997, 1998).^{13,14} Due to the uniformity of legal systems at the country level, most studies focus on cross-country variation. Within country variation can only be observed following reforms in specific laws or statutes.¹⁵ As the literature increasingly explores the “black box” of legal institutions beyond legal origin, our work introduces a novel dimension—legal professionalism—and supports this argument with micro-level empirical evidence. Using China’s legal modernization as a historical context, and drawing on manually compiled county-level data, we focus on the impact of adopting modern legal institutions at the local level, specifically examining the growth effects resulting from the transition from rule by ritual to rule of law within the country.¹⁶ This focus allows us to control for many within-country variations that cannot be addressed in cross-country analyses.

Moreover, our work provides micro-level empirical evidence on institutional transfer—a topic that has only recently garnered attention from economists. Legal rules represent one of the most widely transplanted institutions over the past centuries, driven by colonization and the pursuit of modernization (Wagener, 2019). Djankov et al. (2003) examine the varying effects of procedural formalism based on whether the legal system was imposed through conquest/colonization or voluntarily adopted, finding that adaptation is more challenging in the former scenario. Similar to Brown et al. (2017), which observed how externally imposed state courts can improve contract enforcement and foster stronger credit markets in Native American reservations, our work explores additional channels through which legal institutions affect financial development beyond merely enhancing enforcement. More importantly, we discuss how specific types of human capital play a crucial role in the successful transfer of legal institutions to late-modernized countries.

Lastly, our research contributes to the “Deep roots” literature, particularly studies exploring the historical determinants of financial development, including cultural factors, ethnic specialization, and

¹³La Porta et al. (1997, 1998) use cross-country data to document how legal origins affect the size and development of capital markets. Levine (1998, 1999) further trace the effects of legal origins on financial development and, ultimately, long-run economic growth.

¹⁴Legal origins differ in both the *character* of legal rules and the *quality* of legal enforcement. Consequently, subsequent literature has explored various dimensions of legal institutions tied to these two channels, such as independence, formalism, efficiency, accessibility, accountability, and effectiveness (Johnson et al., 2002; Djankov et al., 2003; Beck et al., 2003; Jappelli et al., 2005; Staats et al., 2005; Chemin, 2012; Marciano et al., 2019; Mehmood, 2022).

¹⁵Studies use micro-level data in cases where policy shocks, such as a specific law reform, have staggered impacts across districts within a country; some studies also examine how law reforms interact with existing institutional quality (Jappelli et al., 2005; Visaria, 2009; Ponticelli and Alencar, 2016; Rodano et al., 2016). Very recently, some studies have examined how the establishment of specialized courts or certain reforms would affect the crime rate, which is a pivotal factor for the business environment. (García-Hombrados et al., 2024; Chemin et al., 2024)

¹⁶Guiso et al. (2004) discuss the significance of differences in local financial development within an integrated financial market.

institutional legacies (Alesina and Giuliano, 2015; D’Acunto et al., 2019; Grosjean, 2011). It also aligns with recent work on the historical development of the banking industry in China, which highlights the critical roles of colonial origins in concessions, telegraph technology, and clan traditions (Lin et al., 2021; Chen et al., 2022; Levine et al., 2023). We extend this body of work by identifying the causal relationship between legal modernization and the growth of the banking sector during China’s Republican era. Furthermore, we examine the channels through which this effect manifests.

The remainder of this article is organized as follows. Section 2 reviews the historical background of modern court establishment, the cultivation of legal talents, development of modern banking industries, and the professionalization of financial adjudication in China’s Republican era. In Section 3, we describe the data used in our empirical analyses. Section 4 presents our main empirical results. Section 5 goes beyond the evidence on channels of professionalization and social trust. Section 6 concludes the paper. Additional analyses and tables are provided in Appendixes.

2 Historical Background

2.1 Legal Reform and Modern Courts

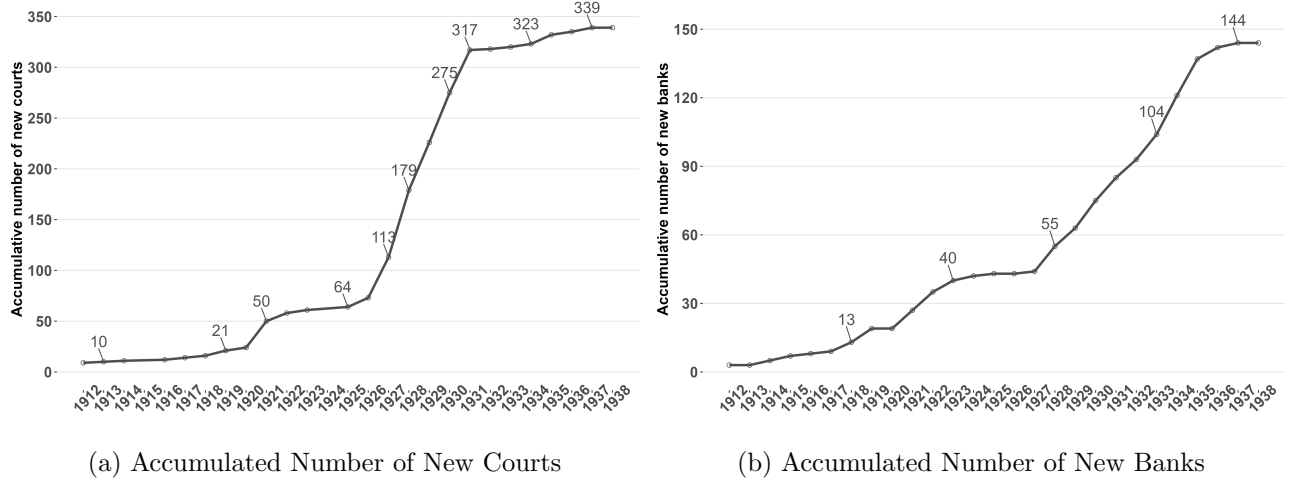
Prior to the First Opium War (1839–1842), China operated as a traditional society that emphasized rule by rituals, with governance upheld primarily through moral persuasion and punitive measures. At the grassroots level, law enforcement was administered by local officials within an integrated administrative structure. This traditional legal system functioned effectively for over two thousand years but encountered profound challenges in maintaining social order as China was compelled to open to the West and underwent rapid socioeconomic transformations. Following the Treaty of Nanjing in 1843, the Qing government gradually ceded consular jurisdiction to foreign powers, leading to an erosion of China’s judicial sovereignty and the establishment of extraterritoriality. Western countries justify themselves in asserting consular jurisdiction with the argument that China’s traditional legal system did not conform to the general standards of civilized nations. Meanwhile, following the failure of previous modernization efforts that focused solely on industrialization, the Qing government recognized the need for institutional reforms. These reforms involved transplanting Western legal institutions centered on legal independence.¹⁷ After half a century of struggle, the shock of defeat in the First Sino-Japanese War catalyzed the Qing government’s commitment to political and legal reform. Establishing independent courts at the local level, separate from existing administrative institutions, became an important component of these reforms.¹⁸

The establishment of modern courts in China began during the tumultuous late Qing period, progressing slowly until 1926. Despite the unimplemented reforms due to the rapid fall of the Qing dynasty, foundational changes were made, including the separation of legal authority from adminis-

¹⁷However, legal independence conflicted with China’s traditional political hierarchy, where imperial power was paramount, thereby delaying legal and political reforms.

¹⁸Imai (2001) summarized three main issues of China’s legal system: 1) torture, acts of vengeance, and collective punishment were considered normal; 2) judges lacked sufficient legal knowledge and had very weak moral integrity, with bribery being a common practice; 3) viewed foreigners as barbarians and did not apply legal principles in dealing with them. In short, in the eyes of Westerners, Chinese law was seen as uncivilized.

trative institutions through a new four-level court system.¹⁹ Initially, development was sluggish; by 1925, fewer than 20% of counties had established courts. This slow pace was a result of the political instability following the Qing’s collapse, which plunged China into a warlord era with limited resources such as legal talents and fundings..²⁰ It wasn’t until the Nanjing Nationalist Government founded in 1925 that efforts were consolidated, aiming to create a comprehensive legal system aligned with principles of legal independence.²¹ The pace of court establishment accelerated significantly after 1926, though it slowed drastically after 1931 and nearly ceased by 1937 due to the war. By the eve of the Second Sino-Japanese War, over 330 local courts had been established across the nation, reflecting a substantial but uneven progression in legal modernization.



Notes: The figure depicts the establishment of modern courts at the grassroots level according to the data we manually collected from gazetteers (*Xianzhi*). The left figure shows the accumulated number of courts at the grassroots level, and the right figure shows the accumulated number of new banks.

Figure 1: Increase of local modern courts and new banks (1912-1938)

2.2 Chaoyang University and Legal Talents

The establishment of a modern court system in China faced significant challenges, with the most pressing issue being the shortage of qualified legal professionals. While foundational obstacles such as insufficient funding and resistance from traditional social customs also posed difficulties, the lack of trained legal talent remained the most imminent obstacle (Zhang, 2005; Bi, 2020). As early as 1912, Sun Yat-sen issued the “*Order on the Judicial Examination System*” as the Provisional President,

¹⁹The four-level court system consisted of the Supreme Court, High Courts, District Courts, and Primary Courts, aligned with the central, provincial, prefectural, and county administrative levels. This system is codified in the *Law on the Establishment of Courts* promulgated in 1910.

²⁰Following the overthrow of the Qing government, China nominally transitioned to the Beiyang Government (1912–1927), during which the government reverted to a system where county magistrates resumed legal responsibilities, marking a regression in legal independence at the local level. This compromise in reform led to issues such as unfair trials, ultimately drawing widespread criticism (Li, 2016; Xia and Qin, 1999; Nie, 2010; Na, 2022).

²¹The court system was subsequently streamlined from four levels to three: District Courts, High Courts, and the Supreme Court, corresponding to the administrative levels of county/prefecture, province, and central government. This refined system is codified in the *Law on the Organization of Courts* promulgated in 1932.

which required that all appointed judges must participate in a unified judicial examination and obtain relevant qualifications before assuming office. To attend the examination, candidates must either have a formal legal education from universities or specialized schools or possess over three years of adjudication experience. The order was continuously applied and amended by successive governments, although the passing rate remained quite low. The passing rate was only 6% when the examination was held for the first time.²²

The modern legal system was entirely foreign to traditional China, representing a complete transplantation from nonexistence to establishment; however, without corresponding human capital equipped with the appropriate cognitive orientation, such a transfer would encounter significant obstacles (Wagener, 2019). All rulers of China during this transitional period recognized the critical importance of cultivating legal talent to support legal reforms and modernize the legal system.²³ Although quite a number of law schools appeared during Republican period, their quality varied significantly, with the majority aimed at training administrative officials rather than legal professionals.²⁴ *Chaoyang* University stood out, along with a few other private law universities, because it closely aligned with modern legal principles, produced a steady stream of trained professionals, and significantly impacted the development of local court systems. During the same period, public universities (e.g. Peking University) also established law departments, although these were not prominent and primarily aimed at training administrative personnel. Soochow Law School, founded by missionaries and comparable in reputation to *Chaoyang* University, focused primarily on producing lawyers.²⁵

Founded in 1912 by Wang Youling, one of the earliest overseas students and other prominent legal professionals, *Chaoyang* University quickly became the most prestigious law college of its time. In 1933, it had produced more than 3000 law graduates, representing nearly a fourth of all law graduates during the Republic of China, the majority of whom were employed in legal authorities, by 1937, most judges (*tuishi*) and legal assistants in China's legal authorities at all levels were *Chaoyang* alumni (Wang, 2001; Zhang and Dong, 2004; Qiu, 2008). Known for its profound impact on legal reform and

²²The “*Order on the Judicial Examination System*” was amended in 1916, 1919 during the Beiyang government period. The successive Nanjing Nationalist Government promulgated *Provisional Regulation of Examination and Appointment of Magistrates* in 1928 and re-state the requirement for taking exams.

²³In imperial China, private study of law was prohibited. In 1904, the Qing government lifted this ban, establishing law and political academies in various provinces and allowing the private establishment of law schools. Meanwhile, the government began sponsoring students to study law abroad. These students later played a pivotal role in establishing domestic law schools, serving as either founders or educators.

²⁴A large number of law and political academies during this period primarily served as a solution to provide a career path for scholars following the abolition of the imperial examination system. Among the newly introduced Western disciplines, law and politics were viewed as the fields most aligned with officialdom. In the late Qing and early Republican period, legal and political professionals essentially became a modern counterpart to the traditional *shi dafu* (scholar-officials), with a strong utilitarian focus on training administrative officials. The traditional ambition of attaining official status through academic success remained deeply embedded in the mindset of students in these academies.

²⁵In the Republic of China era, there were three types of legal education institutions offering modern legal education: public universities (such as Peking, Beiyang, and Shanxi University), private universities founded by missionaries (such as Soochow Law School), and private universities founded mostly by previous oversea students represented by *Chaoyang* University (Xiong, 2001; Zhang and Dong, 2004). The training mode of government-run legal education was mainly for political and administrative needs, leading to its separation from the real legal profession for a long time (Hou, 2009). Two of the most renowned law schools of the time were *Chaoyang* University in Beijing and Soochow Law School in Shanghai. A common saying captured their prominence: “*Chaoyang* in the North, Soochow in the South.” A key distinction between the two was that most *Chaoyang* University graduates pursued careers in the judiciary, while Soochow Law School was known for producing lawyers.

practice, *Chaoyang* was so integral to modern Chinese legal practice that a saying emerged: “No courts can be formed without *Chaoyang*, and courts cannot function without *Chaoyang*.”

2.3 Modern Banking and Legal Professionalization

Before the rise of modern banks, China’s financial market depended on indigenous financial institutions—Qianzhuang and Piaohao. Qianzhuang primarily offered local services such as small loans and currency exchanges, while Piaohao developed a nationwide network that provided interregional remittance services to merchants and the Qing government (Zhang, 1957; Cheng, 2021). Following the Opium War, the first foreign banks entered China. Foreign banks quickly monopolized international remittances and foreign trade financing, and by the end of the Qing dynasty, had established a tripartite balance with Qianzhuang and Piaohao, as illustrated in Figure 2(a). However, both indigenous and foreign institutions provided limited support for China’s industrialization.^{26,27}

The establishment of the Imperial Bank of China in 1897 marked the advent of modern native banking in China. Initially, these banks were predominantly government-owned. However, privately owned native banks soon began to emerge and rapidly developed.²⁸ By 1927, after two decades of development, these native banks had supplanted Piaohao as a central component of China’s banking triad as illustrated in Figure 2(b) (Cheng, 2021; Zhu, 2002). Despite their rapid development, the influence of native banks remained geographically limited, concentrated primarily in major cities. The period from 1927 to 1937 saw the most significant expansion of native banks in both number and geographic reach (Young, 1971; Chang, 2017). Following World War I, many foreign banks collapsed, and a surge in nationalism further propelled the growth of native banks.²⁹ As shown in Figure 2, the capital composition in China’s financial market underwent a dramatic transformation, with the share of native banks increasing from 33% to 81% between 1927 and 1936, a change that coincided with a rise in local court establishments. Figure 1(b) shows the accumulated number of new banks since 1912, which also reveals a significant increase after 1927.

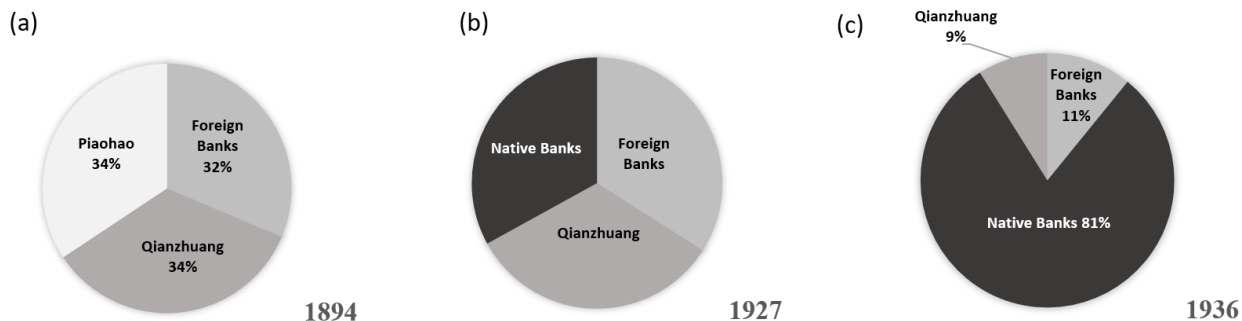
The development of modern banking in China was accompanied by a rise in financial disputes. This trend is illustrated in Figure 3, which depicts the number of first-instance civil cases handled by the judiciary over time. Figure 3(a) indicates that financial-related cases, specifically those categorized as cash and security, show a consistent upward trend and account for over 50% of total civil

²⁶On the one hand, foreign banks focused on short-term profits from international trade and government loans rather than fostering China’s industrial development; on the other hand, they faced challenges due to the absence of a robust legal framework for securing business loans (Cheng, 2021). Piaohao, resistant to adapting to the changing environment, declined with the fall of the Qing government. Qianzhuang, although deeply integrated with local enterprises, struggled due to traditional business practices and an unlimited liability structure, often basing lending decisions on personal relationships rather than collateral (Xu and Wu, 2003). These practices rendered them incapable of meeting the demands posed by the growth of modern enterprises.

²⁷Qianzhuang and Piaohao differed from modern banks in three key aspects. First, they were typically owned by proprietors or partnerships, with their reputation heavily reliant on the wealth and social status of their investors. Second, investors bore unlimited liability for the enterprise. Finally, key positions were often filled by individuals with familial or mentor-apprentice ties to the owner, with loyalty and moral obligation serving as the foundation of these relationships (Xu and Wu, 2003).

²⁸Compared with private banks, official banks suffered more from government extortion and the corruption and mismanagement caused by government ownership and involvement. By 1920, private banks had surpassed foreign banks in number and outnumbered official banks by a ratio of eight to one (Lin et al., 2021).

²⁹During this time, private capital also became dominant in both state-owned and private banks.



Notes: This figure shows the capital composition of different financial institutions, as calculated by Cheng (2021).

Figure 2: Comparison of Capital Strengths in the Chinese Financial Market

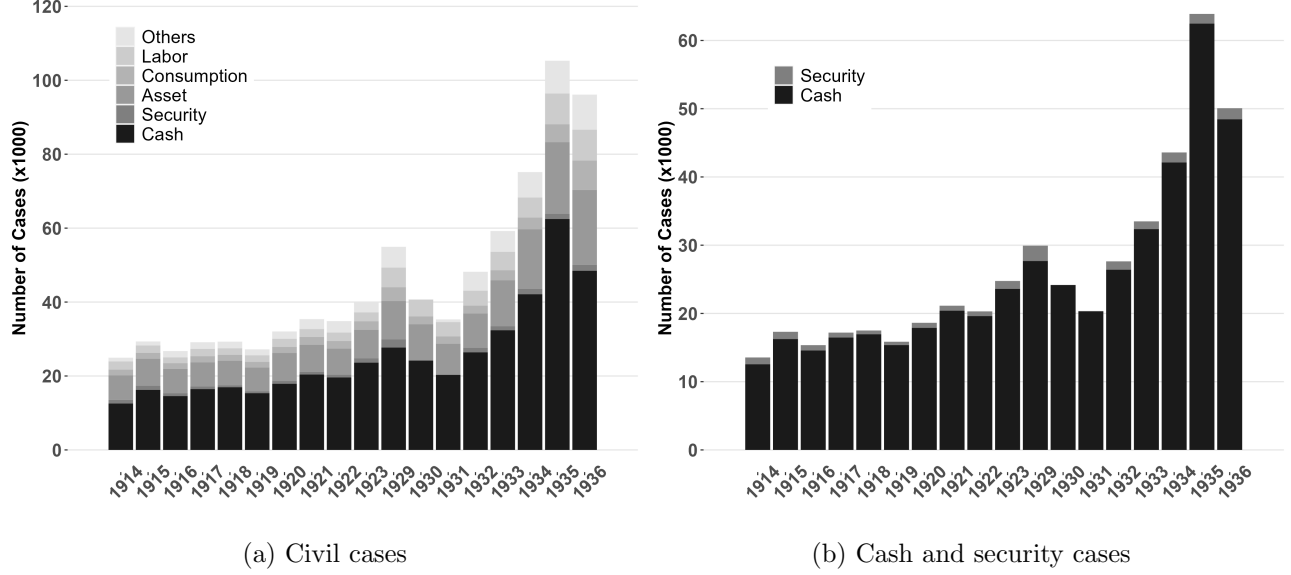
cases throughout the period. This trend is further emphasized in Figure Figure 3(b), which focuses exclusively on first-instance cash and security cases, illustrating that an increasing number of financial disputes were adjudicated by legal professionals within the local judiciary.

The establishment of modern courts and the cultivation of legal professionals marked a pivotal shift toward the professionalization of China’s legal system, particularly in the adjudication of financial cases and the resolution of banking disputes. This transformation is reflected not only in the increased number of financial cases handled by the courts but also in their de facto implementation. The courts adopted an active and proactive approach to safeguarding the rights and interests of banks, thereby fostering a more secure and predictable environment for the development of the modern banking sector. This can be reviewed from contemporary newspaper reports: One case, reported in the Qingdao Times (November 6, 1936), involved a debt dispute where the Agricultural and Industrial Bank, as creditor, successfully secured the seizure of Hu Zihong’s land. Another case, covered in the *World Daily* (March 6, 1935), saw the Beiping District Court ruling in favor of *Yipin Fangkuan* Bank against *Chaoyang* College, mandating debt repayment with interest over five years and affirming the Bank’s primary mortgage rights over the college’s land asset.³⁰

3 Data

To test the overall effect of legal modernization on banking industry, and to identify the channels through which local courts impacted development of banks, we construct a detailed cross-sectional

³⁰Meanwhile, legal professionalization directly influenced the development of modern banks by supplying the industry with skilled human capital. There was a sizable number of bankers with legal backgrounds, highlighting the critical role of legal education in shaping prominent banking careers (see *The Modern Chinese Banking Organization and Names Dictionary*). Bankers with legal expertise excelled in drafting enforceable contracts, resolving disputes, navigating regulatory frameworks, and managing legal risks. These skills ensured compliance, safeguarded institutional interests, and enhanced trust, thereby promoting stability and modernizing banking operations. For example, Sun Shiwei, who earned a Bachelor of Laws from Hosei University in Japan, became the inspector and manager of the Hangzhou branch of the Zhejiang Industrial Bank by 1934. Similarly, Huang Fujun, a 1911 graduate of the Fengtian Law and Politics School, assumed the role of manager at the Chahar Industrial Bank in 1930.



Notes: Case data is manually collected from the *Annual Civil Statistics Report of the Republic of China* compiled by Ministry of Justice (1914-1939). Cases are categorized into six types: cash, security, asset, consumption, labor, and others. Data for cases prior to 1923 were derived from traditional judicial offices (*yamen*), while data from 1929 onward reflect cases handled by formal courts.

Figure 3: Number of civil cases of first instance (1914-1936)

county-level dataset ranges between 1912-1936.³¹ Our sample covers 1,386 counties of the 18 provinces of China proper, see Figure A1.³² Our key dependent variable (banks) and independent variable (courts) can be constructed as panel data. However, since our instrument, *Chaoyang* graduates, is not panel-based, we use a cross-sectional dataset for our main identification analysis. Despite this, the panel nature of our data allows for staggered DID analyses as robustness checks.

3.1 Courts

To measure the development of the legal institutional environment, we primarily use the establishment of modern courts at the county level as indicators. This data is manually collected from over 2,000 local gazetteers (*Xianzhi*). Figure 4 provides an example of how we code our measurement. Figure 5(a) illustrates the geographical distribution of counties where modern courts were established by 1936. It shows that regions with modern courts were geographically diverse and not confined to specific areas such as large cities or treaty ports.³³

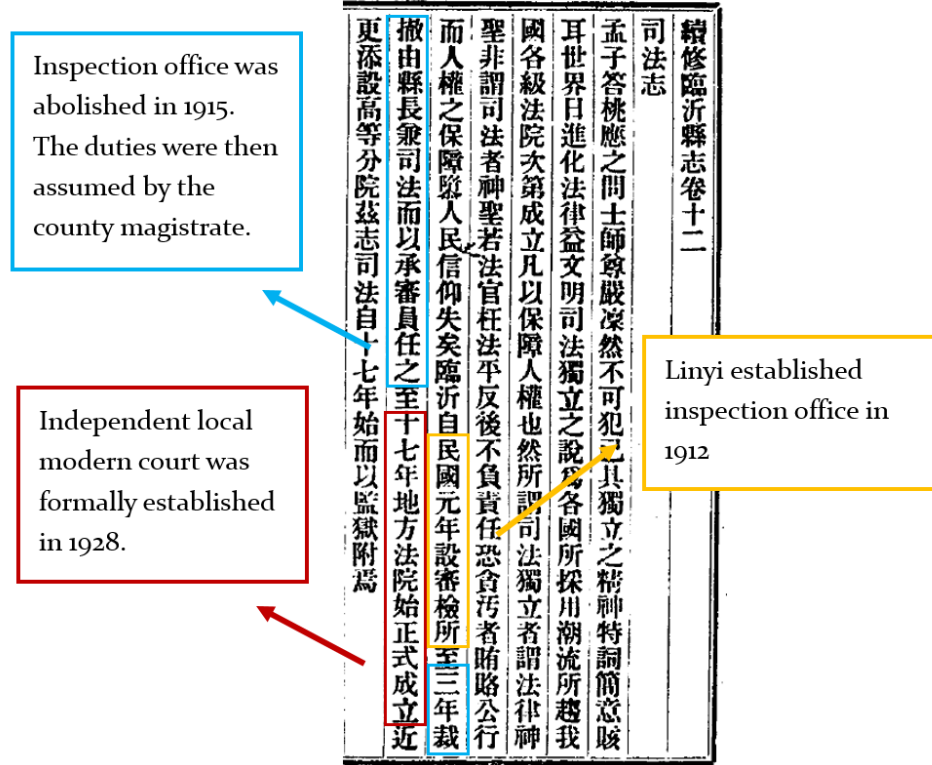
Additionally, to capture the quality of local courts, we construct the composition of legal personnel from 1930 to 1932, as recorded in the *Compilation of Judicial Statistics During the Republic of China* (Yin and Tian, 2009). During this period, over 80% of the modern courts in our sample had already

³¹The period of our analyses begins in 1912, the first year of the Republic of China, and ends in 1936, the year just before the Second Sino-Japanese War broke out. The post-1936 period is excluded to avoid the extensive influence of the Second Sino-Japanese War (1937-1945) on the socioeconomic environment.

³²There are 1,654 counties in the 18 provinces in total by 1911, however, due to data limitation in population density, we need to limit our sample to 1,386 counties. Counties that included in our sample are shaded in gray.

³³Treaty ports were port cities opened to foreign trade primarily through unequal treaties imposed by Western powers.

been established, allowing us a comprehensive view of these institutions. We coded the number of courtrooms, the staffing levels including the number of 1) personnel, 2) presiding judges, 3) prosecutors, and 4) judges (*Tuishi*). This data ensures that the establishment of local courts was substantial and not merely a nominal compliance with central government directives, reflecting their genuine functional impact on the society.

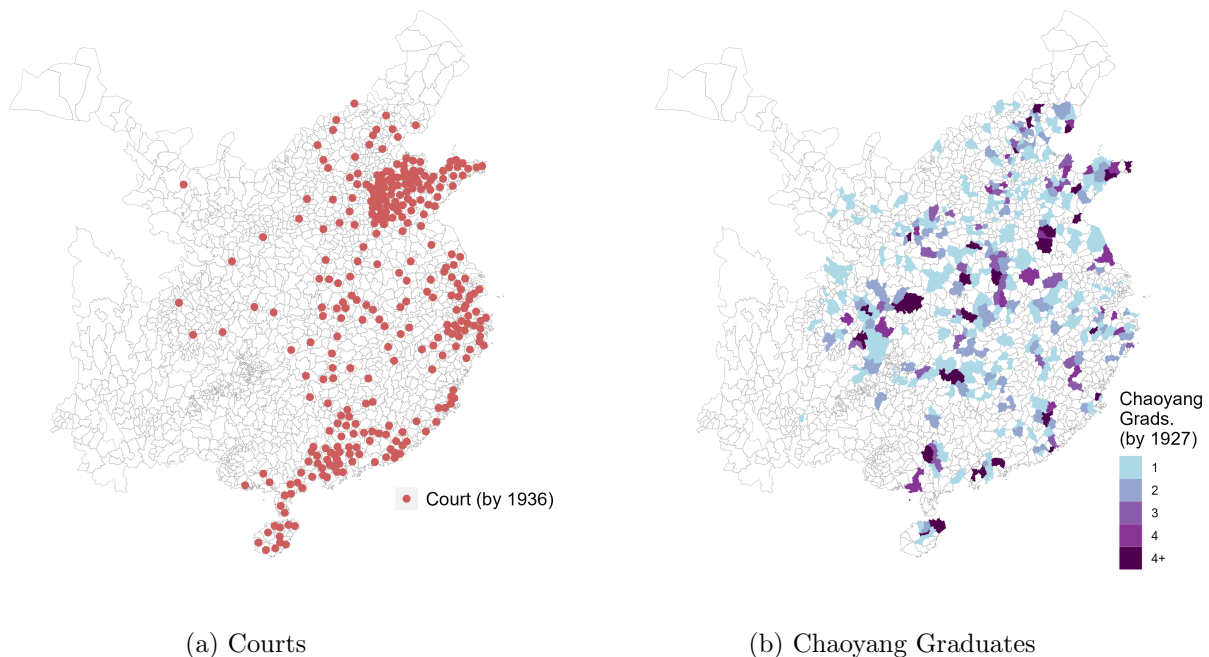


Notes: (translation) Mencius answered Tao Ying's question, stating that a scholar-judge's dignity is solemn and inviolable, already possessing an independent spirit, with succinct wording and comprehensive meaning. The world is evolving day by day, and the laws are becoming more civilized. The concept of legal independence is adopted by various countries and is the trend of the times. Our country's courts are established at various levels, all aimed at protecting human rights. However, what is called legal independence refers to the sanctity of the law, not the sanctity of the judiciary itself. If a judge perverts the law and is irresponsible after rectifying a wrongful decision, fearing that the corrupt may openly take bribes, then the protection of human rights is undermined, and the people's faith is lost. Since the first year of the Republic of China, Linyi had established an inspection office which was abolished in the third year. The duties were then assumed by the county magistrate, who also took on legal responsibilities. It was not until the 17th year of the Republic (1928) that the local court was formally established. Recently, a higher division court was added. Thus, the history of the judiciary began in the 17th year, with the prison attached thereto.

Figure 4: Linyi County Gazetteers (Compiled in 1935)

3.2 Banks

We use 1) the number of new bank headquarters, 2) registered capital of banks, and 3) the number of new bank branches, as proxies for the development of the banking industry. Data on banks' information is gathered from *The Bankers' Year-Book China* (Economic Research Office of the General



Notes: The base map is from China Historical Geographic Information System V6, time slice 1911, county level data (Fairbank Center for Chinese Studies of Harvard University and the Center for Historical Geographical Studies at Fudan University, 2016).

Figure 5: Geographical Distribution

Administration of the Bank of China, 1937) and *Modern Chinese Banking Organization and Names Dictionary* (Jiang, 2014). We manually construct information on the location and establishment year of each institution based on its description.³⁴ Figure A2 displays the distribution of new banks (including headquarters and branches) between 1928-1936.

3.3 Legal Talents

To measure the supply of professional legal talent in each county, we use the number of graduates from *Chaoyang University* from various counties. Data on *Chaoyang* graduates are sourced from the *Alumni Book of Chaoyang University* (Chaoyang University Alumni Association, 1997), starting from 1916, the year when its first batch of graduates graduated. This source provides graduates' major, native places and graduation years. Figure 5(b) displays the distribution of these graduates' hometowns. It is noteworthy that the distribution of *Chaoyang University* graduates' hometowns is not concentrated in economically developed areas but is quite dispersed. A potential concern with this alumni data is that the geographic distribution of *Chaoyang University* students might be randomly distributed only for the initial cohort, while the hometown distributions of subsequent cohorts could potentially be influenced by those of earlier cohorts. To rule out this possibility, we examine the hometowns of the

³⁴Financial institutions are categorized as Qianzhuang, Qianbian or Piaohao, and foreign bank or native banks based on their introductions.

first three graduating cohorts (1916, 1917, and 1918) and found no evidence of significant herding.³⁵

3.4 Control Variables

The establishment of a court in a county may have been influenced by local characteristics, which could also impact the development of the local banking industry. To control for these potential effects, we include four categories of covariates in our analysis.

Economic Controls. Given the potential impact of initial economic conditions on the establishment of courts and the development of the banking industry, it is essential to control for economic conditions at the outset. To this end, we construct three county-level indicators to capture local economic prosperity: 1) population density, which reflects the effects of local population size and territory size on courts and banking; 2) the number of modern industrial firms, serving as a proxy for industrialization levels; and 3) the size of these firms' capital. The number of firms is measured by the cumulative count established in each county by 1927, and capital size is calculated as the total capital of these firms. Data on population density are sourced from the *Compilation of Historical Materials on Population and Household Registration during the Republic of China* (Yin and Tian, 2009), while information on modern industrial firms is drawn from *National Capitalism and the Government of Old China* (Du, 1991).

Western Influence Controls. Since China experienced significant Western penetration in all aspects following its forced opening, the potential influence of Western notions and knowledge must be considered. To account for such effects, we include control variables: 1) the number of newspapers and 2) the distance to the nearest treaty port.³⁶ Newspapers were the most influential media during that period and played a crucial role in spreading Western ideas. Treaty ports were the locations with the earliest presence of Western notions and knowledge (Kung, 2022). Data on newspapers is obtained from *Full-Text Database of Periodicals from the Republic of China Period (1911-1949)*, and the distance to the nearest treaty port is calculated by the authors using ArcGIS.

Transportation and Transmission Controls. Innovation in transportation and information technology reduces information costs associated with distance barriers, enhancing business communication and knowledge spillover, which may influence the establishment of courts and the expansion of banking networks (Lin et al., 2021). To account for these factors, we control for 1) the distance to the nearest railway and 2) the presence of a telegraph station in a county.³⁷ The distance to the nearest railway is calculated by the authors using ArcGIS, with railway network data digitized from *National Railway Passenger Train Timetable* (Transportation Bureau of the China Railway, 1953). Data on the telegraph is sourced from local gazetteers; we introduce a dummy variable, *Telegraph* ($=1$), in our regressions to indicate whether a county had access to telegraph services.

Human Capital Controls. Given our focus on specific human capital—namely, legal talents—we must also account for generalized human capital. To this end, we control for the number of middle school students, the data is sourced from *Compilation of Educational Statistics of the Republic of China*

³⁵Results available upon request.

³⁶We consider the five earliest treaty ports: Guangzhou, Xiamen, Fuzhou, Ningbo, and Shanghai.

³⁷Railway and telegraph construction, two key infrastructures, have been central to China's modernization efforts since the *Self-Strengthening Movement* in the late Qing dynasty.

(Wang, 2010). Furthermore, to ensure that our analysis accounts for pre-existing cultural acceptance of Western legal ideas and political ideologies in some counties before the widespread implementation of legal modernization, we control for the number of students studying law abroad during the late Qing Dynasty. Data for this indicator is sourced from *The Lists of Oversea Students in Japan in the Late Qing Period* (Shen, 1978).

Descriptive statistics for all variables used in our baseline and 2SLS specification are summarized in Table 1. Additional descriptions related to other regression analyses in this paper can be found in Appendix A.

Table 1: Summary Statistics

VARIABLES	Observation	Mean	SD	Minimum	Maximum
<i>Key Variables</i>					
Court (=1)	1,386	0.219	0.414	0	1
# of graduates of Chaoyang Univ. (1916-1927)	1,386	0.582	1.467	0	24
# of new banks (1928-1936)	1,386	0.0685	0.799	0	27
# of new bank branches (1928-1936)	1,386	0.157	0.651	0	14
Sum of new banks' capital (1928-1936)	1,386	147,711	370,200.0	0	136,200,000
<i>Economic Controls</i>					
Population density	1,386	208.8	233.0	0	4,767
Number of firms by 1927	1,386	0.851	22.09	0	806
Firm capital by 1927	1,386	228.7	6,228	0	221,918
<i>Western Influence Controls</i>					
# of newspapers before 1911	1,386	0.280	5.266	0	185
Distance to the nearest treaty port (logged)	1,386	10.45	3.265	1.179	14.06
<i>Transport & Transmission Controls</i>					
Distance to the nearest railway (logged)	1,386	10.81	2.439	0	14.06
Telegraph (=1)	1,386	0.473	0.499	0	1
<i>Human Capital Controls</i>					
# of middle school students (1916)	1,386	11.34	66.96	0	1,421
# of overseas law school students (1903-1909)	1,386	0.0548	0.344	0	6

4 The Role of Court in Local Banking Development

Our main analysis utilizes a cross-sectional setting, which is dictated by the nature of our instrumental variable, as it is not based on panel data. We measure the legal environment of a county using a dummy variable to indicate whether county i had a modern court established by 1936. In terms of the independent variable concerning the banking industry, our focus is specifically on new banks that were established between 1928 and 1936. This is because after 1928, China was reunified under the Nanjing Nationalist government, which standardized general policies and institutions across all counties. This unification also facilitated the diffusion of new banks from large cities to counties.³⁸ In constructing

³⁸In contrast to the pre-1928 era when banks were predominantly concentrated in major cities for safety reasons. Specifically, a very early establishment of local courts (e.g., as early as 1912) in non-major cities could only affect the emergence of new banks after 1928.

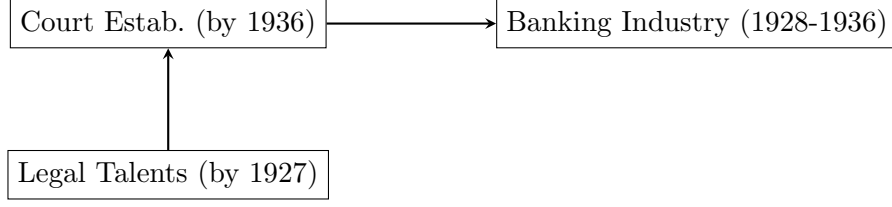


Figure 6: Empirical Framework

our instrumental variable, we calculated the number of graduates from *Chaoyang* University from the first cohort up to 1927, using 1927 as the endpoint to address concerns of reverse causality in the first stage.³⁹ Figure 6 illustrates our empirical framework.

4.1 Baseline Results (OLS)

To assess the influence of courts on the development of modern banking in China, we begin by regressing number of new banks (y) on the proxy for legal institution environment ($Court$) using the method of Ordinary Least Squares (OLS) based on:

$$y_i = \alpha_1 + \beta_1 Court_i + \gamma_1 X_i + Province_i + \varepsilon_i \quad (1)$$

where i indexes a county. The dependent variable y_i stands for three measures of modern banking development, namely 1) the cumulative number of new banks, 2) the sum of new banks' capital, and 3) the cumulative number of new bank branches, respectively. All these measures are transformed using the natural logarithm. X_i includes four categories of control variables: initial economic conditions, Western influence, transportation and transmission conditions, and proxies for generalized human capital. $Province_i$ represents the province fixed effects. Our main explanatory variable of interest is $Court_i$, which is a measure of the legal institution environment of county i in China's Republican period. Specifically we measure a county's legal environment using a dummy variable indicating whether county i has had a modern court by 1936. $Court_i = 1$ if county i has had a modern court by 1936, $Court_i = 0$ otherwise. β_1 is the coefficient of interest. To address such observations of zeros, we start with a linear model using $\log(Y+1)$ as the dependent variable, and then employ the Negative Binomial and Poisson models to ensure our findings are robust and not merely a consequence of this specific linear transformation (Chen and Roth, 2024). We further use Probit models to focus specifically on the extensive margin—examining occurrences such as the establishment of new banks, the introduction of new registered capital, or the opening of new bank branches in a county.⁴⁰ The results stay robust and consistent.

Reported in Table 2, our baseline results indicate a significant positive relationship between court

³⁹Given that each county can establish only one local court, the presence of legal talents may influence the initial establishment of these courts. However, subsequent legal talents inspired by this court cannot lead to the creation of additional courts within the same county, thus eliminating the possibility of reverse causality between legal talents and local courts. Additionally, we consider a situation where the local government may have anticipated the largest wave of court establishment starting in 1926 and sent students to study law. This issue can be addressed by using 1927 as the endpoint for our instrument, with a detailed discussion on exclusive restriction provided in Section 4.2.2.

⁴⁰Results of the specifications are in Table C2 and Table C3.

Table 2: Impact of Court on Banking Industry: OLS Results

	# of new banks (1928-1936, logged)		Σ of new banks' capital (1928-1936, logged)		# of new bank branches (1928-1936, logged)	
	(1)	(2)	(3)	(4)	(5)	(6)
Court (=1)	0.096*** (0.032)	0.057* (0.030)	1.364*** (0.404)	0.935** (0.376)	0.250*** (0.043)	0.227*** (0.041)
<i>Economic Controls</i>						
Population density	0.000 (0.000)	0.000 (0.000)	0.001 (0.001)	0.000 (0.001)	0.000* (0.000)	0.000 (0.000)
# of firms by 1927 (logged)	0.506*** (0.179)	0.196 (0.151)	2.791** (1.162)	1.605 (1.783)	0.410*** (0.120)	0.284* (0.168)
Firm capital by 1927 (logged)	-0.097 (0.060)	-0.022 (0.046)	-0.131 (0.476)	0.050 (0.572)	-0.097*** (0.036)	-0.064 (0.047)
<i>Western Influence Controls</i>						
# of newspapers before 1911		0.008*** (0.003)		-0.002 (0.029)		0.003 (0.005)
Dist. to the nearest treaty port (logged)		-0.024*** (0.008)		-0.309*** (0.097)		-0.015** (0.007)
<i>Transport & Transmission Controls</i>						
Dist. to the nearest railway (logged)		-0.007* (0.004)		-0.126** (0.058)		0.006 (0.004)
Telegraph (=1)		0.011 (0.007)		0.136 (0.104)		0.047*** (0.013)
<i>Human Capital Controls</i>						
# of middle school students (1916)		0.000 (0.000)		0.003 (0.003)		0.000 (0.000)
# of overseas law school students (1903-1909)		0.009 (0.017)		0.141 (0.227)		0.053* (0.027)
Province FE	YES	YES	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386	1,386	1,386

Notes: The estimations are based on county-level cross-sectional data. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively. Full table is reported in Table B1.

establishments and the development of the banking industry. We begin by examining courts' effect on the increase in bank headquarters. Column (1) provides the benchmark by controlling only for initial economic conditions and province fixed effects, while Column (2) includes controls for all four categories of covariates. In both cases, the presence of courts has a sizable and significant effect; specifically, having courts increases the number of bank headquarters by 5.9 percent (i.e., $e^{0.057} - 1$). Subsequently, we change our dependent variable to the total registered capital of new banks in $county_i$, and our findings remain robust with even higher levels of significance (Columns (3)-(4)). As noted in Section 2, the most important aspect of bank development post-1928 is not merely an increase in numbers but also an expansion in geographical reach. Therefore, we finally switch our dependent variable to the number of newly established bank branches and replicate our analysis in Columns

(5)-(6). We find that courts' coefficients remain significant and robust; the magnitude of the effect is stable across specifications, ranging from 0.250 to 0.227; and notably, compared to Column (2), the effect size increases, with courts associated with a 25.5 percent increase in new bank branches (i.e., $e^{0.227} - 1$).

4.2 Causal Identification

The establishment of a modern court in a county could be linked with various unobserved factors. While we have controlled for all possible confounding factors that are identifiable, there may still be omitted variables that could influence both the establishment of courts and the development of the banking industry. For example, counties with modern courts might possess unobserved natural, genetic, or cultural attributes. Moreover, there is a potential issue of reverse causality, where the development of local banks could spur the establishment of modern courts.

4.2.1 Number of Chaoyang Graduates as the Instrumental Variable of Courts' Establishment

Republican China's legal institutions were entirely transplanted, and the requisite human capital for this catch-up modernization was completely absent in traditional Chinese society. Consequently, the most pressing challenge in establishing local courts was the lack of well-trained professional personnel capable of understanding legal standards, adhering to formalized legal procedures, and fulfilling specific responsibilities.⁴¹ *Chaoyang* University emerged as the most influential institution supplying this essential human capital: a significant proportion of personnel in China's legal system were *Chaoyang* alumni. To some extent, *Chaoyang* University determined the geographic distribution of legal talents—a very specific human capital, thus providing an exogenous source of variation that could impact the banking industry solely through the establishment of local modern courts.

We reason that counties that were able to establish modern courts should be positively correlated with the distribution of *Chaoyang* University graduates. However due to data availability, we don't have information on their work placements. Instead, we use the hometown information of *Chaoyang* graduates as our instrumental variable. *Chaoyang* graduates' hometown information matters for local modern courts establishment for two reasons: 1) *Chaoyang* graduates returning to work in their hometowns (direct channel) and 2) hometown favoritism of influential alumni (indirect channel). This reasoning is supported by rich anecdotal evidence, reflected in the experiences of *Chaoyang* graduates. For instance, Jilin province in northeastern China is known for its harsh climate. Wei Datong, the president of the Jilin High Court and one of the first graduates from *Chaoyang* University in 1916, originates from Fuyu, Jilin Province. During his tenure, he advocated for higher salaries for legal personnel in northeastern China due to the severe cold, and proposed that exceptional judicial officers be appointed to the region (Chen, 2022). Similarly, Tong Peilan, another graduate of *Chaoyang* University, returned to her hometown of Chang'an in Shaanxi after graduation and served as a judge in the local court (Hou, 2004). Hometown favoritism refers to the tendency of political officials to preferentially allocate resources, opportunities, or benefits to their place of origin. The modern court in Xinhui, Guangdong, was established as early as 1919. Notably, Xinhui was the hometown of Zhao

⁴¹Moreover, a legal education was a prerequisite for serving as a magistrate at that time.

Shibei, who served as the “Minister of Justice” in 1917. Similarly, a modern court was established in Wanxian, Sichuan, in 1930, the hometown of Hu Changqing, who held influential positions in the Legal Affairs Bureau beginning in 1928.

Denoting the cumulative number of *Chaoyang* graduates up to 1927 as *Graduates*, to qualify as a valid instrument, *Graduates* should be positively and significantly correlated with the establishment of modern courts *Court*. We begin by examining the impact of *Chaoyang* graduates on the establishment of modern courts and find first-stage IV-estimates highly significant, with our full set of controls included (at the 1% level, see Column (1) of Table 3). The F-statistic suggests that our instrumental variable is by no means a weak instrument. In terms of magnitude, for every additional graduate from *Chaoyang* University by 1927, the likelihood of a county establishing a modern court by 1936 increases significantly by 2.3%. Given that our dependent variable is a binary measure (where *having court* = 1), we also conduct further analysis using Probit models to ensure the robustness of our results. The findings, consistent across different modeling approaches, are detailed in Table C1.

Given that *Chaoyang* University was a crucial source of legal talent at the time, it is natural to expect that it would impact the personnel structure of local courts as well. To verify this, we need additional information about court structure. Fortunately, we find relevant data for the period between 1930 and 1932, which we believe is representative since most courts had been established by this time. The results are presented from Column (2) to (6). The outcome variables we use are the number of courtrooms, personnel in the court, presiding judges, prosecutors, and judges (*Tuishi*), respectively, averaged from 1930 to 1932.⁴² Columns (2) to (6) show a significant positive relationship between the number of *Chaoyang* graduates and the number of local courts and various types of professional staff. Taken together, these results confirm the hypothesized importance of *Chaoyang* graduates in determining the availability of legal talents and, consequently, the establishment of modern courts in a county. More importantly, it underscores the graduates’ significant impact on the personnel composition of the courts, which is a key indicator of the level of legal professionalism.

4.2.2 Exclusion Restrictions

As demonstrated in Figure 5(b), the distribution of *Chaoyang* graduates’ hometowns is quite dispersed, not clustering in large cities or treaty ports. There is no historical evidence suggesting that students were intentionally sent to *Chaoyang* University in anticipation of local governments planning to establish modern courts; none of these students were sponsored by local governments. The large-scale court construction plan issued by the Nanjing Nationalist Government was released in 1928. If local governments were to respond to this policy, students would have needed to enroll at *Chaoyang* University no later than 1925. However, during this period, the majority of China’s provinces were under warlord control, and the nominal Beiyang government did not advocate for the establishment of independent courts. Consequently, there was no incentive for local governments to

⁴²Given that the value of a specific indicator remains consistent across different years for any given court, we combine the data from 1930 to 1932 into a single period for analysis. This allows us to conduct our estimation using cross-sectional data at the court level. Given the year of the outcome variables being used, we make a slight adjustment to the instrumental variables and use the cumulative number of *Chaoyang* University graduates from 1916 to 1929 as our IV in this setting.

Table 3: Impact of *Chaoyang* Graduates on Court Establishment and Structure

	First Stage	Court Structure (# of)				
	Court (=1)	Courtrooms	Personnel	Presiding judges	Prosecutors	Judges
	(1)	(2)	(3)	(4)	(5)	(6)
# of Chaoyang graduates by 1927	0.023*** (0.008)	0.055** (0.027)	0.595*** (0.211)	0.033*** (0.011)	0.033** (0.017)	0.052* (0.030)
Economic Controls	YES	YES	YES	YES	YES	YES
Western Influence Controls	YES	YES	YES	YES	YES	YES
Transport & Transmission Controls	YES	YES	YES	YES	YES	YES
Human Capital Controls	YES	YES	YES	YES	YES	YES
Province FE	YES	YES	YES	YES	YES	YES
Cragg-Donald Wald F-stat	20.43					
Observations	1,386	285	285	285	285	285

Notes: Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Column (1) is based on county-level cross-sectional data. Robust standard errors adjusted for clustering at the county level are given in parentheses. Column (2)-(6) are based on court-level cross-sectional data (aggregate year 1930-1932 as one period, thus independent variable is number of *Chaoyang* graduates by 1929). Observations used in these estimations are from a sub-sample of counties that had Court by 1932, thus having the relative court information. Control information is from the county that the entity located. Standard errors are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

make such “preparation”. Therefore, using the accumulated number of graduates from 1916 to 1927 (who registered no later than 1924) should not be influenced by any foreseen decisions pushed by local governments.

To further ensure the decisions to study in *Chaoyang* University was determined by individuals only. We confirm that they are not correlated with other potentially omitted variables—most notably economic prosperity, which may be correlated with the development of the banking industry. For instance, our instrumental variable, the accumulated number of graduates from 1916 to 1927, is found to be uncorrelated with both the accumulated number of modern industrial firms and the number of banks by 1912, which marks the beginning of our sample period. We test this with two approaches to constructing the *Chaoyang* graduates data: one using our main instrument—the accumulated number of graduates from 1916 to 1927; and the other using the number of graduates in 1916, representing the graduating class of the university’s inaugural year—which should have the most random spatial distribution since the university had just been founded and the future prospects of the graduates were unknown. The results, presented in Table 4, show that the coefficients in all four columns are insignificant, regardless of whether the control variables are included (Columns (2) and (4)) or excluded (Columns (1) and (3)). To sum up, there is no significant relationship between the number of graduates from *Chaoyang* University in a county and its initial economic conditions.

4.2.3 Instrumented Results

Table 4: Exclusion Restriction Test of Instrument Variable

	# of Chaoyang Univ. grads (1916-1927, accum.)		# of Chaoyang Univ. grads in 1916	
	(1)	(2)	(3)	(4)
# of firms by 1912 (logged)	-0.026 (0.140)	-0.061 (0.183)	-0.000 (0.000)	-0.061 (0.183)
# of banks by 1912 (logged)	0.533 (0.979)	2.508 (2.292)	-0.004 (0.006)	2.508 (2.292)
Economic Controls		YES		YES
Western Influence Controls		YES		YES
Transport & Transmission Controls		YES		YES
Human Capital Controls		YES		YES
Province FE	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386

Notes: The estimations are based on county-level cross-sectional data. Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

With exclusion restrictions out of our way, now we can apply our instrument to identify the causal effect of legal institution environment on banking industry development using the Two-Stage Least Squares (2SLS) specification. Results are reported in Table 5. Using the accumulative number of *Chaoyang* graduates from 1916 to 1927 as instrument, we find that having courts by 1936 significantly and positively explains development of banking industry across three different measurements. Specifically, establishment of the court is associated with 47.1 percent (i.e., $e^{0.386} - 1$, Column (2) of Table 5) more new banks established, around 5.8 times more registered capital of these newly established banks (Column (4) of Table 5), and 62.9 percent (i.e., $e^{0.488} - 1$, Column (6) of Table 5) more new bank branches established. Similar with our OLS setting, we also employed Negative Binomial, Poisson and Probit models to ensure our findings are not driven by any specific linear transformation (Chen and Roth, 2024).⁴³ The results stay robust and consistent.

The instrumented courts' coefficients are somewhat larger than the OLS estimates, suggesting that the endogenous courts measure likely has the effect of biasing the estimation towards zero, and thus underestimated the effect of legal institution environment on banking industry development, especially for the bank headquarters and total registered capital measures. We offer two possible explanations for this discrepancy. Firstly, the IV method addresses the measurement error and omitted variable bias, which could leads to increase in coefficients of *Court*. If an unaccounted variable influences both the independent and dependent variables in opposite directions, it would cause a downward bias in OLS results.⁴⁴ Secondly, the IV method estimates the Local Average Treatment Effects (LATE).

⁴³Results of the specifications are in Table C4 and Table C5.

⁴⁴An example of this could be the lack of sufficient funds from local governments, which hampers the establishment

Specifically, our 2SLS estimation captures the impact of court establishments on banking development in counties facing severe talent shortages. This localized emphasis can lead to larger coefficients, as it reflects substantial impacts in these specific areas, contrasting with a broader, more generalized effect observed across all regions.⁴⁵

Table 5: Impact of Court on Banking Industry: **Second Stage**

	# of new banks (1928-1936, logged)		Σ of new banks' capital (1928-1936, logged)		# of new bank branches (1928-1936, logged)	
	(1)	(2)	(3)	(4)	(5)	(6)
Court (=1)	0.424** (0.169)	0.386* (0.220)	6.022** (2.520)	5.775* (3.347)	0.529** (0.213)	0.488* (0.281)
Economic Controls	YES	YES	YES	YES	YES	YES
Western Influence Controls		YES		YES		YES
Transport & Transmission Controls		YES		YES		YES
Human Capital Controls		YES		YES		YES
Province FE	YES	YES	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386	1,386	1,386

Notes: The estimations are based on county-level cross-sectional data. Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively. Detailed information is reported in Table B2.

4.3 Additional Results and Robustness Checks

4.3.1 Alternative IV Construction

In Section 4.2.2, we discuss the validity of our instrument. To further confirm that our IV estimations are not reflecting demand-driven outcomes, we employ a second method for constructing our instrumental variable—whether county i had any graduates by 1927. The rationale is that the number of *Chaoyang* graduates may be more susceptible to demand-driven concerns, if present, while the existence of any *Chaoyang* graduates is significantly more random. The results in Table D1 closely resemble those in Table 5, further underscoring the robustness of our baseline findings.

4.3.2 Exclude the Influence of Foreign Concessions

We also address potential bias arising from foreign concessions (*Zujie*), as banks within these concessions typically operated outside the jurisdiction of local courts. To account for this, we exclude

of local courts. However, such a shortage might lead governments to encourage the private banking sector to support local industrialization.

⁴⁵The influence of *Chaoyang* graduates on courts' establishment is larger in regions with most acute legal talent shortages. Conversely, in counties where court establishment is less dependent on the availability of *Chaoyang* graduates—there are existing pool of legal talent from other sources—our IV has a weaker impact on courts.

areas with foreign concessions from our sample and re-run both OLS and IV regressions. The results remain consistent with our earlier findings, reinforces the robustness of our main conclusions (see Table E1).

4.3.3 Staggered DID Specification

We use cross-sectional analyses as our primary specification because most court establishments occurred within a narrow timeframe (1927-1931), during which over 70% of courts were established. However, fewer than 30% of courts were established between 1916 and 1927 or from 1932 to 1936. Leveraging the panel nature of court and bank expansion, we also conduct a difference-in-differences (DID) analysis. Specifically, we employ both the conventional two-way fixed-effects (TWFE) method and the recently developed imputation-based estimator by Borusyak et al. (2024), which addresses the staggered nature of court establishments.⁴⁶ The results, presented in Table F1–F3, consistently confirm a significant and positive impact of court establishments on banking development across all specifications.

4.3.4 Different Types of Banks

We also examine the effect of courts on different types of banks, categorizing them by their characteristics—modern vs. traditional, foreign vs. native, and state-owned vs. private—and replicating our specifications. Detailed results from these heterogeneity analyses are reported in Table G1, G2, and G3. To summarize, we find that an improved local legal institutional environment promotes the development of Qianzhuang but not Qiandian or Piaohao. This aligns with historical observations: Piaohao gradually disappeared due to their heavy dependence on Qing government remittances and resistance to adaptation, while Qiandian, focused on small-scale money exchange, was less influenced by local institutions. Similarly, the improved environment benefits native banks but not foreign banks, which lost public confidence after widespread bankruptcies following World War I and faced growing nationalism that eroded their dominance. Finally, the environment encourages the growth of regional and private banks but not central state-owned banks, further supporting our hypothesis that improvements in local legal institutions primarily foster local financial development.

5 Accounting for the Channels of Court

5.1 Legal Professionalization

The establishment of modern courts spurred the growth of legal-related businesses and the emergence of new occupations such as lawyers and consultant. This provision of standardized and professional legal services was instrumental in transforming the business environment. Legal modernization, driven by state-led agendas, disrupted the customary informal dispute resolution processes that were deeply rooted in the traditional socio-political framework of local societies (Xu, 2008). The professionaliza-

⁴⁶The conventional TWFE method assumes treatment effects are homogeneous across units and time, a limitation often inconsistent with real-world scenarios. Borusyak et al. (2024) address this issue by introducing an imputation method, which provides unbiased estimations.

tion of legal expertise introduced modern legal knowledge, essential for addressing complex social and economic challenges (Su, 2022). This new legal system required qualifications and competencies that prevented traditional elites from exploiting it for their own benefit, marking a significant departure from counties that retained the combined administration-judiciary system. This impact extended beyond the courts, influencing a wide range of law-related domains, including business and commerce. The growing presence of professional legal practitioners in local societies naturally improved the business environment and fostered the development of the banking industry.⁴⁷

To test the professionalization channel facilitated by the new legal practitioners, we focus on lawyers, a critical group within the legal profession. As Bao Tianxiao, a renowned writer and leading figure in the modern publishing industry during Republican China, described in his memoirs: “*Big banks and big companies are new businesses at that time and they are eager to expand. The bigger the business, the more disputes there will be, and everything will be involved in legal issues. However, the directors and managers may not be proficient in law. As a result, lawyers are needed.*” (Bao, 2014) We collect information on county-level lawyer unions from the *Compilation of Judicial Statistics During the Republic of China* (Yin and Tian, 2009). Given the limited availability of lawyer data, specifically confined to the period from 1930 to 1932, and the relatively consistent values observed within this time frame, we opt to utilize the average value across these three years for constructing variables.

Table 6 presents the results. The variable *Lawyer union*(= 1) is a dummy indicating whether a lawyer union existed in the county during 1930–1932, while *Court*(= 1) is a dummy indicating whether a modern court existed in the same period. The significantly positive coefficient of the interaction term between *Court*(= 1) and *Lawyer union*(= 1) (Column (1), Table 6) suggests that the presence of a local modern court combined with a professional local lawyer group benefits the development of the local banking industry. This positive effect persists in Column (2) after including a series of control variables, as used in the baseline regressions, to account for local economic conditions, Western influence, transportation and communication infrastructure, and general human capital. We further replicate our analysis with the number of lawyer union members in a county as a proxy. The significant positive interaction effects between *Court*(= 1) and *Number of lawyer union members* in Columns (3) and (4) of Table 6 indicate that the local banking industry experiences greater development when a modern court is complemented by a larger lawyer union. These findings highlight that the establishment of a court can foster local banking sector growth by providing an environment where skilled professionals can deliver more specialized and standardized legal services, thereby improving the overall business environment.

5.2 Trust in Modern Financial Institution

The establishment of courts boosts trust in modern banks—a novel financial institution in China—in two ways. First, a strong legal framework and effective enforcement ensure proper handling of financial disputes, strengthening individuals’ sense of security and increasing their willingness to engage in

⁴⁷In public life, lawyers and local lawyer unions played a pivotal role in disseminating and implementing legal knowledge. For instance, the Shanghai Lawyer Union provided a platform where law students offered legal assistance to the poor, publicized modern legal concepts, and fostered the transformation of societal legal awareness (Yuan, 2017).

Table 6: Testing the Professionalization Channel: Lawyer Union

	# of new banks on average (logged)			
	(1)	(2)	(3)	(4)
Court (=1)	0.003 (0.003)	0.001 (0.003)	0.002 (0.005)	0.002 (0.004)
Lawyer union (=1)	-0.002** (0.001)	-0.022* (0.013)		
Court (=1) $\times$ Lawyer union (=1)	0.057** (0.025)	0.037* (0.020)		
# of lawyer union members on average			-0.000** (0.000)	-0.000 (0.000)
Court (=1) $\times$ # of lawyer union members on average			0.001*** (0.000)	0.001* (0.000)
Economic Controls		YES		YES
Western Influence Controls		YES		YES
Transport & Transmission Controls		YES		YES
Human Capital Controls		YES		YES
Observations	1,386	1,386	1,386	1,386

Notes: The estimations are based on county-level cross-sectional data (aggregate year 1930-1932 as one period). Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Control information is from the county that the entity located. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

banking activities, either for investors of commoners.⁴⁸ Second, the establishment of courts signals the central government’s determination for comprehensive modernization, enhancing general societal confidence in other modernization efforts, including the banking industry.⁴⁹

The local legal environment is a critical factor influencing the establishment of new banks/bank branches, as the banking industry inherently involves financial disputes. According to the civil statistical annual reports released by the Ministry of Justice of the Republic of China from 1914 to 1923, monetary cases accounted for a significantly higher proportion than other types of cases, with an overall ratio of approximately 56% (Tang, 2013). The Criminal Case Digest, published by the Supreme Court, also documented numerous cases related to banking activities, such as the “counterfeiting of banknotes” (Guo and Zhou, 1934). Under this situation, the establishment of courts improves local legal effectiveness, encouraging individuals to resolve disputes through formal legal channels, leads to

⁴⁸The belief in the effectiveness of courts could also enhance the overall level of *general trust* in society and encourage new commercial relationships (Johnson et al., 2002). In Republican China, Sheehan (2003) analyses the rise of modern banks and the growth of social trust in financial institutions in Republican-era Tianjin, emphasizing the necessity of impersonal trust for paper money to operate successfully.

⁴⁹Better bank-related financial literacy and more trust in financial institutions also improve consumer credit behavior (Brown et al., 2019).

Table 7: Testing the Social Trust Channel: Number of Civil Cases

	# of civil cases newly filed in 1933 (logged)		# of civil cases accepted in 1933 (logged)		# civil cases adjudicated in 1933 (logged)		# civil cases resolved in 1933 (logged)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
# of courtrooms (logged)	0.710*** (0.136)		0.668*** (0.133)		0.642*** (0.157)		0.688*** (0.135)	
# of personnel in court (logged)		0.807*** (0.109)		0.767*** (0.111)		0.822*** (0.120)		0.791*** (0.110)
Economic Controls	YES	YES	YES	YES	YES	YES	YES	YES
Western Influence Controls	YES	YES	YES	YES	YES	YES	YES	YES
Transport & Transmission Controls	YES	YES	YES	YES	YES	YES	YES	YES
Human Capital Controls	YES	YES	YES	YES	YES	YES	YES	YES
Province FE	YES	YES	YES	YES	YES	YES	YES	YES
Observations	111	111	111	111	111	111	111	111

Notes: The estimations are based on court-level cross-sectional data. Observations used in these estimations are from a sub-sample of counties that had court by 1932, thus having the relative court information. Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Control information is from the county that the entity located. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

growing confidence in the legal system strengthens individuals' sense of security.

We first provide evidence that people's trust toward banks is boosted because better legal environments are provided and more financial disputes are properly handled. To analyze this, we gather data on the number of civil cases handled within each county, although such data is only available for counties with established courts. Nevertheless, variations in court characteristics, such as the number of courtrooms and staff, allow us to assess their differential effects on case handling. The results, presented in Table 7, show that courts with more courtrooms and professional staff experience a significant increase in civil case filings, acceptances, and resolutions. This indicates that the availability of well-resourced courts encourages the local population to rely on legal mechanisms for dispute resolution, further reinforcing the trust towards local banking sector.

Next, we directly investigate whether the presence of modern courts increases people's trust in banks. We use the deposits received by local banks as a proxy for trust in banks. People will only be inclined to deposit their money into banks when they have trust in banks, the newly emerged financial institutions. And we use a dummy variable indicating whether the bank owned branches (*OwningBranches*(= 1)) to help distinguish between local banks, which typically do not have branches, and regional banks, which do. Data on bank performance (1934-1936) are obtained from *The Bankers' Year-Book China* (Economic Research Office of the General Administration of the Bank of China, 1937). Table 8 presents the results. We observe that the coefficient of the interaction between *Court*(= 1) and *OwningBranches*(= 1) is positive and significant, as shown in Column (1) of

Table 8: Testing the Social Trust Channel: Deposits in Banks

	Bank deposits (logged)		
	(1)	(2)	(3)
Court (=1)	1.176 (1.475)	0.680 (1.291)	-0.253 (1.618)
Owning Branches (=1)	-1.469 (1.583)	-2.181 (1.471)	-2.374 (1.572)
Court (=1) $\times$ Owning Branches (=1)	4.183** (1.994)	3.140* (1.794)	3.927** (1.875)
Bank Characteristic Controls		YES	YES
Economic Controls			YES
Western Influence Controls			YES
Transport & Transmission Controls			YES
Human Capital Controls			YES
Observations	200	200	200

Notes: The estimations are based on bank-level cross-sectional data (aggregate year 1934-1936 as one period). Bank characteristic controls include bank assets (logged), bank loans (logged), and bank total profits (logged). Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Control information is from the county that the entity located. Robust standard errors adjusted for clustering at the bank level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

Table 8. This finding suggests that after the establishment of a local modern court, regional banks gained more public trust and attracted additional deposits. However, this benefit was not enjoyed by smaller, local banks. One possible explanation is that, in addition to general trust in banks, people also consider the reputation of banks, which is closely linked to their size. This consideration becomes especially important for long-term financial commitments like deposits, as opposed to other short-term financial activities that require less emphasis on the institution's stability. We further control for bank-level characteristics and included a series of control variables similar to those used in our baseline regressions (Column (2)-(3)). Both sets of results confirm the significant positive effect. These findings indicate that trust is another likely channel through which local modern courts promoted banking development.

6 Conclusion

This study examines legal modernization in China from 1912 to 1936, enhancing our understanding of legal institution transplantation in late-modernized countries and its impact on local financial development. Specifically, using detailed and novel historical data, we provide empirical evidence of

the establishment of independent local courts and their impact on modern banking development. Our findings demonstrate that the establishment of local courts significantly contributed to the emergence of new banks. To address endogeneity concerns, we employ an instrumental variable approach, using the cumulative number of *Chaoyang* University graduates *from* each county as an instrument. With this first stage, our results highlight the critical role of knowledge elites—specifically specialized legal professionals—in building modern legal institutions and fostering the development of local banking industries.

We identify two key channels through which courts influence local banking development. The first is the professionalization channel, where specialized legal professionals provide enhanced legal services to safeguard banking activities. The second is the social trust channel, where greater trust in modern banks and the legal system encourages individuals to engage in banking activities, thereby fostering local banking development. This study contributes to the broader literature on the relationship between specific human capital, legal reforms, and financial development by illustrating a clear link through empirical evidence from the Republican period in China.

Declaration of generative AI and AI-assisted technologies in the writing process.

Statement: During the preparation of this work the authors used Chat-GPT in order to improve the readability and language. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

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Online Appendix

The Intellectual Origin of Legal Institution and Modern Banking

by

Ting Chen, Chong Liu, Shuang Shi, and Yuling Zhu

Appendix A Additional Summary Statistics

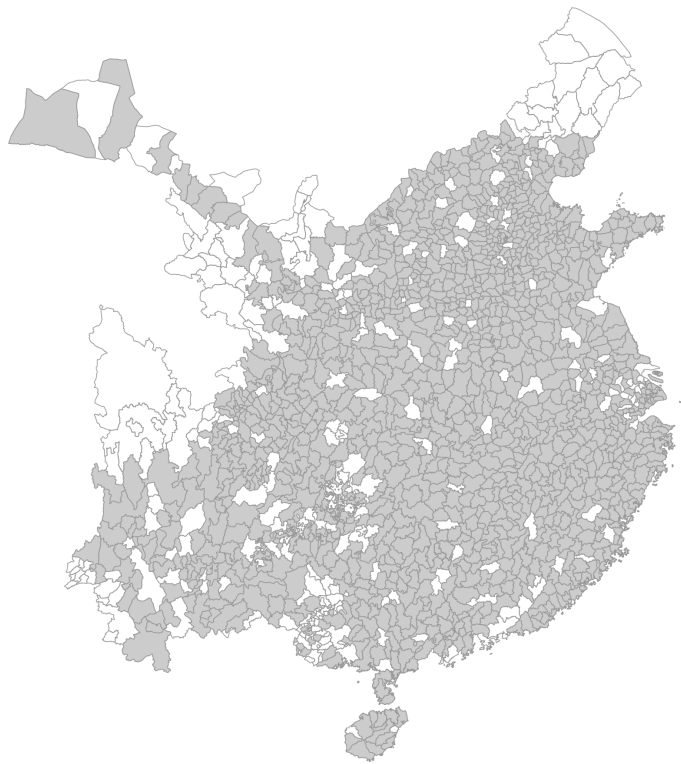


Figure A1: Sample Coverage

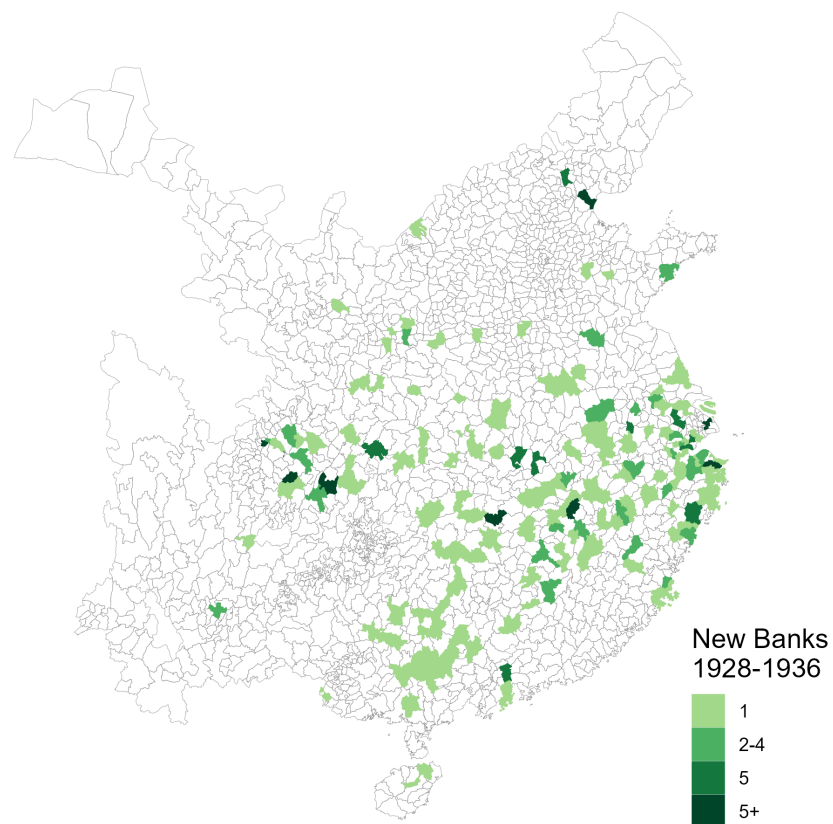


Figure A2: Distribution of New Banks

Table A1: Additional Summary Statistics: County-Year Level Data

VARIABLES	Observation	Mean	SD	Minimum	Maximum
<i>Data on banking development</i>					
Year	34,650	1,924	7.211	1,912	1,936
Court (=1)	34,650	0.0844	0.278	0	1
Population density	34,650	210.2	227.8	-250.5	4,799
Distance to the nearest railway (logged)	34,650	11.28	2.244	0	14.27
Number of new banks	34,650	0.00401	0.088	0	6
Number of new bank branches	34,650	0.00949	0.116	0	7
Number of traditional banks (stock)	34,650	0.681	6.862	0	246
Number of Qianzhuang (stock)	34,650	0.664	6.778	0	243
Number of Qiandian (stock)	34,650	0.0013	0.0419	0	2
Number of Piaohao (stock)	34,650	0.0159	0.361	0	20
Number of native banks (stock)	34,650	0.894	9.146	0	399
Number of foreign banks (stock)	34,650	0.0338	1.133	0	50
Number of sino-foreign joint banks (stock)	34,650	0.00162	0.0509	0	2
Number of foreign and sino-foreign joint banks (stock)	34,650	0.0349	1.151	0	51
Number of central state-owned banks (stock)	34,650	0.000837	0.0327	0	2
Number of regional state-owned banks (stock)	34,650	0.00378	0.071	0	2
Number of private banks (stock)	34,650	0.0212	0.621	0	46
<i>Data on lawyer unions</i>					
Number of lawyer union members	1,386	10.84	107	0	2,508
Lawyer union (=1)	1,386	0.115	0.544	0	3

Notes: Summary statistics of lawyer data here are the average values of these variables from 1930-1932.

Table A2: Additional Summary Statistics: Court-Year Level Data

VARIABLES	Observation	Mean	SD	Minimum	Maximum
Number of courtrooms	285	1.123	1.725	0	7
Number of personnel in the court	285	12.57	14.63	3	84.67
Number of presiding judges	285	0.359	0.716	0	4
Number of prosecutors	285	1.738	1.948	0	15
Number of judges (Tuishi)	285	1.146	0.960	0	7.667

Notes: Summary statistics of court-level data here are the average values of these variables from 1930-1932.

Table A3: Additional Summary Statistics: Bank-Year Level Data

VARIABLES	Observation	Mean	SD	Minimum	Maximum
Bank deposits (logged)	200	6.547	7.165	0	18.85
Bank assets (logged)	200	13.13	6.659	0	22.15
Bank total profits (logged)	200	10.37	5.315	0	17.98
Bank loans (logged)	200	12.75	6.446	0	21.66
Owning Branches (=1)	200	1.740	1.484	0	3

Appendix B Detailed Results

(next page)

Table B1: Impact of Court on Banking Industry: Detailed OLS Results

	# of new banks (1928-1936, logged)					Σ of new banks' capital (1928-1936, logged)					# of new bank branches (1928-1936, logged)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Court (=1)	0.163*** (0.042)	0.096*** (0.032)	0.070** (0.028)	0.062** (0.029)	0.057* (0.030)	2.092*** (0.458)	1.364*** (0.404)	1.114*** (0.365)	0.990*** (0.363)	0.935** (0.376)	0.301*** (0.047)	0.250*** (0.043)	0.236*** (0.041)	0.227*** (0.041)	0.227*** (0.041)
<i>Economic Ctrls</i>															
Population density		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)		0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.000 (0.001)		0.000* (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
# of firms by 1927 (logged)		0.506*** (0.179)	0.233 (0.151)	0.230 (0.146)	0.196 (0.151)		2.791** (1.162)	1.991 (1.785)	1.952 (1.653)	1.605 (1.783)		0.410*** (0.120)	0.298 (0.192)	0.298 (0.187)	0.284* (0.168)
Firm capital by 1927 (logged)		-0.097 (0.060)	-0.026 (0.047)	-0.029 (0.045)	-0.022 (0.046)		-0.131 (0.476)	0.023 (0.595)	-0.019 (0.554)	0.050 (0.572)		-0.097*** (0.036)	-0.069 (0.051)	-0.068 (0.050)	-0.064 (0.047)
<i>Western Influence Ctrls</i>															
# of newspapers before 1911			0.010*** (0.003)	0.009*** (0.003)	0.008*** (0.003)			0.012 (0.031)	0.010 (0.029)	-0.002 (0.029)			0.004 (0.004)	0.004 (0.004)	0.003 (0.005)
Dist. to nearest treaty port (logged)			-0.025*** (0.009)	-0.024*** (0.008)	-0.024*** (0.008)			-0.327*** (0.100)	-0.312*** (0.098)	-0.309*** (0.097)			-0.016*** (0.007)	-0.016*** (0.007)	-0.015*** (0.007)
<i>Transport & transmission Ctrls</i>															
Dist. to nearest railway (logged)				-0.007 (0.004)	-0.007* (0.004)				-0.123** (0.058)	-0.126** (0.058)			0.006 (0.004)	0.006 (0.004)	0.006 (0.004)
Telegraph (=1)				0.013* (0.007)	0.011 (0.007)				0.155 (0.104)	0.136 (0.104)			0.049*** (0.013)	0.049*** (0.013)	0.047*** (0.013)
<i>Human Capital Ctrls</i>															
Middle sch. stud. # (1916)					0.000 (0.000)					0.003 (0.003)				0.000 (0.000)	0.000 (0.000)
Overseas law sch. stud. # (1903-09)					0.009 (0.017)					0.141 (0.227)				0.053* (0.027)	0.053* (0.027)
Province FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386

Notes: The estimations are based on county-level cross-sectional data. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively. Control variables *Telegraph* (=1) is a dummy variable indicating whether county *i* has had the Telegraph before 1927.

Table B2: Impact of Court on Banking Industry: Detailed Second Stage of Instrumented Results

	# of new banks (1928-1936, logged)					Σ of new banks' capital (1928-1936, logged)					# of new bank branches (1928-1936, logged)				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Court (=1)	0.400*** (0.154)	0.424** (0.169)	0.383** (0.171)	0.397** (0.190)	0.386* (0.220)	5.921** (2.320)	6.022** (2.520)	5.515** (2.609)	5.717** (2.898)	5.775* (3.347)	0.526*** (0.195)	0.529** (0.213)	0.507** (0.224)	0.473* (0.245)	0.488* (0.281)
<i>Economic Ctrl's</i>															
Population density	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
# of firms by 1927 (logged)	0.500*** (0.179)	0.260 (0.165)	0.260 (0.165)	0.261 (0.163)	0.251 (0.179)	2.693** (1.235)	2.376 (1.948)	2.376 (1.948)	2.381 (1.893)	2.416 (2.138)	0.405*** (0.113)	0.321* (0.181)	0.320* (0.174)	0.328** (0.164)	0.328** (0.164)
Firm capital by 1927 (logged)	-0.116* (0.060)	-0.052 (0.052)	-0.052 (0.052)	-0.054 (0.052)	-0.051 (0.055)	-0.397 (0.488)	-0.332 (0.651)	-0.332 (0.651)	-0.372 (0.636)	-0.380 (0.697)	-0.113*** (0.039)	-0.091* (0.053)	-0.086* (0.051)	-0.088* (0.051)	-0.088* (0.051)
<i>Western Influence Ctrl's</i>															
# of newspapers before 1911	0.009*** (0.003)	0.009*** (0.003)	0.009*** (0.003)	0.009*** (0.003)	0.008*** (0.003)	-0.000 (0.033)	-0.000 (0.033)	-0.000 (0.033)	-0.003 (0.033)	-0.002 (0.032)	0.003 (0.004)	0.003 (0.004)	0.003 (0.004)	0.003 (0.004)	0.003 (0.004)
Dist. to nearest treaty port (logged)	-0.017* (0.010)	-0.017* (0.010)	-0.017* (0.010)	-0.017* (0.010)	-0.017* (0.010)	-0.220* (0.123)	-0.211* (0.123)	-0.211* (0.123)	-0.211* (0.121)	-0.209* (0.127)	-0.009 (0.009)	-0.010 (0.009)	-0.010 (0.009)	-0.010 (0.009)	-0.010 (0.009)
<i>Transport & transmission Ctrl's</i>															
Dist. to nearest railway (logged)	-0.003 (0.005)	-0.003 (0.005)	-0.003 (0.005)	-0.003 (0.005)	-0.003 (0.006)	-0.071 (0.072)	-0.071 (0.072)	-0.071 (0.072)	-0.071 (0.072)	-0.069 (0.079)	0.008 (0.005)	0.008 (0.005)	0.008 (0.005)	0.008 (0.005)	0.008 (0.005)
Telegraph (=1)	-0.012 (0.014)	-0.012 (0.014)	-0.012 (0.014)	-0.012 (0.014)	-0.012 (0.015)	-0.198 (0.220)	-0.198 (0.220)	-0.198 (0.220)	-0.198 (0.220)	-0.205 (0.233)	0.030 (0.021)	0.030 (0.021)	0.030 (0.021)	0.030 (0.021)	0.030 (0.021)
<i>Human Capital Controls</i>															
Middle sch. stud. # (1916)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.004)	-0.000 (0.004)	-0.000 (0.004)	-0.000 (0.004)	-0.000 (0.004)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Overseas law sch. stud. # (1903-09)	0.012 (0.015)	0.012 (0.015)	0.012 (0.015)	0.012 (0.015)	0.012 (0.015)	0.183 (0.201)	0.183 (0.201)	0.183 (0.201)	0.183 (0.201)	0.183 (0.201)	0.055** (0.024)	0.055** (0.024)	0.055** (0.024)	0.055** (0.024)	0.055** (0.024)
Province FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386

Notes: The estimations are based on county-level cross-sectional data. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively. Control variables *Telegraph* ($=1$) is a dummy variable indicating whether county i has had the Telegraph before 1927.

Appendix C Alternative Specifications

Table C1: Impact of *Chaoyang* Graduates on Court Establishment: First Stage Probit Model

	Court (=1)				
	(1)	(2)	(3)	(4)	(5)
# of Chaoyang graduates by 1927	0.187*** (0.035)	0.180*** (0.037)	0.181*** (0.038)	0.154*** (0.038)	0.149*** (0.039)
Economic Controls		YES	YES	YES	YES
Western Influence Controls			YES	YES	YES
Transport & transmission Controls				YES	YES
Human Capital Controls					YES
Province FE	YES	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386	1,386

Notes: The estimations are based on county-level cross-sectional data. Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

Table C2: Impact of Court on Banking Industry (1916-1936): OLS Results
Negative Binomial and Poisson

	Negative Binomial				Poisson							
	# of new banks (1928-1936)	∑ of new banks' capital (1928-1936)	# of new bank branches (1928-1936)	# of new banks (1928-1936)	∑ of new banks' capital (1928-1936)	# of new banks (1928-1936)	∑ of new banks' capital (1928-1936)	# of new bank branches (1928-1936)				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Court (=1)	2.303*** (0.518)	1.333*** (0.365)	1.921*** (0.526)	0.628*** (0.207)	2.239*** (0.275)	1.460*** (0.242)	3.316*** (0.618)	1.470*** (0.540)	3.769*** (1.153)	1.944*** (0.710)	2.162*** (0.265)	1.456*** (0.272)
Economic Controls		YES		YES		YES	YES	YES		YES		YES
Western Influence Controls		YES		YES		YES	YES	YES		YES		YES
Transport & Transmission Controls		YES		YES		YES	YES	YES		YES		YES
Human Capital Controls		YES		YES		YES	YES	YES		YES		YES
Province FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386

Notes: The estimations are based on county-level cross-sectional data. Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

Table C3: Impact of Court on Banking Industry (1916-1936): OLS Results
Probit Model

	Probit				Ordered Probit							
	# of new banks (1928-1936)		∑ of new banks' capital (1928-1936)	# of new bank branches (1928-1936)	# of new banks (1928-1936)		∑ of new banks' capital (1928-1936)	# of new bank branches (1928-1936)		∑ of new banks' capital (1928-1936)	# of new bank branches (1928-1936)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Court (=1)	1.391*** (0.244)	0.857*** (0.256)	1.391*** (0.244)	0.857*** (0.256)	1.215*** (0.152)	0.944*** (0.171)	1.341*** (0.255)	0.774*** (0.249)	1.320*** (0.258)	0.722*** (0.255)	1.331*** (0.145)	1.030*** (0.167)
Economic Controls		YES		YES		YES		YES		YES		YES
Western Influence Controls		YES		YES		YES		YES		YES		YES
Transport & Transmission Controls		YES		YES		YES		YES		YES		YES
Human Capital Controls		YES		YES		YES		YES		YES		YES
Province FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386

Notes: The estimations are based on county-level cross-sectional data. Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

Table C4: Impact of Court on Banking Industry: Second Stage
Negative Binomial and Poisson

	Negative Binomial				Poisson			
	# of new banks (1928-1936)	# of new banks (1928-1936)	# of new bank branches (1928-1936)	# of new bank branches (1928-1936)	# of new banks (1928-1936)	# of new bank branches (1928-1936)	# of new bank branches (1928-1936)	# of new bank branches (1928-1936)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Court (=1)	8.111*** (2.755)	10.954*** (3.874)	6.043*** (1.739)	5.804** (2.527)	5.309 (3.402)	7.674*** (2.631)	6.070*** (1.542)	5.503*** (2.314)
Economic Controls	YES	YES	YES	YES	YES	YES	YES	YES
Western Influence Controls		YES		YES		YES		YES
Transport & Transmission Controls		YES		YES		YES		YES
Human Capital Controls		YES		YES		YES		YES
Province FE	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386

Notes: Results for $\sum$ of new banks' capital are not included in the results, as the model fails to converge. The estimations are based on county-level cross-sectional data. Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

Table C5: Impact of Court on Banking Industry: Second Stage
Probit Model

	MLE				MLE margins				Two-step			
	# of new bank branches (1928-1936)				Delta-method: dy/dx				# of new bank branches (1928-1936)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Court (=1)	3.007*** (0.466)	3.180*** (0.494)	2.620*** (0.641)	2.483*** (0.959)	0.198*** (0.0616)	0.199*** (0.0675)	0.426*** (0.157)	0.386* (0.212)	3.759*** (1.166)	4.521** (1.786)	2.958*** (1.077)	2.777* (1.480)
Economic Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Western Influence Controls		YES		YES		YES		YES		YES		YES
Transport & Transmission Controls		YES		YES		YES		YES		YES		YES
Human Capital Controls		YES		YES		YES		YES		YES		YES
Province FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386	1,386

Notes: Results for $\sum$ of new banks' capital are not included, as they are identical to those obtained using # of new banks. In the probit model, registered capital greater than zero is equivalent to having a new bank. The estimations are based on county-level cross-sectional data. Economic controls include population density, number of firms by 1927 (logged); and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

Appendix D Alternative Construction of Instrument Variable

Table D1: Impact of Court on Banking Industry
Alternative Construction of Instrument Variable

	First Stage		2SLS			
	Court (=1)		# of new banks (1928-36, logged)	# of new bank branches (1928-36, logged)		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Chaoyang</i> graduates by 1927 (=1)	0.068***	0.046**				
	(0.020)	(0.019)				
Court (=1)			0.461**	0.440*	0.702**	0.710*
			(0.201)	(0.264)	(0.276)	(0.400)
Economic Controls	YES	YES	YES	YES	YES	YES
Western Influence Controls		YES		YES		YES
Transport & Transmission Controls		YES		YES		YES
Human Capital Controls		YES		YES		YES
Province FE	YES	YES	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386	1,386	1,386

Notes: Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

Appendix E Exclude Foreign Concessions

Table E1: Impact of Court on Banking Industry
Exclude the influence of Foreign Concessions

	OLS				2SLS			
	# of new banks (1928-36, logged)	# of new bank branches (1928-36, logged)	# of new bank branches (1928-36, logged)		# of new banks (1928-36, logged)	# of new bank branches (1928-36, logged)	# of new bank branches (1928-36, logged)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Court (=1)	0.093*** (0.033)	0.062** (0.031)	0.241*** (0.042)	0.221*** (0.039)	0.410** (0.166)	0.386* (0.217)	0.497** (0.210)	0.522* (0.284)
Economic Ctrls.	YES	YES	YES	YES	YES	YES	YES	YES
Western Influence Ctrls.		YES		YES		YES		YES
Transport & Transmission Ctrls.		YES		YES		YES		YES
Human Capital Ctrls.		YES		YES		YES		YES
Province FE	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,383	1,383	1,383	1,383	1,383	1,383	1,383	1,383

Notes: The estimations are based on county-level cross-sectional data. Economic controls include population density, number of firms by 1927 (logged), and size of firm capital by 1927 (logged); Western influence controls include number of newspapers before 1911 and distance to the nearest treaty port (logged); transportation and transmission controls include distance to the nearest railway (logged) and access to telegraph before 1927; human capital controls include number of middle school students in 1916 and number of overseas law school students between 1903-1909. Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

Appendix F Panel Data Evidence

The basic panel regression is of the following specification:

$$y_{it} = \alpha + \beta Court_{it} + \gamma X_{it} + \theta_i + \mu_t + \varepsilon_{it} \quad (2)$$

where i indexes a county and t indexes one certain year (t ranges from 1912 to 1936). The dependent variable y_{it} stands for two measures of modern banking development, namely the number of new banks (headquarters) and number of new bank branches at the county level in year t and raised to the natural log, respectively. Our main explanatory variable of interest is $Court_{it}$, which is a dummy variable indicating whether county i has a modern court in year t . $Court_{it}$ equals one if county i has the modern court in year t , $Court_{it}$ equals zero otherwise. It's to some extent a measure of the legal institution environment of county i in year t . β is the coefficient of interest.

The establishment of the court in a county could be affected by local characteristics that may also lead to banking development. X_{it} is a vector of control variables, including the population density and the geographic factor of the distance to the nearest railway. The former captures the effects of local population size as well as territory size on the court and banking. Distance to the railway is also important because counties located near the railway are more likely to benefit from transportation, business communication and knowledge spillover. θ_i and μ_t denote county fixed effects and year fixed effects, respectively.

The results from estimating equation (3) are reported in Table F1. In Columns (1)-(3) in Table F1, we examine the effect of the court on the number of new banks (logged). To provide a benchmark, we report the OLS result that only include county and year fixed effects in Column (1) before we control for some basic covariates in Column (2). In both cases, the court has a highly significant (at the 1% level) and positive effect on the increase of number of new banks. In our favored specification, which includes controls for county characteristics as well as county and year fixed effects (Column (2), Table F1), $\beta = 0.007$, indicating that the number of new banks established in counties with the court is 0.7 percent (i.e., $e^{0.007} - 1$) higher than counties without the court.

Besides influencing the establishment of bank headquarters, having a modern court may also affect the expansion of banks. To verify this, we examine the effect of the court on the number of new bank branches (logged) in the county in Columns (4)-(6) in Table F1. Similarly, Column (4) shows the simplest OLS result without any control variables, followed by Column (5) with control variables. The establishment of the court is associated with a significant increase in modern Chinese bank branches by 0.9 percent (Column (5), Table F1).

One concern raised by recent literature about the setting of staggered DID is that due to the heterogeneous treatment effects within-unit over time or between groups of units treated at different times, potential bias may exist when using the two-way fixed effects estimator (De Chaisemartin and d'Haultfoeuille, 2020; Callaway and Sant'Anna, 2021; Goodman-Bacon, 2021; Liu et al., 2022; Borusyak et al., 2024). To deal with this problem, we employ the imputation estimator proposed by Borusyak et al. (2024). The results are shown in Columns (3) and (6) in Table F1. The results of this alternative estimation confirm significantly positive effects of the court on both the number of new

banks (logged) and the number of new bank branches (logged).

Table F1: Impact of Court on Banking Industry (1912-1936, by year):
TWFE and Alternative Estimates

	# of new banks in one year (logged)			# of new bank branches in one year (logged)		
	(1)	(2)	(3)	(4)	(5)	(6)
Court (=1)	0.008*** (0.003)	0.007*** (0.002)	0.008*** (0.003)	0.010*** (0.003)	0.009*** (0.003)	0.010*** (0.003)
Population density		YES	YES		YES	YES
Distance to the nearest railway (logged)		YES	YES		YES	YES
County fixed effects	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
Observations	34,650	34,650	34,425	34,650	34,650	34,425

Notes: The estimations are based on county-year-level panel data (1912-1936). Results based on TWFE estimators are given in Columns (1)-(2) and (4)-(5). Results of alternative DID estimators based on Borusyak et al. (2024) are given in Columns (3) and (6). Robust standard errors adjusted for clustering at the county level are given in parentheses in Columns (1)-(2) and (4)-(5). Standard errors adjusted for clustering at the county level are given in parentheses in Columns (3) and (6). ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

We further estimate the panel regression using five-year windows between 1912 and 1936. Results are shown in Table F2. We calculate the average value of outcome variables within a five-year window at the county level. The whole sample is hence divided into five periods and the dependent variables of interest are the number of new banks on average in one period (logged) and the number of new bank branches on average in one period (logged). We control for the five-year period fixed effects instead of year fixed effects. As has been mentioned before, we also employ the imputation estimator (Columns (4) and (8), Table F2) due to potential bias of the two-way fixed effects estimator.

Table F2: Impact of Court on Banking Industry (1912-1936, by period):
TWFE Estimates

	# of new banks on average in one period (logged)				# of new bank branches on average in one period (logged)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Court (=1)	0.015*** (0.004)	0.011*** (0.003)	0.010*** (0.003)	0.010*** (0.003)	0.021*** (0.004)	0.019*** (0.004)	0.010*** (0.003)	0.009*** (0.003)
Population density		YES	YES	YES		YES	YES	YES
Distance to the nearest railway (logged)		YES	YES	YES		YES	YES	YES
County fixed effects			YES	YES			YES	YES
Period fixed effects			YES	YES			YES	YES
Observations	6,930	6,930	6,930	6,870	6,930	6,930	6,930	6,870

Notes: “by Period” indicates the county-period-level estimations (five years as one period). Robust standard errors adjusted for clustering at the county level are given in parentheses in Columns (1)-(3) and (5)-(7). Standard errors are given in parentheses in Columns (4) and (8). ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively. Results of alternative DID estimators based on Borusyak et al. (2024) are given in Columns (4) and (8).

In addition, we aggregate the year 1912-1936 as one period and run the cross-sectional regression. The explanation variable $Court_i$ equals one if county i has the modern court during 1912-1936, which can also be interpreted as that the court had been established by 1936 at the latest in county i . $Court_i$ equals zero otherwise. Results are reported in Table F3. Besides using the dummy variable $Court_i$, we introduce another variable to measure the local legal environment in this cross-sectional setting, that is, the number of years a county has had modern court (Columns (2) and (4), Table F3). The observed effects of the court on banking development remain positive and statistically significant in all these alternative specifications, suggesting the robustness of our baseline estimations.

Table F3: Impact of Court on Banking Industry (1912-1936, annual average)

	# of new banks (average, logged)		# of new bank branches (average, logged)	
	(1)	(2)	(3)	(4)
Court (=1)	0.004** (0.002)		0.012*** (0.003)	
Number of years with court		0.001*** (0.000)		0.001*** (0.000)
Population density	YES	YES	YES	YES
Distance to the nearest railway (logged)	YES	YES	YES	YES
Observations	1,386	1,386	1,386	1,386

Notes: The estimations are based on county-level cross-sectional data (aggregate year 1912-1936 as one period) and robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

Appendix G Heterogeneous Effect

Appendix G.1 Modern Banks and Traditional Bank Institutions

In China, traditional credit institutions such as Qianzhuang and Piaohao first assumed the functions of commercial banks. We only use modern banks and their branches as the outcome variables in baseline regression. Besides these modern banking institutions, there were mainly three types of traditional Chinese banking institutions at that time, including Qianzhuang, Qiandian and Piaohao.

Qianzhuang was also called Qianpu or Yin hao. The initial service provided by Qianzhuang was the currency exchange. With the development of commercialization, it gradually provided services such as deposits, lending and exchange. In terms of its social functions, there was no fundamental difference between Qianzhuang and modern banks at that time. In addition, there were craft unions for Qianzhuang. Not only did these craft unions connect different local Qianzhuang, but they also provided actual business such as announcing the negotiated interest rate and negotiating with the government and foreign businessmen. Therefore, instead of completely replacing traditional Chinese banking institutions, modern banks developed in parallel with Qianzhuang for a long period. Generally speaking, small Qianzhuang specialized in exchange business was called Qiandian at that time.

Piaohao, known as Piao zhuang or Huipiao zhuang, also provided remittance services at first. After the Sino-Japanese War, more services like deposits and lending business were carried out. Piaohao also operated a large number of official funds and provided official services. However, due to its excessive reliance on the official funds of the Qing government, the operation of Piaohao was relatively conservative (Shi, 1998).

We calculate the number of different traditional Chinese banking institutions in one county based on their locations. We total up the number of traditional banks in one county. Data are manually constructed from the Modern Chinese Banking Organization and Names Dictionary. The result of Column (1) in Table G1 shows that the court also has a significantly positive impact on the development of local traditional banking institutions. However, when we further decompose these traditional institutions into different types, namely Qianzhuang, Qiandian and Piaohao (Columns (2) - (4), Table G1), we find that only the coefficient of the number of Qianzhuang remains significantly positive and the value is close to the total effect estimated in Column (1). Recall that there was no fundamental difference between Qianzhuang and modern banks in terms of their social functions at that time, the results in Table Table G1 to some extent indicate that the court also promotes the modernization of the local banking industry.

Appendix G.2 Foreign and Native Banks

Modern banks in China originated from the presence of foreign banks after the 1840s. In 1845, the Oriental Bank first established a branch in Hong Kong, which opened the prelude to the entry of foreign banks into China (Chen, 2011). At the end of the 19th century, China's financial market could mainly be divided into two types of institutions: Qianzhuang and foreign banks (Du, 2000). With the development of China's modern industry, the demand for capital grew rapidly. Since Qianzhuang and Piaohao were all single proprietorships or partnerships, the capital that they could provide to modern

Table G1: Impact of Court on Modern and Traditional Banking Institutions (1912-1936, by year)

	(stock) # of			
	All types	Qianzhuang	Qiandian	Piaohao
	(1)	(2)	(3)	(4)
Court (=1)	1.754*** (0.466)	1.762*** (0.464)	0.003 (0.003)	-0.011 (0.011)
Population density	YES	YES	YES	YES
Dist. to nearest railway (logged)	YES	YES	YES	YES
County fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Observations	34,650	34,650	34,650	34,650
R-squared	0.842	0.841	0.673	0.521

Notes: The estimations are based on county-year-level panel data (1912-1936). Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

industrial enterprises was limited. Since there were few channels for foreign banks to verify the reliability of local enterprises and there was no corresponding law in China to guarantee the safety of their loans to enterprises, the capital that these foreign banks could provide to modern industrial enterprises was also limited (Cheng, 2021). Against such background, the first Chinese domestic modern bank, the Imperial Bank of China, began operation in 1897 in Shanghai and native modern banks gradually expanded their business in China. At the end of the Beiyang government, native banks had become the tripartite part of the banking industry in China, together with Qianzhuang and foreign banks (Zhu, 2002).

We classify banks as native, foreign, and sino-foreign joint banks based on their introduction and calculate the number of different kinds of banks in one county. The results are reported in Table G2. The number of native banks is positively affected by the establishment of local court (Column (1), Table G2) while the number of foreign banks and the number of sino-foreign joint banks remain unaffected. Together, these results provide suggestive evidence that the improved legal institutional environment promotes the development of native banks in China.

Appendix G.3 State-owned and Private banks

The influence of the institutional environment on banks might be heterogeneous according to bank ownership. For instance, Yan and Liangping (2022) pointed out that under the condition of a better institutional environment, the performance of private banks will be better than that of government-run banks, however, the performance of government-run banks will be better than that of private banks if the institutional environment is poor. In 1904, the Hupu Bank, renamed as “Great Qing Bank” (The Da Ching Government Bank) later, was organized by the Imperial Ministry of Revenues. It is the oldest government-owned and operated bank in China. During the period of the Republic of China, both the central and local governments realized that modern banks were an effective tool to solve China’s economic problems and to increase government revenue (Cheng, 2021). As a result, the Bank

Table G2: Impact of Court on Modern and Traditional Banking Institutions (1912-1936, by year)

	(stock) # of			
	Native banks	Foreign banks	Joint banks (sino-foreign)	Foreign&joint banks (sino-foreign)
	(1)	(2)	(3)	(4)
Court (=1)	2.286*** (0.608)	0.033 (0.022)	0.003 (0.002)	0.034 (0.024)
Population density	YES	YES	YES	YES
Distance to the nearest railway (logged)	YES	YES	YES	YES
County fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Observations	34,650	34,650	34,650	34,650
R-squared	0.850	0.979	0.879	0.977

Notes: The estimations are based on county-year-level panel data (1912-1936). Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

of China was established and worked as the central bank in 1912 and many provincial governments established regional state-owned banks. Meanwhile, private banks boomed. It is reasonable to suppose that the effect of the court on local banking varies with different bank ownership. We do find that the court significantly promotes the development of regional state-owned banks as well as private banks (Columns (2) and (3), Table G3) and the coefficient of the latter is larger in magnitude. In contrast, central state-owned banks remain unaffected (Columns (1), Table G3). A possible explanation is that government-run banks themselves can benefit from the protections that come with their official ownership. However, by creating a better institutional environment, the establishment of court boost private banks more through a better and safer market competition environment.

Table G3: Impact of Court on Modern and Traditional Banking Institutions (1912-1936, by year)

	(stock) # of		
	Central state-owned banks	Regional state-owned banks	Private banks
	(1)	(2)	(3)
Court (=1)	0.001 (0.001)	0.022** (0.009)	0.098* (0.058)
Population density	YES	YES	YES
Distance to the nearest railway (logged)	YES	YES	YES
County fixed effects	YES	YES	YES
Year fixed effects	YES	YES	YES
Observations	34,650	34,650	34,650
R-squared	0.912	0.530	0.667

Notes: The estimations are based on county-year-level panel data (1912-1936). Robust standard errors adjusted for clustering at the county level are given in parentheses. ***, **, and * indicate statistical significance at 1%, 5% and 10%, respectively.

