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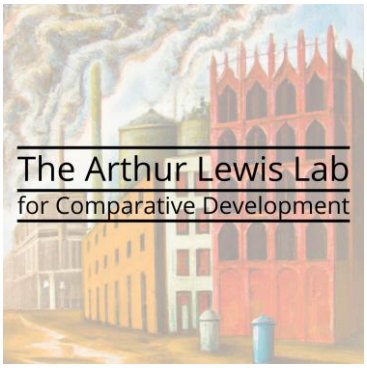

Lewis Lab Working Paper

GOOD MONEY IN BAD TIMES: INDIRECT ISSUANCE OF BANKNOTES IN CHINA, 1905-1936

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Abstract

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JEL Codes: G21, N15, N25

Keywords: Banknotes, Indirect Issuance, Monetary Reform, Republican China.

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1. Introduction

Imperial China once led the world in monetary development. Paper money first circulated under the Song (960–1279), and under the Yuan (1271–1368) it became the sole legal tender across the empire, an achievement that impressed Marco Polo. By the mid-fifteenth century, however, this Chinese progress had reversed to the point that official paper notes had not only disappeared but also discredited.[2] Meanwhile, the West had moved far ahead in monetary and financial instruments, including paper money. Though Chinese native banks issued circulating paper before the arrival of Western banking, Western banks such as HSBC introduced paper money in far greater volumes and wider circulation from the late nineteenth century. These banks were concentrated in the treaty ports, where extraterritorial rights placed them beyond Chinese jurisdiction.

Western banks brought paper money into an extraordinarily fragmented monetary landscape, in which silver ingots, taels of varying weight and fineness, imported silver coins, copper coins, and local paper notes circulated side by side (Lowenstein forthcoming, ch. 4). Modern Chinese banking began only in the last years of the Qing, with the founding of the Commercial Bank of China in 1897 and the reforms that followed defeat in the Boxer War (Cheng 2003; Sheehan and Zhu 2022).[3] Yet in the three decades after 1905, while the state was weakened by foreign encroachment, fiscal crisis, and political disorder, China underwent a financial revolution: the money supply, carried by the notes and deposits of Chinese banks, expanded roughly fourfold, while real output grew little and prices rose only moderately.

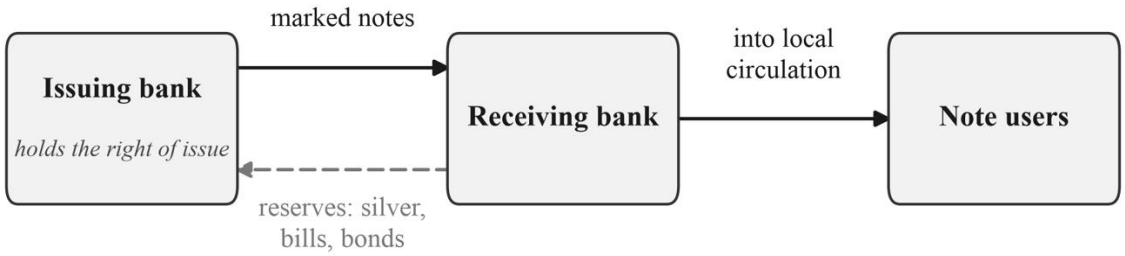
We argue that a key part of the answer for this monetary and financial growth lies in indirect banknote issuance (領券): a market-born arrangement in which smaller banks circulated notes issued by larger banks, thereby promoting monetary expansion and unification in the absence of centralized state authority. Indirect issuance, known in China as the banknote-receiving system, was an arrangement between modern Chinese banks with the right of issue and other financial institutions, such as native banks. As illustrated in Figure 1, under the silver standard, indirect issuers (banknote receivers) deposited reserves in the form of silver, bills of exchange, or government securities with the direct issuers (issuing banks). In return, they collected an equivalent number of silver-convertible banknotes. For indirectly issued banknotes, only the name of the authorized issuing bank was printed. Still, distinctive marks, such as numbers or letters, were printed on the banknotes to identify indirect issuers. The public was unaware of the meaning of the marks and therefore did not know the indirect issuers.

[2] See von Glahn (2026), Sargent and Velde (2002), Tullock (1957), and Guan et al. (2024).
[3] Before 1911, the Commercial Bank of China was known in English as the Imperial Bank of China. We use the post-1911 English name throughout.

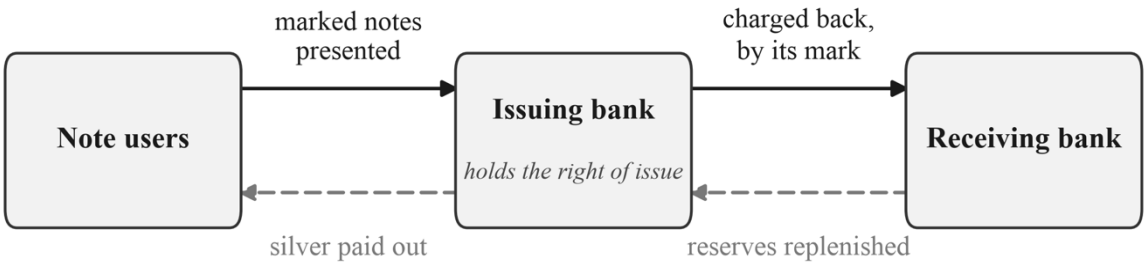
Over its four decades of operation, without the participation of foreign banks, indirect issuance facilitated the rapid expansion of domestic banknote circulation. It strengthened the overall reserve base by pooling the reserve assets of smaller financial institutions onto the balance sheets of issuing banks, thereby enhancing the credibility and backing of banknote issuance. By participating in this arrangement, issuing banks were able to disseminate their notes more effectively through local networks and the established reputations of non-issuing banks. Non-issuing banks, in turn, gained broader access to banknotes, which expanded the scope of their business operations and credit activities.

Figure 1. The mechanics of indirect issuance.

(a) Note issuance



(b) Note redemption



Notes: Panel (a): a receiving bank deposited reserves with an issuing bank, typically 60 percent cash and 40 percent government bonds, though the composition varied by contract, and drew that bank's notes to an equivalent value, placing them into local circulation. Only the issuing bank's name appeared on the notes; identifying marks recorded which institution had drawn them and were not interpretable by the public. Panel (b): holders usually redeemed notes at the issuing bank rather than the receiving bank.[4] The issuing bank charged the redemption against the reserves of the receiver identified by the mark. Solid lines denote banknotes, dashed lines silver and other reserve assets.

We argue that the indirect issuance evolved to become a key mechanism to allow the penetration of modern banknotes from the treaty ports into the hinterlands via native banks. In early twentieth century,

[4] Some contracts also obliged the receiving bank to redeem notes. Under the 1923 agreement between the Shanghai Commercial and Savings Bank and the BoC Tianjin branch, the receiving bank had to redeem BoC notes on demand and display a signboard saying so. The two banks exchanged each other's notes daily and settled the balance in cash (Articles 4 and 7). See Appendix A1 for the full contract.

even the largest note-issuing banks, themselves founded only around 1900, remained concentrated in Shanghai and a handful of treaty-port cities, with few branches and limited commercial networks in the interior. Smaller banks and native banks, by contrast, possessed deep local roots, established local reputations, and dense commercial networks in regional markets, but lacked the charters or financial standing to issue their own banknotes. The indirect issuance system leveraged the note-issuing capacity and established creditworthiness of a handful of major banks across the entire banking system but at the same time allowed smaller institutions to offer banknote services without bearing the fixed costs of independent issuance. In doing so, indirect issuance served as a transmission mechanism in the broader monetary transition, in other words, the channel through which yuan-denominated banknotes reached inland markets. From the 1920s onward, and accelerating markedly during the Nanjing decade after 1927, indirect issuance became one mechanism through which modern banknotes reached the interior regions where the issuing banks themselves had no physical presence.

We employ novel, extensive primary and secondary sources to answer the following questions: First, during a period characterized by political decentralization and free banking, how did indirect issuance evolve and operate in practice? Second, compared with banks that did not engage in indirect issuance, did those that did perform better on average? Third, what contribution did indirect issuance make to China's money supply and the development of its financial markets?

To answer these questions, we recover the institutional mechanics of this system and conduct quantitative analysis. First, using banking archives and statistics, we examine the historical development of indirect issuance. We show that indirect issuance evolved from an interbank arrangement designed to promote the circulation of banknotes into a governmental instrument for consolidating currency issuance. As the system matured, indirect issuance became increasingly formalized, exhibiting diverse contractual designs and varying reserve requirements. Participation also broadened across domestic financial institutions: some served exclusively as issuing banks, others acted solely as indirect issuers, and a number performed both functions. As indirect issuance grew more widespread, banknotes extended beyond economically advanced regions into less developed areas, facilitating a more geographically integrated monetary system. We also estimate that indirect issuance accounted for 10–40% of annual domestic banknote issuance during 1921–36.

Second, we examine the relationship between indirect issuance and banks' performance. Using the comprehensive banks data over 1921–36, we classify banks into four groups: direct issuers, indirect issuers (receiving banks), banks that acted as both, and non-participants. Receiving banks increase quickly during this period. In addition, we show through mean-comparison tests that receiving banks

held significantly less paid-up capital and smaller cash reserves than issuing banks yet operated nearly twice as many branches and employed substantially more staff than non-participating institutions. This asymmetry reveals the system's functional logic: issuing banks supplied credible currency and receiving banks provided distributional reach. Moreover, regression analysis suggests that participation in indirect issuance was associated with measurably higher bank income, even after controlling for asset size, composition, and operational scale, indicating that the arrangement generated tangible financial returns for the smaller institutions that served as distribution agents.

Our study makes two contributions. First, we digitize a wide range of primary and secondary materials, including indirect issuance contracts from multiple banks, four volumes of the *China Banking Yearbook*, and archives of commercial and state banks. Together, these sources allow us to combine historical narrative and quantitative analysis, enabling a comprehensive investigation of the indirect issuance system. Chinese scholars began writing about indirect issuance almost as soon as it appeared,[5] yet in the century since, it has received no systematic study in English.[6] Our paper is the first of its kind that traces the entire system across its four decades.

Second and more importantly, our research taps into the evolution of the indirect issuance system as a precious experiment of monetary regimes through a decentralized, private order free banking system to a state-led one through these four decades. While some studies focus on specific periods, institutions, or regions,[7] our work provides a broader, longitudinal analysis of indirect issuance from its emergence in the late Qing to its transformation under the Republican government. Following indirect issuance across this span lets us trace how the balance of power between private banks and the state shifted: first toward the banks as central authority collapsed after 1911, then back toward the state from 1927. In particular, besides the importance of banking communities, we also emphasize the important role of politics as initially in the unique role of treaty port cities of Shanghai, Tianjin and Hankou as pillars of political stability and financial credibility at a time when the central government progressively weakened during the Beijing era (1911-1927) and then the rise of the Nanjing government that had brought back political stability on a greater geographic scale with enhanced state role in the 1930s.

[5] For this earlier work, see Zhang (1925), Gong (1928), Qian (1929), and Ma (1999).
[6] For case studies of indirect issuance at the Shanghai Commercial and Savings Bank and among banks in and around Shanghai, see Xue (2001), Dong (2004), and Pan (2007). See Zhou (2010, 2011) for the identifying marks on the notes of four Shanghai banks and Ding and Wang (2019) on this practice promoted monetary cohesion.
[7] Brandt and Sargent (1989), Selgin (1987, 2023), Gottschang (2023), and Guan and Liu (2025).

Finally, we place China within the comparative literature on free banking,[8] showing how an interbank arrangement carried a credible private currency beyond the financial centers.

2. Good Money in Bad Times: The Rise of Indirect Issue

This section traces how indirect issuance carried China's monetary expansion beyond the treaty ports. We first set out the macroeconomic background: between 1910 and 1936 the money supply and modern industrial output grew rapidly, while aggregate output barely moved. We then describe how indirect issuance emerged from cooperation between modern banks which held the right of issue and native banks which commanded local markets. Finally, we describe how the government uses the indirect issuance system to unify the currency.

2.1 Good Money in Bad Times

During the first four decades of the twentieth century, through political turmoil, instability, crisis, China saw a massive transformation of monetary and financial system, producing "good money" in "bad times". During this period, monetary expansion fast outpaced that of real output and bimetallism gradually gave way to an increasingly integrated silver yuan standard, underpinned by a growing domestic banknote supply and easing credit conditions. Prices, meanwhile, remained broadly stable through much of the period—even as the money supply expanded roughly fourfold. Whether this monetary and financial expansion translated into real economic growth remains debated: aggregate national accounts suggest near-stagnation, yet modern industry transport and capital formation did experience meaningful gains and industrialization did take-off in advanced regions of China – all possible prelude to a modern economic growth at the national level.[9] Undoubtedly, financial deepening was substantial. An expanding money supply, falling borrowing costs, and the monetization of vast interior regions that had previously relied on silver, copper, and barter together constituted a profound transformation of the monetary and financial system, even before its effects fully registered in aggregate output.[10] The transformation culminated in the Nationalist government's adoption of the legal tender (法幣) system in November 1935, which severed the link to silver and established a managed fiat currency.[11]

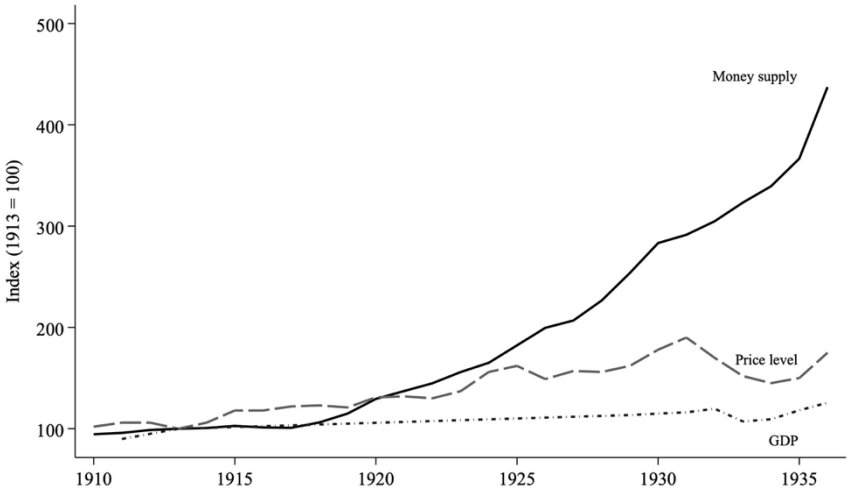
We document the monetary and real economic trends of this period (Figure 2, all indexed to 1913 = 100). Panel (a) shows that China's money supply rose more than fourfold between 1913 and

[8] White (1984), Dowd (1992, 2023), Schuler (1992), Shizume and Tsurumi (2016), and Chiaruttini (2020, 2022).
[9] Rawski (1989), Ma (2008).
[10] Ma (2019).
[11] Li and Yan (2022).

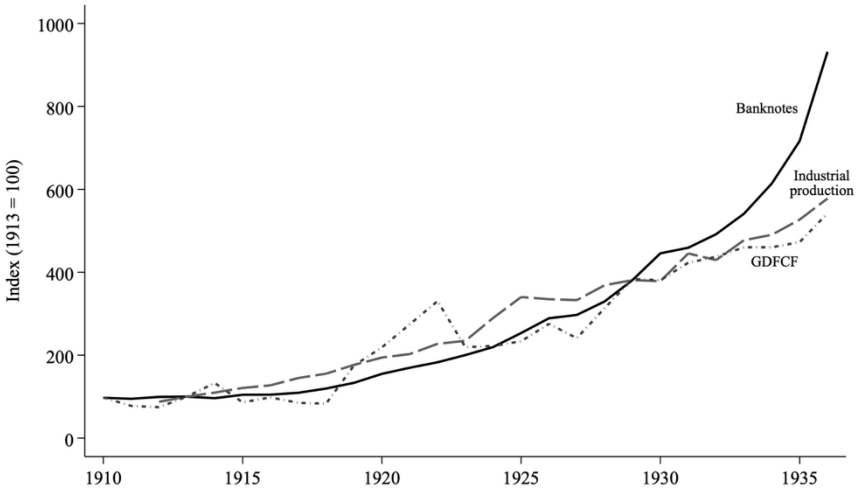
1936, while the wholesale price level rose slightly and real GDP remained virtually flat, ending the period about 25 percent above its 1913 level. Panel (b), however, reveals that this aggregate stagnation masked considerable dynamism in the modern sector: banknotes in circulation expanded roughly ninefold, and both industrial production and modern-oriented gross domestic fixed-capital formation (GDFCF) rose five- to sixfold, broadly tracking the growth of the money supply. The contrast between a slow-growing real national output and rapidly rising industrial production and capital formation is not necessarily inconsistent as the share of the modern-sector, as fast as the real growth may be, was too small to lift the aggregate figures.[12]

Figure 2. Monetary expansion without real GDP growth, 1910—1936

(a) Trends of money supply, price level, and GDP



(b) Trends of banknotes, industrial output, and GDFCF.

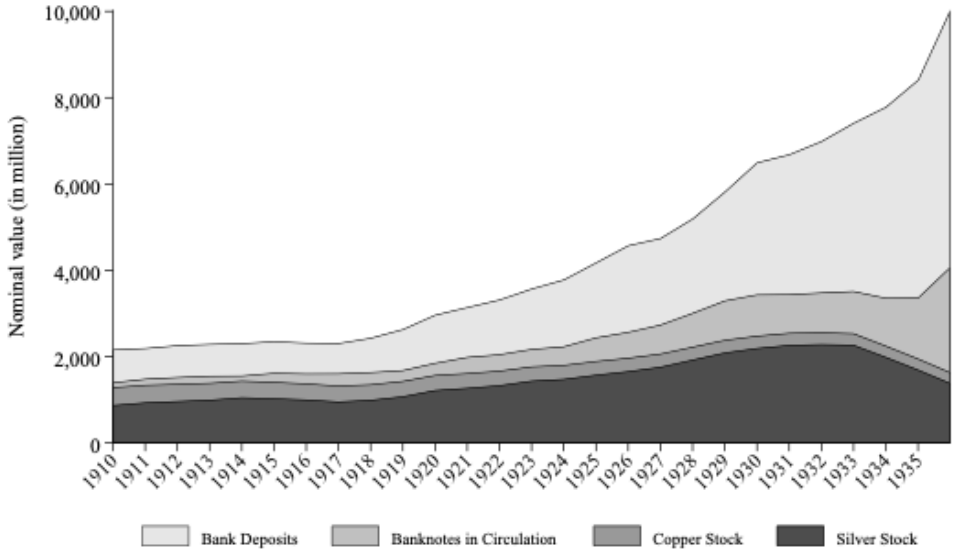


[12] Rawski (1989), Ma (2008).

Notes: All series normalized to 1913 = 100. The GDFCF denotes the modern-oriented gross domestic fixed-capital formation.
Source: The wholesale price index is from Wang (1997). The GDP data is from the Maddison Project Database, version 2023 (Bolt and van Zanden (2025). Money supply and GDFCF are from Rawski (1989). Industrial production is from Minami and Makino (2014).

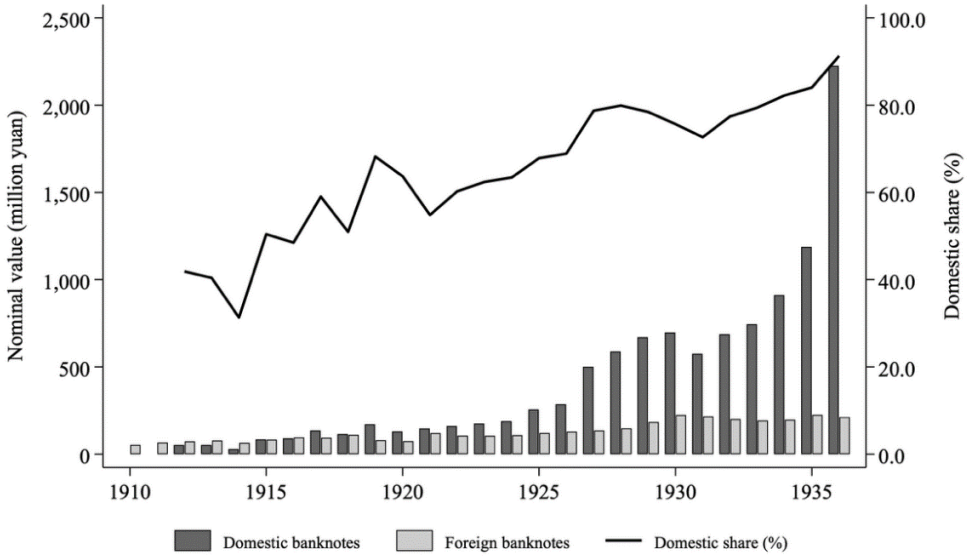
Over these decades, bank money displaced metal, and domestic banknotes overtook foreign banknotes. Figure 3 situates this transformation within the broader evolution of China's money supply between 1910 and 1936. It traces the expansion of total money supply (M2) in nominal terms, decomposed into bank deposits, banknotes in circulation, copper stock, and silver stock. Compared with silver and copper stocks, which grew moderately from 1910 to 1933 and then declined sharply, bank deposits and banknotes in circulation showed sustained growth. By the mid-1930s the money supply consisted overwhelmingly of bank liabilities rather than metal. Figure 4 also shows that while foreign banknotes had been predominant before 1915 thanks to Western imperial privileges and their nearly five decades of early start in the treaty ports, Chinese domestic banks, which had barely started in the 1900s, overtook foreign banks decisively after mid-1910s. By the Nanjing decade (1927–1937), banknotes issued by Chinese banks dwarfed those of foreign institutions, reflecting the growing capacity and reach of the domestic banking system.

Figure 3. Composition of Money supply, 1910—1936



Source: Rawski (1989, p.394)

Figure 4. A comparison of foreign and domestic banknotes in circulation



Source: Rawski (1989, p.380)

2.2 The Rise of Indirect Issuance: Modern Banks and Traditional Banks

Indirect note issuance first appeared in the records of the Commercial Bank of China (hereafter CBC) in 1905. As the first modern Chinese bank, CBC followed Western banking practice and enjoyed state-granted privileges, notably the right to issue silver-convertible banknotes and to manage government funds.[13] However, pervasive public distrust of Chinese bank-issued notes limited the growth of their circulation.[14] To broaden the reach and build public confidence in its banknotes, CBC turned to native banks in Shanghai, instructing them to deposit 5-day promissory notes as reserves and collect CBC banknotes in return. In contrast to CBC, native banks were traditional financial institutions limited in scale but with local reputations and dense business networks.[15] Given these, CBC boldly leveraged them to promote the circulation of its banknotes. By participating, native banks could earn multiple streams of income. First, before the promissory notes matured, native banks could use the banknotes freely. This was equivalent to borrowing money from a bank without paying interest.[16] At the same time, converting tael-denominated promissory notes into yuan-denominated banknotes left them with a position in the tael-yuan rate—one they were well placed to judge, since native banks set the daily

[13] CBC was established in 1897 and headquartered in Shanghai.
[14] The bank claimed to operate under a full-reserve system; however, reserves generally accounted for only 20% of the issued amount. See People's Bank of China Shanghai Branch (1982, p. 29).
[15] McElderry (1976), Selgin (2023).
[16] When native banks' promissory notes matured, they could either renew their reserves with new promissory notes or redeem the matured notes with banknotes.

quotation themselves.[17] Because of this, native banks were willing to collect banknotes from the CBC to obtain greater liquidity and earn profits.

From the year-end ledgers of the native bank in Shanghai, *Shunkang* received more than 100,000 yuan from CBC in 1905, 1907, and 1909.[18] In 1911, the CBC and a handful of native banks in Shanghai, Tianjin, and Hankou entered into indirect issuance arrangements, contributing to the bank becoming the largest banknote issuer among Chinese banks during the late Qing period. By the end of 1907, the total amount of banknotes issued by the CBC had reached 2.31 million taels, equivalent to 92 percent of its paid-in capital, making it one of the leading institutions among Chinese modern banks. The CBC's ties to native banks persisted well into the 1930s. In 1934, for example, 27 native banks in Ningbo collectively received 1.4 million yuan from the CBC Ningbo branch.[19] In July 1935, the CBC total banknote issuance reached 29.19 million yuan that year, of which 15.79 million yuan were issued indirectly. Of the 71 financial institutions that received the CBC banknotes, 14 were modern banks and 57 were native banks. In total, modern banks received 3.1 million yuan, averaging 220,000 yuan per bank. Native banks received a total of 7.5 million yuan, averaging 130,000 yuan per bank. Among the receivers, no bank received more than one million yuan, indicating that the system rested on a broad base of modest participants rather than a few dominant partners.[20]

2.3. The Turning Point: Crisis and Private Order

Indirect issuance in the 1900s operated on a short-term basis, usually lasting days, and arose among market participants rather than by regulatory design. No formal contracts were signed, and no identifying marks were used. Although the total volume of indirect issuance remained modest, amounting to several million yuan by 1911, it bridged modern and traditional banks.

Under the Beijing government (1911–1927), the modern banking sector grew rapidly especially with the establishment of two large state banks, the Bank of China (BoC, hereafter) and the Bank of

[17] Native banks typically issued promissory notes denominated in tael, the traditional unit based on silver ingots, roughly equivalent to 37.8 grams of silver. In contrast, modern banks issued banknotes denominated in yuan, which were tied to silver dollars (with a par value of 0.72 tael of silver) and later to paper currency. Because the two units exchanged at a market rate, drawing notes in one unit against collateral in the other left the receiving bank exposed to movements in that rate. Native banks, which set the daily quotation, were well placed to judge the terms of conversion. See Ma and Zhao (2020).

[18] People's Bank of China Shanghai Branch (1982, p.30).

[19] These native banks were required to deposit full cash reserves as collateral. CBC paid 8.5 *li* on 40% of the cash reserve, settled annually. Letter from Ningbo native banks to the Shanghai Bankers' Association (1936), Shanghai Municipal Archives, Shanghai Bankers' Association archival record, file no. S173-1-299.

[20] See Yu and Dai (1996, pp.300-301). We found that of the 72 banknote marks, three used Latin letters; the remaining 69 used single Chinese characters.

Communications (BoComm, hereafter) which came to dominate indirect issuance and also initiated long-term indirect issuance.[21] Compared to short-term arrangements, long-term indirect issuance lasted for several years. It also involved larger volumes of banknotes, wider circulation, and more clearly defined reserve requirements.[22] The first long-term contract dated 1915, when the National Commercial Bank and the Zhejiang Local Industrial Bank contracted to draw notes from the BoC.[23] Thereafter, the business developed principally around the BoC and the BoComm, a pattern consistent with the early Beijing government's aim of gradually reclaiming the banknote issuance rights with a state-supported banking system. As with the indirect issuers gradually broadened from native banks to small-and medium-sized modern banks, the practice became increasingly standardized.[24] Issuing banks and receiving banks usually began with short-term experimental arrangements, and, if successful, they entered stable, long-term contracts. Signed contracts specified drawing amounts, duration, reserve composition, banknotes denominations, and identifying marks.[25] This growing formalization strengthened institutional autonomy of indirect issuance and supported the banks' pursuit of operational independence. Because indirectly issued banknotes typically bore an identifying mark, they are also known as "secret-mark notes (暗記券)".

However, very quickly, the trajectory of the indirect issuance took a sharp downturn when the Beijing government, under intense fiscal pressure, requested advances from the still nascent BoC and BoComm, which would effectively lead to a moratorium of silver convertibility of their banknotes should they comply. As state banks, the Beijing branches of both banks compiled the suspension order which largely destroyed the reputation of the banknotes issued by the Beijing branches known as the "Beijing-notes (京鈔)" problem. However, the BoC and BoComm operated a localized issuance system: each branch issued banknotes bearing its own place name, known as "locality-named notes (地名券)" and maintained separate redemption responsibilities. In a feat of unusual defiance, the BoC Shanghai branch under the relatively autonomy of the Shanghai International Settlement ignored the order and maintained convertibility throughout. For example, at the time, the BoC Shanghai branch issued 4-million-yuan Hu-notes (滬券), of which 1.5 million yuan were indirectly issued by the National Commercial Bank and the Zhejiang Local Industrial Bank. Through collaboration of these

[21] Cheng (2003).
[22] Evidence from the contracts suggests that the standard term of an agreement was one to three years. It could be renewed multiple times under the original terms, with some extending to a decade or more.
[23] The English translation of the bank names is from China Banking Yearbook, which is Wade-Giles. See Economic Research Department (1934, 1935, 1936, 1937).
[24] It is worth noting that indirect issuance involved exclusively Chinese financial institutions; no foreign banks participated in the system.
[25] The reserves consist of roughly 60 percent in cash and 40 percent in guarantees, in the form of government bonds, promissory notes, and property deeds.

three banks, together with support from foreign banks operating in the Settlement, the BoC Shanghai branch weathered the crisis and brought the Hu-notes widespread public confidence against other notes.

Indeed, it was in the aftermath of the 1916 banknote suspension crisis that gave birth to China's golden age of free banking largely spearheaded by Chinese private banks partly under tutelage of Western treaty ports of Shanghai, Tianjin and to certain degree Hankou. Indeed, from 1917 onwards, a weakened central government had to pledge the BoC shares as collateral for loans and subsequently sold them when it could not repay. Meanwhile, the BoC under the leadership of Shanghai branch had begun soliciting private subscriptions. By 1922 the BoC had raised 14.76 million yuan in three tranches, and by 1923 the government's holding had fallen to 50,000 yuan out of a total capital of 19.76 million,[26] less than 1 percent of the BoC total capital. A state bank established in 1912 had within a decade become privatized.

Note issuance in this period approximated free banking in the de facto sense used by the literature: multiple banks issued convertible notes, no central bank stood behind them, and the regulations on the books were weakly enforced. This era of de facto free banking, centered in the relatively autonomous treaty ports, was governed largely by private order. Its institutions included the Shanghai Native Bankers' Association, which extended into the International Settlement in 1917, and the powerful Shanghai Bankers' Association, established in 1918. Both and other commercial organizations publicized statistics, market data, banking information such as professional journals like the *Bankers' Weekly*. As the number of indirect issuers increased, BoC's Shanghai branch faced criticism of excessive note issuance. To defend its reputation, the branch agreed in May 1924 to guarantee reserves and permit monthly inspections by representatives of indirect issuers on a rotating basis. [27] These measures helped expand indirect issuance: within a month, the number of participating institutions rose from 16 to 22, while the value of notes indirectly issued increased from 1.7 million to 6.1 million yuan. [28]

An important element that underpinned the rise of banknotes is the emergence of high-quality reserves accepted as guarantees which included native banks' bills of exchanges, land property deeds but most importantly government bonds. The rise of governmental bonds was intimately connected with another semi-colonial institution, the Maritime Customs, largely autonomous institutions that collected tariff

[26] Bank of China and SHAC (1991, vol. 1, pp. 87, 133).
[27] Yu (1925).
[28] Of the 22 receiving banks, 8 were modern banks, and 14 were native banks. Each indirect issuer was required to deposit a full reserve, comprising 60% silver and 40% in guarantees. Compared with native banks, modern banks generally receive larger banknotes, ranging from 300,000 to 2 million yuan.

revenue part of which pledged as collateral for servicing government debt (Ma 2019, Li and Yan 2022). Clearly, both the treaty ports and Maritime Customs rested outside the Beijing government's direct control and ironically became the pillar of financial revolution in the Beijing era driven largely by the private order.

Given the erosion of the Beijing-notes even after the crisis, BoC Shanghai branch sought to maintain the circulation of its banknotes through a new form of indirect issuance: intra-bank collections (聯行領用). Intra-bank collections occurred when one branch of a state bank drew marked notes issued by another branch. The earliest record of this practice dates to 1918, when BoC's Beijing branch drew BoC Tianjin branch's Tianjin-notes (津券).[29] Through an intra-bank collection arrangement, BoC headquarters authorized the Beijing branch to draw Tianjin-notes, which were fully backed by cash reserves and stamped with identifying marks.[30] Following this, similar arrangements became increasingly common in subsequent years. For example, in 1929, the BoC Guangzhou branch drew the Shanghai branch's Hu-notes, and the Tianjin branch drew Hu-notes marked "T" or "N".[31] The intra-bank collections led to the establishment of a "regionalized issuance system (分區發行)".[32]

Under this arrangement, a bank grouped its nationwide branches into regions, each issuing its own convertible notes, printed with local place names on the note surface. Other branches receive those notes through intra-bank collection. For instance, the BoC divided its branch notes into four regional jurisdictions, Shanghai, Tianjin, Hankou, and Hong Kong, each with its geographically designated banknotes.[33] Among them, the BoC Hu-notes became the preferred choice for indirect issuers. To safeguard the credibility of the notes, the BoC's Shanghai branch applied strict criteria in selecting indirect issuers.[34]

[29] Che (2014, pp.27-28).
[30] BoC stipulated ten regulatory articles to regulate the activity. It states that to collect Tianjin-notes, the Beijing branch should deposit full cash reserves with the general administration office; of these, seventy percent of the reserves shall be allocated to the Tianjin branch, while the general administration office shall retain the remaining thirty percent. When the number of marked Tianjin-notes redeemed by the Tianjin branch exceeds 500,000 yuan, any surplus will be credited to the Beijing branch's current account. At the same time, the Tianjin branch shall also submit a reserve-fund report to the General Office, which, upon receipt of the report, will transfer the corresponding amount of reserve to the Tianjin branch from the designated reserve-fund account. See Che (2014, pp.27-28).
[31] Shanghai Municipal Archives (SMA, hereafter), BoC archival records, file no. Q54-3-35.
[32] Previously, each BoC branch had issued its own locality-named notes. Dozens of varieties circulated. Intra-bank collection allowed notes from more creditworthy branches to circulate more widely, and under the regionalized system only four or five varieties remained. This consolidation promoted the integration of the money market
[33] Jing (1928).
[34] The bank initially permitted only modern banks and trust companies to draw the notes on a long-term contractual basis, while native banks could draw the notes only on a short-term basis. Only after several joint petitions from the native banks did the bank relax the restriction and sign long-term contracts with them.

Table 1 lists the BoC Shanghai branch's indirect issuers in June 1924. It shows that among 22 receiving banks, 8 are modern Chinese banks and 14 are native banks.[35] Each native bank could receive from 250,000 to 500,000 small-denomination notes, and was required to deposit a full reserve, comprising 60% silver and 40% in guarantees.[36] Modern banks in general received larger amounts of banknotes, ranging from 300,000 to 2 million yuan.[37] The contract provision for modern banks is similar to that of native banks. Each contract ran for one to three years and, by mutual agreement, was renewable for successive one-year terms upon expiration. By the end of 1924, the Bank of China's Hu-notes had reached over 41.33 million yuan, of which more than 19.17 million yuan, about 46.3 percent, had been indirectly issued.

Table 1. Financial institutions that received BoC Shanghai's Hu-notes in 1924

Category	Institutions	Number
Native banks	Fuyuan, Fukang, Shunkang, Anyu, Gengyu, Chengyu, Ankang, Yongfeng, Xinyu, Zikang, Hengxiang, Zhaofeng, Wufeng, Baofeng	14
Chinese-owned banks	National Commercial Bank, Zhejiang Industrial Bank, Zhongfu Bank, Yongheng Bank, China Cotton Industry Bank, Tongyi Trust Company, Donglai Bank, China Industrial Promotion Bank	8

Sources: "*Yinqian ye lingyong*" (1924); Zhang (1925, p. 139); Tianjin Municipal Archives, Bank of China archival records, file no. J161-1-0511.

Compared to BoC, BoComm was slower in developing indirect issuance. In 1922, it planned to divide its branches into five issuance regions, but insufficient cash reserves delayed implementation. Only the Tianjin regional issuing bank was established in 1923, subsequently issuing Tianjin-notes. By disclosing its reserves to public inspection, BoComm' Tianjin-notes also won wide popularity number of indirect issuers. Alongside intra-bank collection, through which BoComm's branches in Zhangjiakou, Shijiazhuang, and Beijing drew Tianjin-notes, the bank also developed indirect issuance arrangements with other banks, including Continental Bank, Yien Yieh Commercial Bank, and National Commercial Bank were among those that signed such contracts.[38] Besides these large state or private banks, numerous commercial banks also engaged in indirect note issue. For example, the Yien Yieh Commercial Bank, Kincheng Bank, China and South Sea Bank, and Continental Bank,

[35] Before 1924, native banks could only collect BoC's notes on a short-term basis, and after that, they could sign long-term contracts with BoC.
[36] "*Yinqian ye lingyong*" (1924).
[37] Some modern banks, such as Zhejiang Industrial Bank and Donglai Bank, received hundreds of thousands of yuan. Other banks, such as Zhongfu Bank and National Commercial Bank, which had long-standing business relationships with BoC, received millions of yuan in banknotes (Tianjin Municipal Archives (TMA, hereafter), *Zhejiang Industrial Bank Contract archival records*, file no J161-1-0511).
[38] TMA, *Continental Bank archival records*, file no. J216-1-2237; SMA, *Zhejiang Industrial Bank archival records*, file no. Q268-1-617.

pooled reserves and jointly issued banknotes under the name of the China and South Sea Bank.[39] This issuance is known as "joint reserve depository (聯合準備庫)".[40]

But soon, China's financial community was to weather another political storm with the coming of the Northern Expedition that led to the establishment of the new Nationalist government in Nanjing in 1927. During the Northern Expedition, there is so-called Ning-Han Split within the Nationalist Party between the rival Nanjing and Wuhan factions.[41] The much more radical and left-leaning Wuhan faction forcibly took back the British concession territory in Wuhan. Subsequently, the Wuhan government promulgated the Wuhan Cash Concentration Ordinance, requiring all payments and transactions to be conducted exclusively in banknotes issued by the Central Bank (set up the Nationalist Wuhan faction) and the Wuhan branches of the BoC and BoComm. It also confiscated these banks' silver reserves and compelled them to issue excessive quantities of banknotes. In response, the Shanghai Bankers' Association announced that its member banks would suspend financial transactions with Wuhan, and many banks in other cities followed suit. Consequently, the convertibility of Wuhan-notes was suspended, triggering severe turmoil in Hankou's financial market. Although the Ning-Han split was resolved later in the year, but the Hankou concession territory was largely lost, leading to the migration of foreign personnel and capital to the stronghold of Shanghai. All of these, ironically, led to the increasing popularity of Shanghai banknotes.

Figure 5 plots their geographical distribution in 1930 and 1935.[42] As illustrated, in 1930, most Shanghai-note receivers were located not in Shanghai but in Hankou, followed by Shanghai, Tunxi, Hangzhou, Nanjing, and Changsha. The concentration of recipient institutions in Hankou reflected both the city's close commercial ties with Shanghai, facilitated by the Yangtze waterway, and the impact of the "1927 Wuhan Cash Incident". In 1935, beyond the existing commercial hubs, receiving banks spread across a wide arc of cities and towns, expanding from the Yangtze River basin to the inland.

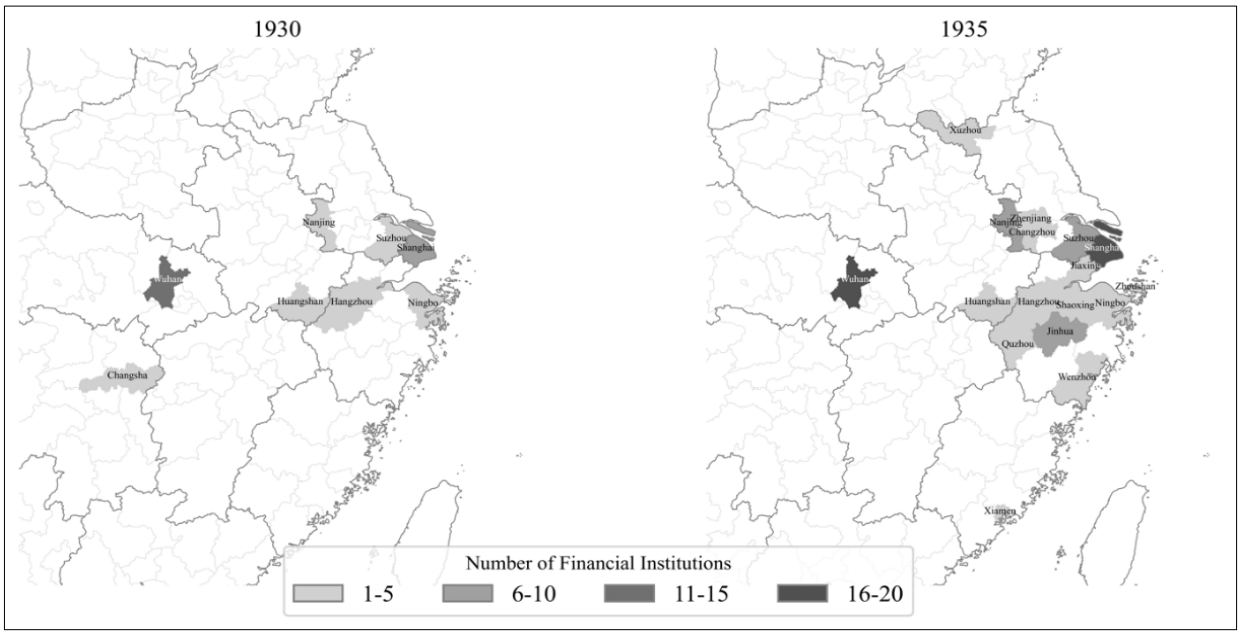
[39] The other three members drew on that pool, as did several native banks. The arrangement was therefore a collective variant of indirect issuance. This joint reserve was known as "The Northern Four Banks Joint Reserve". It was founded in 1922 and operated for thirteen years until the 1935 fiat money reform. During this period, it issued a total of 72 million yuan, distributed among its receiving banks. TMA, the Continental Bank archival records, file no. J215-1-1263.

[40] In addition to the Northern Four Banks Joint Reserve, there was another joint reserve, the Liaoning Provincial Joint Reserve. Founded in 1929 in Shenyang, it comprised the Three Eastern Provinces Official Banking House, Border Industry Bank, and the Shenyang branches of the BoC and the BoComm. It issued Border Industry Bank notes overprinted as "Joint Issue Reserve Treasury," totaling 15 million yuan by September 1930 (See "Si hanghao Zhunbeiku" 1930).

[41] Wuhan was formed in 1927 from three separate cities: Wuchang, Hankou, and Hanyang. Hankou was the treaty port and banking center. We therefore use Hankou for the period before 1927.

[42] Of the indirect issuers' information we have, eight could not be assigned a definite location.

Figure 5. Geographic distribution of indirect issuers of BoC Hu-notes, 1930 and 1935



Sources: Second Historical Archives of China (SHAC), *Bank of China archival records*, file no. 397-12643; 397-255; 397-10846, Shanghai Municipal Archives (SMA), *Bank of China archival records,* file no. Q54-3-35, and Dong (2009).

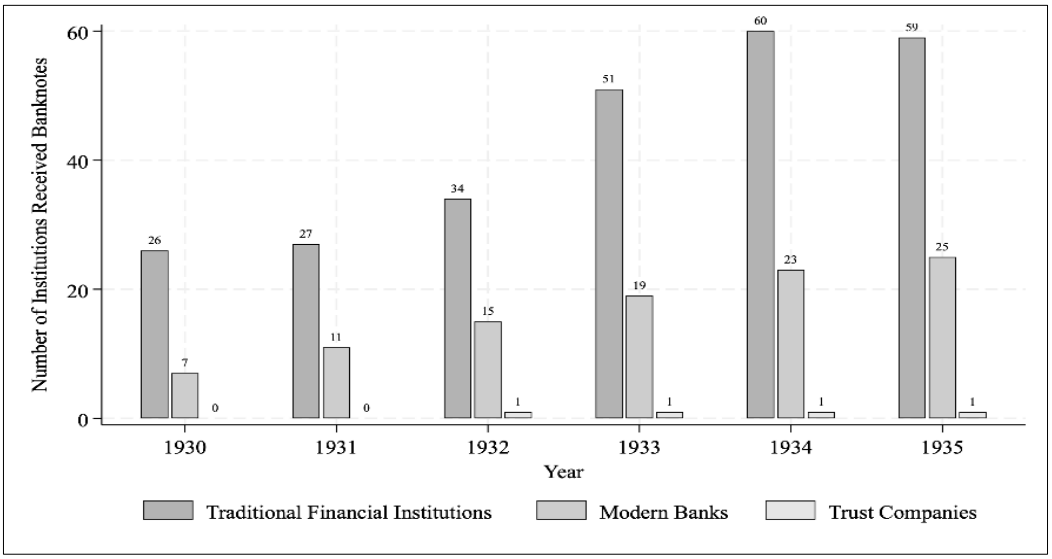
Beginning in mid-1928, the BoC Shanghai branch extended its reserve disclosure beyond indirectly issued notes and began publishing monthly inspection reports covering the reserves backing all its banknotes, a practice that continued for the next decade. This regular public scrutiny strengthened confidence in the bank's Hu-notes and contributed directly to their rapid expansion and helped sustain their circulation through the successive financial crises that followed. In that same year, 1928, BoC Hu-notes issuance rose from 70.34 million to 111.95 million yuan, and its share of total BoC note issuance increased from 44 percent to 65 percent. In the subsequent years, Hu-notes consistently accounted for more than 60 percent of the bank's total issuance.[43]

Figure 6 lists the financial institutions that received BoC Shanghai notes between 1930 and 1935 and shows a steady increase in the participation of both native and modern banks. Over these five years, the number of native banks more than doubled, from 26 to 59, while the number of modern banks tripled, from 7 to 25. The particularly sharp increase in native-bank participation after 1932 reflected a deliberate policy by the BoC Shanghai branch to extend the circulation of its notes beyond major banking centers. From that year, the branch permitted native banks in Jiangsu and Zhejiang to draw small quantities of Hu-notes, thereby using local financial intermediaries to penetrate smaller

[43] Bank of China and SHAC (1991, p. 1963).

commercial centers where modern banks are absent.[44] Drawing on archival records and the marks printed on the notes, we have identified 112 distinct recipient institutions: 81 native banks, 30 modern banks, and one trust company.

Figure 6. Trends in financial institutions that received BoC Hu-notes, 1930–1935



Sources: SHAC, *Bank of China archival records*, file no. 397-12643; 397-255; 397-10846, SMA, *Bank of China archival records,* file no. Q54-3-35, and Dong (2009).

2.4. The Coming of a New Era: The Nanjing Decade (1927–1937)

With the founding of the Nationalist government in Nanjing in 1927 comes renewed efforts to consolidate the issuance rights through a range of measures. As government intervention steadily expanded, indirect issuance became increasingly regulated, while continuing to contribute to the growing supply of domestic banknotes and, eventually, to the dissemination of fiat currency.[45] From 1927, the Nationalist government progressively strengthened its control over the BoC and BoComm by expanding official capital and revising its governance arrangement.[46] These included promulgating a body of banking legislation, injecting official capital into state banks, establishing a central bank,

[44] For example, in Anhui province, where no modern bank was established until 1936, two native banks in Tunxi town, the Zhixiang and Yongda, collected Hu-notes from the BoC Shanghai branch.

[45] Banking regulations directly related to indirect issuance: the 1931 "Regulations on tax of banknote issuance", which imposed a 1.25% tax on guaranteed reserves, payable by receiving banks on the proportion of banknotes received. See Economic Research Department (1934, A22, E86).

[46] In the case of BoC, the government gradually achieved control of the bank through several stages. In 1928, the government reorganized the bank as a foreign-exchange bank, promulgated new BoC regulations, fixing total capital at 25 million yuan: 5 million was official and 20 million private. The new regulations also specified the number of government representatives on the board of directors and supervisors, although private shareholders remained the majority. In 1935, further government capital increased the capital, bringing official and private capital to parity. Dispersed among numerous shareholders, private holdings carried less influence at general meetings, while the government voted as a single bloc. In 1943, it added another 20 million yuan, securing a dominant equity share in the bank. BoComm underwent a similar reorganization.

and, ultimately, the currency reform of 1935.[47] However, these interventions were initially slow and did not impact the fact that both banks had private shareholders as the majority. Beyond regulating and partially owning existing state banks, the government created its own issuer, the fully government owned Central Bank founded in Shanghai in November 1928.[48] To clearly differentiate itself from two earlier, short-lived Central Banks in Guangzhou and Wuhan, the new Central Bank marked its banknotes with the designation "Shanghai" and declared that the bank was "intended to perform the functions of China's national bank and had no connection with the Central Banks previously established."[49] Although the Central Bank's note issuance remained limited in its early years, increasingly favorable government policies enabled it to expand its operations steadily and consolidate its position within the monetary system.[50]

In early 1935, the Nationalist government intensified movements to control the banking sector. Under the pretext of providing financial relief, the government forcibly increased its capital holdings in BoC and BoComm, securing a controlling stake in both banks. It also expanded its stakes in other major commercial banks and reorganized the Farmers Bank of the Four Provinces, Henan, Hubei, Anhui, and Jiangxi, into the state-controlled Farmers Bank of China.[51] Through a series of legislative and administrative measures, the government consolidated its control over the banking sector.[52]

The government consolidation culminated in the legal tender reform of 3 November 1935, which revoked commercial banks' note-issuing rights and concentrated them in three state banks: the Central Bank, BoC, and BoComm. Three months later, the government also granted banknotes issued by the Farmers Bank of China legal tender status. Thereafter, only the banknotes issued by these four banks were legally recognized as fiat money. By this time, indirect issuance had become widespread within

[47] Major banking regulations promulgated between 1928 and 1935 are in the following chronological order:1928: Provincial Banknotes Consolidation Plan. Central Bank Regulations. Six Provisional Articles on Printing Subsidiary Banknotes by Provincial or Local Banks. Rules for Collecting One Yuan and Subsidiary Banknotes.1931: Regulations on Tax for Issuance of Banknotes. 1935: Central Bank Law.

[48] Three institutions bore the name Central Bank under the Republic, belonging to different regimes and none succeeded in another. The first, established at Guangzhou on 15 August 1924 with T. V. Soong as governor, was intended to steady financial conditions and underwrite the Northern Expedition; it had issued some 35 million yuan in silver dollar notes by 1927, when inadequate cash reserves brought runs and a prolonged suspension. The second, commonly known as the Hankou Central Bank, opened as a branch on 20 January 1927 after the government moved to Wuhan, issuing notes bearing the Hankou place name and redeeming the Guangzhou bank's dollar notes in Hunan, Jiangxi, and Hubei.

[49] Hong (2005, p. 17).

[50] Between 1928 and 1933, the Central Bank's total assets increased nearly tenfold, deposits almost seventeen-fold, note circulation nearly sevenfold, and net profits sixtyfold (Liu 1999, p. 19).

[51] Those commercial banks include the Commercial Bank of China, the National Industrial Bank of China, and the Sir Hua Trust and Savings Bank.

[52] By 1936, the four state banks accounted for 41.59% of the banking sector's total paid-up capital nationwide. They also held 62.08% of all bank deposits, including savings deposits, and accounted for 55.22% of loans and 77.78% of banknote issuance.

the financial sector, and its procedures and terms were widely accepted by financial institutions. Policymakers therefore leveraged this established arrangement to promote the legal tender. On 18th November 1935, the Ministry of Finance issued circular No. 83, permitting modern and native banks to draw legal tender from the Central Bank, BoC, and BoComm under existing indirect issuance arrangements, against reserves comprising 60% cash and 40% government bonds, with a term of two years.[53] This circular became the formal basis for issuing legal tender through indirect issuance. After two days, new terms followed, allowing pawnshops and money exchangers to collect legal tender. [54] Between November 1935 and mid-1937, the four state banks successively signed hundreds of indirect issuance agreements with other financial institutions. Among the state banks, the Nationalist government made the Central Bank a preferred choice of legal tender for receiving banks. Large drawings were allocated among the Central Bank, BoC, and BoComm in a 4:3:3 ratio.[55] As legal tender spread and pre-war contracts expired, the practice gradually receded after 1937.[56]

3. Indirect Note Issuance: A Quantitative Profile

Based on full comprehensive bank level data available for 1932-1936, we provide a most detailed quantitative profile of various dimensions of indirect note issue. We first document the banks that participated in indirect issuance and trace the number of banks over time and the evolution of volumes across regions. We then compare the financial characteristics of issuing and receiving banks. Finally, we estimate the profitability of indirect issuance, drawing on both archival evidence on reserve yields and panel regressions of bank income.

3.1 Data Description

Our data sources for empirical analysis are from *An Analysis of the Accounts of the Principal Chinese Banks, 1921-31*, and the *Banking Yearbooks of All Banks, 1934-7* (*Banking Yearbook*, hereafter),[57] published by the Economic Research Department of the Bank of China. The four-volume banking

[53] If the reserve guarantee is bonds, they were to be valued at 80 percent of market price. See SMA, BoComm archival records, file no. Q55-2-673.
[54] SHAC and BoComm ed (1991, p.894).
[55] For example, the Provincial Bank of Guangdong drew 15 million yuan in legal tender from the three banks under this arrangement, of which 6 million yuan came from the Central Bank.
[56] SMA, Puppet Central Reserve Bank archival records, file no. Q325-1-5. We estimate that by June 1941, 32 out of 70 million yuan in Central Reserve Banknotes were indirectly issued. By December 1941, 60 out of 200 million yuan was indirectly issued. In 1942, the Central Bank took over the issuance rights from the other three state banks, establishing a centralized issuance system. When the Japanese-backed Nanjing regime was established in 1940, it also used indirect issuance to promote its banknotes, known as the Central Reserve Banknotes (中儲券).
[57] In Tables A1 and A2 of Appendix A2, we classify these banks into different categories based on their business types.

yearbooks provide the most systematic and comprehensive primary sources for all banks.[58] The main sections include an overview of the banking industry, banking statistics, individual banks' balance sheets, banking regulation, and a directory of bank executives. The supplementary section includes information on other types of financial institutions, such as foreign banks, native banks, and pawnshops.[59] In our study, we digitize the banks' key financial indicators, such as cash holdings, fixed assets, gross loans, profits, savings deposits, and other operational characteristics for analysis.

The critical variable in our analysis is an item recorded on the liability side of the balance sheet: receiving banknotes (領用兌換券). This entry recorded the face value of banknotes that a bank had acquired from a note-issuing institution by depositing reserve funds. When this liability item was positive, it indicated that a bank was participating in the indirect issuance system, circulating another institution's banknotes rather than (or in addition to) its own. Banks that possessed note-issuing rights and supplied banknotes to others recorded corresponding entries reflecting their role as note issuers. All financial variables are denominated in Chinese yuan.

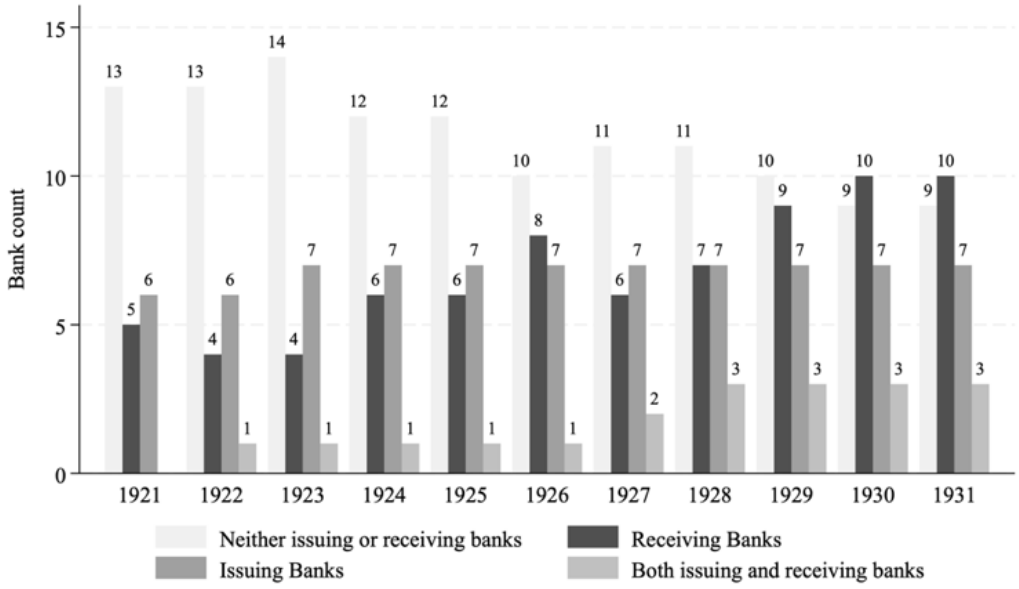
Based on whether the bank engages in the indirect issuance system, we divide banks into four groups and plot them in Figure 7. Between 1932 and 1936, the number of receiving banks increase from 39 to 64. The number of issuing banks and the number of non-issuers slightly declined. This reflects the broad trend of indirect note issued through an increasing concentration of larger receiving banks with broader participation of a much greater number of receiving banks.

[58] The reporting years do not correspond uniformly to the volume years. The 1934 volume reports 1932; the 1935 volume, 1933; the 1936 volume, both 1934 and 1935; and the 1937 volume, 1936. The four volumes therefore yield five years of bank-level observations, 1932 through 1936.

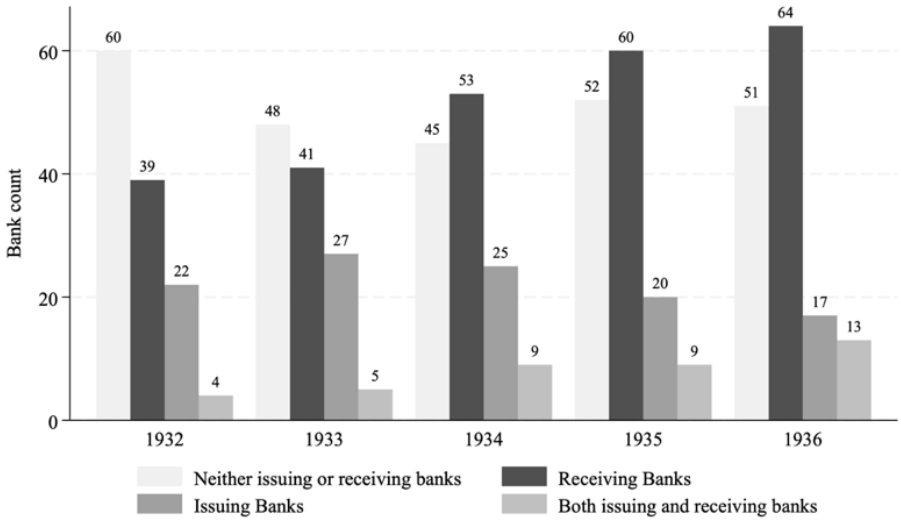
[59] The credibility and authority of these volumes made them indispensable for scholars studying modern Chinese banking history. Cheng (2003), Kong and Ploeckl (2022), and Wu (2025).

Figure 7. Trends in receiving banks, issuing banks, banks performing both functions, and non-issuers, 1921-1936.

(a) 29 Principal Banks, 1921-31



(b) All Banks, 1932-6



Notes: The figure shows the number of banks that participated in the indirect issuance system as receiving banks, issuing banks, neither issuing or receiving banks, both issuing and receiving banks. Panel (a) covers the years 1921–1931 and includes only the 29 principal banks. Panel (b) covers 1932–1936 and includes all registered banks. The *Receiving Bank* category indicates banks that obtained banknotes from others, *Issuing Banks* indicates banks that supplied banknotes to others, and *Both issuing and receiving banks* indicates banks that engaged in both activities.

3.2 Indirect Issuance and Banks' Performance

To explore the relationship between indirect issuance on banks' performance, we conduct two further analyses. First, we conduct mean comparison tests for key operational variables between receiving banks, issuing banks, neither issuing nor receiving banks, and both issuing and receiving banks. Second, we test whether indirect issuance is positively correlated with the income of receiving banks.

Table 2 compares the average operational values between receiving banks and other types of banks. On average, receiving banks are smaller than issuing banks, and banks that performed both functions across all metrics. For example, issuing banks held 6 times the paid-up capital, 13 times the cash reserves, and 6 times the gross loans of receiving banks. Banks that performed both functions held 3 times the paid-up capital, 5 times the cash reserves, and 2 times the gross loans of the receiving banks. The above results suggest that although issuing banks had sufficient capital power, they sought to circulate banknotes beyond their immediate networks. Relative to banks entirely outside the indirect issuance system, receiving banks operated nearly twice as many branches (5.83 *vs* 3.06) and employed significantly more staff (126 *vs* 76).

Table 2. Mean comparison: receiving banks vs. other bank types

Variables	(1) Receiving banks	(2) Issuing banks	(3) (1) – (2)	(4) Banks neither issuing nor receiving	(5) (1) – (4)	(6) Banks perform both functions	(7) (1) – (6)
Paid-up capital	1111.7	7077.0	-5965.3***	1623.9	-512.2**	2847.3	-1735.6***
Cash reserves	954.4	12858.3	-11903.9***	1969.7	-1015.3***	4972.1	-4017.7***
Fixed assets	605.9	1803.8	-1197.8***	740.3	-134.3	1614.9	-1009.0***
Gross loans	10761.0	69389.2	-58628.2***	8565.4	2195.6	21650.0	-10889.0***
Total assets	16559.7	124591.2	-108031.5***	13629.6	2930.1	51574.0	-35014.4***
Saving deposits	2136.3	3822.2	-1685.9*	1569.6	566.7	2547.3	-411.0
Gross deposits	14187.9	85822.8	-71635.0***	12661.1	1526.8	29836.9	-15649.0***
Government bonds	1835.1	8761.2	-6926.1***	1807.4	27.7	3522.4	-1687.3***
Total income	424.2	2119.0	-1694.9***	339.6	84.6	1150.9	-726.8***
Total expenditure	283.6	1215.7	-932.1***	199.0	84.6*	749.7	-466.1***
Profits	140.6	903.3	-762.7***	140.0	0.5	401.2	-260.6***
No. of branches	5.8	24.8	-19.0***	3.1	2.8***	20.7	-14.9***
No. of employees	125.9	430.3	-304.4***	76.5	49.4***	309.8	-183.9***
Years in operation	8.9	11.7	-2.8***	9.0	-0.0	10.7	-1.8
Observations	257	111		256		40	

Notes: Observations are bank-years over 1932–36. Banks are classified by their status in each year. Differences calculated as receiving banks minus other types. Financial variables are in thousands of Yuan. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ indicate the statistical significance of the difference in means between receiving banks and the comparison group. Total assets = fixed-term loans + overdrafts on current accounts + deposits with other banks + purchased bills receivable + business equipment + buildings and land + loan receivable + interest receivable + cash reserve + government bonds.
Source: Economic Research Department (1934, 1935,1936, 1937).

Indirect issuance brought in revenue for receiving banks. According to Shanghai Commercial and Savings Bank (SCSB, hereafter), prior to 1926, the income from indirect issuance accounted for as much as 18% of the bank's total operating revenue. This income was derived from the interest that the issuing banks paid to the bank, the deployment of received banknotes (i.e., loan issuance), and returns on government bonds. After 1927, when the issuing banks stopped paying interest on reserves, indirect issuance still accounted for 13% of the bank's income. For every 10 million yuan in banknotes the bank received from issuing banks, it earned approximately 400,000 yuan annually.[60] Due to variations in contract terms, the returns on indirect issuance varied across banks. Based on Xu (1924)'s and our estimates, the annual return on indirect issuance ranged from 2.8% to 6.4%.

To examine the relationship between participation in the indirect issuance system and receiving banks' income, we conduct an econometric analysis, and the regression specification is

$$y_{it} = \beta_0 + \beta_1 * b_{it} + \gamma * \mathbb{X}_{it} + \delta_i + \eta_t + \epsilon_{it}$$

Here, y_{it} is the income of bank i in year t, and b_{it} denotes the volume of banknotes received through indirect issuance. The coefficient of interest, β_1, captures the relationship between receiving banknotes and bank income. The vector $\mathbb{X}_{it}$ collects bank-level controls: cash reserves, paid-up capital, number of branches, number of employees, securities holdings, fixed assets, and total deposits. We also include bank fixed effects, δ_i, which absorb time-invariant differences across banks, and year fixed effects, η_t, which absorb common shocks. ϵ_{it} is the error term.

There is a positive correlation between banks' volume of indirect issuance and total income. The results are shown in Table 3. The baseline specification in column (1) estimates a positive but statistically insignificant association between the volume of indirect issuance and total income. Once basic financial controls are introduced in columns (2) and (3), including cash holdings, paid-up capital, and the number of branches, the coefficient on indirect issuance is statistically significant at the 10% level. For example, column (2) suggests that each additional yuan of notes received is associated with roughly 0.03 yuan in the receiving bank's income, conditional on bank and year fixed effects and the controls. In other words, each additional 100 yuan in notes received was associated with, on average, about 3 yuan of additional income for the receiving bank.

[60] People's Bank of China, Shanghai branch (1990, p.13).

Table 3. Correlation between receiving banknotes and total income

	(1) Income	(2) Income	(3) Income
Volume of receiving banknotes	0.035	0.028*	0.033*
	(0.021)	(0.016)	(0.017)
Cash reserves		0.001	-0.003
		(0.029)	(0.027)
Paid-up capital		-0.080	-0.139
		(0.079)	(0.097)
Number of branches		37798.973***	12151.724
		(7193.849)	(10127.857)
Number of employees			1713.711*
			(998.819)
Government bonds			-0.030
			(0.024)
Fixed assets			0.001
			(0.060)
Total deposits			0.010*
			(0.005)
Constant	310912.255***	313523.037***	333947.969**
	(35359.162)	(99718.430)	(131267.309)
Observations	513	508	508
R^2	0.107	0.250	0.297
Banks	158	158	158

Notes: The dependent variable is a bank's total annual income. Volume of receiving banknotes is the face value of notes a bank had drawn from issuing banks, as recorded on the liability side of its balance sheet. Observations are bank-years over 1932–36 with no-missing these financial variables. Columns (2) and (3) lose five observations because of missing controls. All financial variables are in nominal yuan. All regressions include bank and year fixed effects. Standard errors, clustered at the bank level, are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.
Source: Economic Research Department (1934, 1935, 1936, 1937).

3.3 The Contribution of Indirect Note Issue to Money Supply

The bank-level evidence shows who took part in indirect issuance and what they gained from it. We now examine how much it mattered for the money supply as outline in section 2.1. Because no source records indirect issuance across the entire banking system before 1932, we construct an estimate for 1921–36 from the 29 principal banks and bank archives. We first measure indirect issuance against annual note issuance, notes in circulation, and the total money supply, and trace its link to the market for government bonds. We then map the headquarters of receiving banks to show how far the system extended beyond the coastal financial centers.

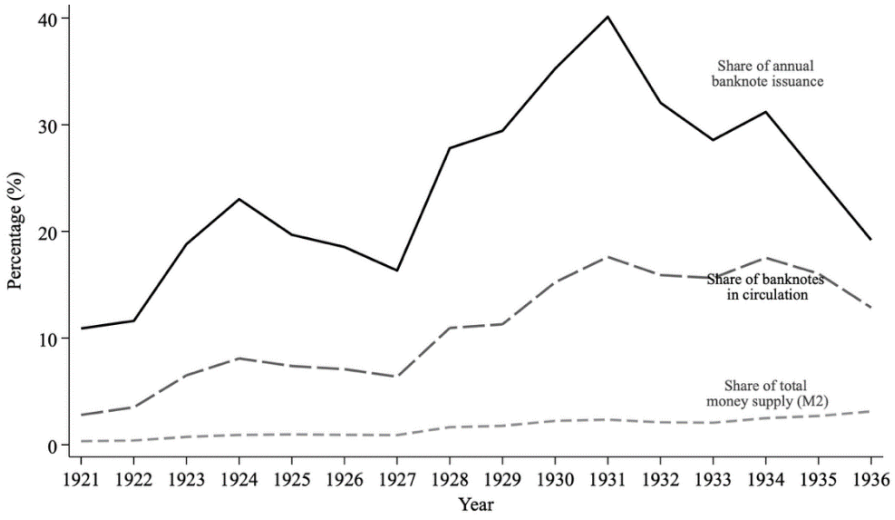
Figure 8 underscores the disproportionate role of indirect issuance in this process. Panel (a) shows that the share of indirect issuance in annual banknote issuance rose from about 10 percent in 1921 to a peak of 40 percent in 1931. It then fell back to about 20 percent by 1936.[61] When measured against both

[61] Annual banknote issuance is the sum of notes issued directly by issuing banks and notes drawn by receiving banks through indirect issuance, both measured as year-end balances from bank balance sheets.

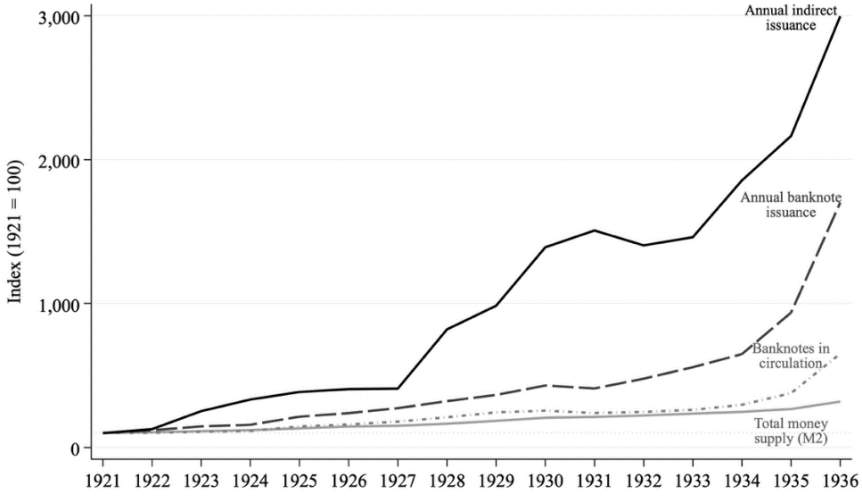
domestic and foreign banknotes in circulation, it rose from 3–10 percent in the 1920s to 12–18 percent in the 1930s. Indexed to 1921, panel (b) shows that indirect issuance expanded much faster than total money supply, annual banknote issuance, and banknotes in circulation, rising nearly thirtyfold between 1921 and 1936. Panel (c) underscores that government bonds grew in tandem with indirect issuance. For indirectly issued banknotes, receiving banks typically deposited reserves of 60 percent cash and 40 percent government bonds, although the proportions varied by contract. Because the bonds had to be bought by the receiving banks and lodged with the issuers as security, indirect issuance served a dual purpose. It strengthened banknote circulation while stimulating demand for government bonds. Therefore, a mechanical link was created between monetary expansion and the absorption of government bonds.

Figure 8. Indirect Issuance, Monetary Expansion, and Financial Modernization, 1921–1936

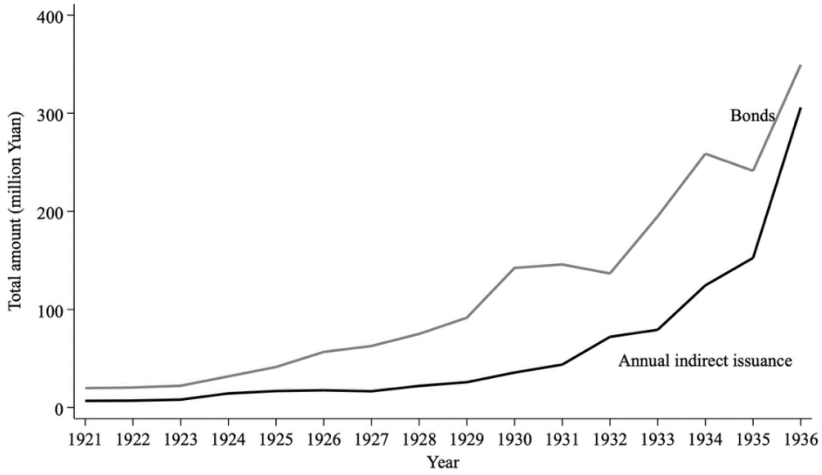
(a) Indirect issuance as a share of banknotes and money supply



(b) Indexed growth of indirect issuance, annual banknote issuance, banknotes in circulation, and total money supply



(c) Indirect issuance and growth of banks' holdings of government bonds

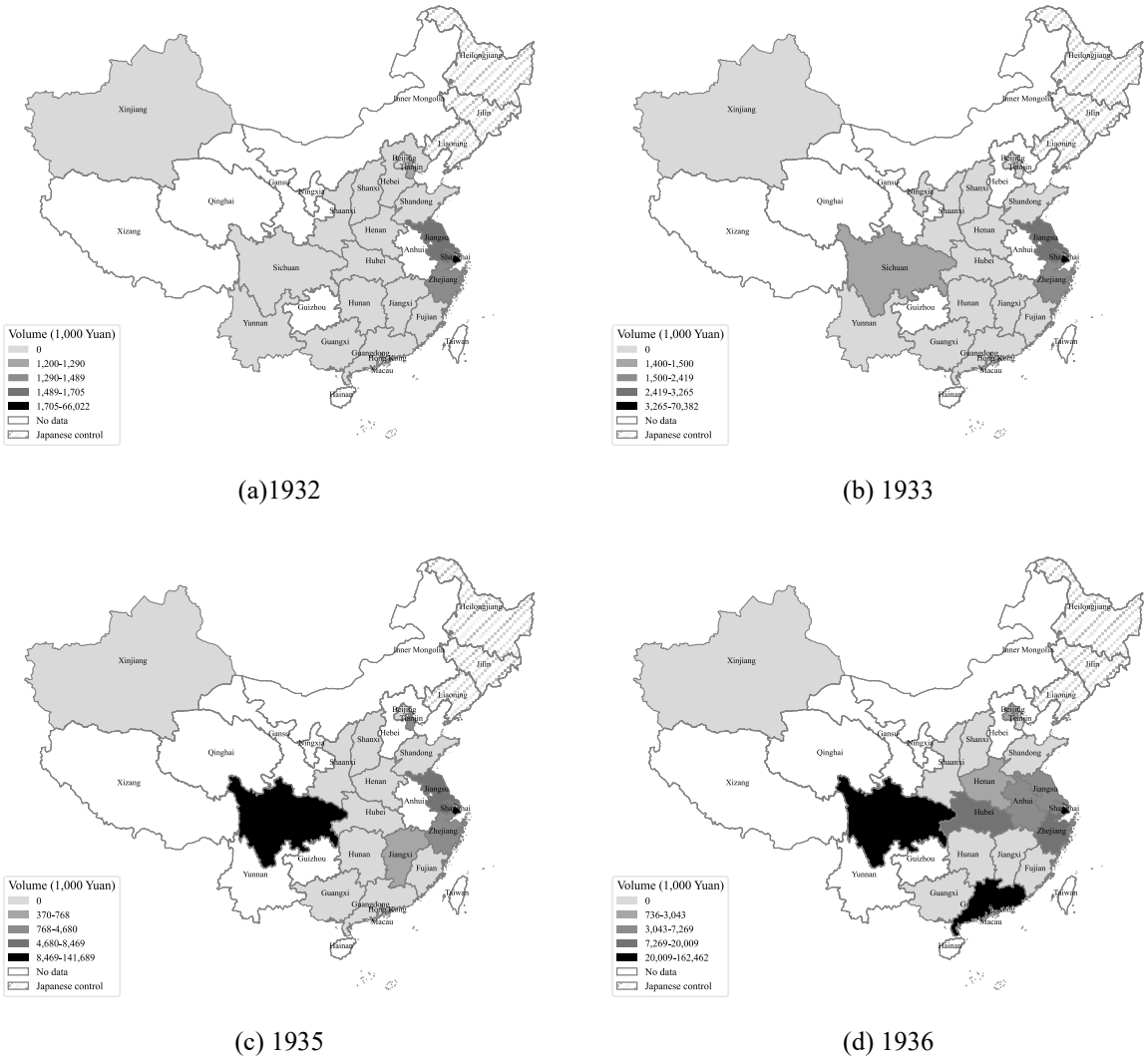


Notes: We assume that the principal banks accounted for 70% of all indirect issuance and scale their reported volume accordingly to obtain a system-wide estimate (see Cheng 2003, p70).
Sources: Total money supply, annual banknote issuance, and banknote circulation data are from Rawski (1989). We estimate indirect issuance data between 1921-31 based on *A Study of 29 Principal Banks, Reserve Repository of the Northern four banks, Reserve Repository of the Liaoning Northern four banks, Archival Sources of China Industrial Bank, and Archival Sources of Bank of China Shanghai branch.* 1932-6 issuance data are from the Economic Research Department (1934, 1935, 1936, 1937).

We further explore the diffusion of indirectly issued banknotes across space and find that indirect issuance spread from the major coastal cities into the hinterland. Based on modern banks' data during 1932-1936, Figure 9 maps the geographic distribution of receiving banks' headquarters. The shading shows the total volume of indirectly issued banknotes attributed to each province based on where banks were headquartered. As of 1932, indirect issuance was concentrated in a few Eastern coastal provinces. Shanghai, home to the largest number of bank headquarters, had the most receiving banks and the highest volume of indirectly issued banknotes. The nearby provinces Jiangsu and Zhejiang also

participated in the bulk of the activity.[62] As time went by, received banks and indirectly issued banknotes diffused from coastal to interior provinces. By 1933, banks based in Sichuan were actively engaged in business. By 1935, banks headquartered in Jiangxi and Tianjin received indirectly issued notes. By 1936, hinterland banks were based in Hubei, Henan, and Anhui, involved in the business. Notably, this figure plots only the modern banks that participated in the business. As illustrated in Section 2, in addition to modern banks, native banks were actively engaged in business. Therefore, the actual circulation of indirectly issued banknotes was broader in scope and larger in volume.

Figure 9. Geographic distribution of indirectly issued banknotes, 1932-1936



(a)1932 (b) 1933

(c) 1935 (d) 1936

Notes: The color intensity of each province corresponds to the total volume of indirect issuance (in nominal yuan) recorded by banks headquartered in that province. The data are derived from the balance sheets of banks in our sample and aggregated by their headquarters location. Map shapefiles are from CHGIS (2016).
Sources: Economic Research Department (1934, 1935,1936, 1937)

[62] Although there were no modern banks in Anhui in 1932, several native banks received BoC's banknotes.

4. Concluding discussion

China's modern banks were latecomers. When the first Chinese bank opened in 1897, Western banks such as HSBC had been issuing notes in the treaty ports for nearly half a century, with far larger capital and the protection of extraterritoriality. Yet by the mid-1910s notes issued by Chinese banks had overtaken those of foreign banks, and by 1936 they exceeded them roughly tenfold. Over 1905–36 the money supply expanded more than fourfold while prices rose only moderately, a pattern consistent with the monetization of an economy that had long relied on silver and copper. This paper has argued that indirect banknote issuance is a key part of the explanation for how latecomers came to dominate China's paper currency.

Chinese banks drew on two sets of resources that their foreign rivals did not combine. The first came from the treaty ports themselves: legal shelter, deep financial markets, and government bonds secured on Maritime Customs revenue that served as credible collateral. The second, and more important, was native banks. Through indirect issuance, the note-issuing banks enlisted native banks inside and outside the treaty ports, whose local reputations and commercial networks carried yuan-denominated notes into markets that no modern bank could reach. Foreign banks never took part in this system. The arrangement rested on a division of labor. Issuing banks supplied credibility; receiving banks supplied reach. Our bank-level evidence supports this pattern. Receiving banks held far less capital and cash than issuers but operated more branches and employed more staff than non-participants, and the volume of notes they drew is positively associated with their income. At its peak, indirect issuance accounted for up to 40 percent of the notes issued by Chinese banks. Moreover, the maps show it spreading from a few coastal provinces in 1932 to the Yangzi interior by 1936.

The history of indirect issuance is also a history of politics. Its rise reflects not only the strength of the banking community but also where credibility could be anchored when the central state was weak. During the Beijing era, the treaty ports of Shanghai, Tianjin, and Hankou provided islands of political stability beyond the reach of a fiscally desperate government. Sheltered by the International Settlement, the BoC Shanghai branch defied the suspension order of 1916 and kept its notes convertible. In the decade that followed, private shareholders bought out the state's holding in the bank. Bankers' associations published statistics, and issuing banks opened their reserves to inspection. Good money emerged in bad times because a private order inside the treaty ports constrained the issuers as an absent state could not. After 1927, the Nanjing government restored political stability over a much larger territory and reclaimed control step by step: it injected capital into the state banks, founded the Central Bank, and in November 1935 adopted the fiat currency reform. Rather than abolish indirect issuance,

it used the system to distribute the new legal tender. A market-born practice was thus absorbed by the state once political authority was consolidated, a pattern with parallels in Scotland, Sweden, and Meiji Japan.

The return of the state was a mixed blessing. The currency reform unified the currency and ended the deflation caused by the outflow of silver. But by concentrating note issue in government-controlled banks and cutting the link to silver, it also removed the constraints that had disciplined issuers in the earlier period: convertibility on demand, competition among issuers, and reserve inspection by receiving banks and the public. When war broke out in 1937, the government financed its deficits through the note issue. In 1942, it gave the Central Bank a monopoly of issue. The hyperinflation of the 1940s destroyed the fiduciary currency that had been built over the previous three decades. The networks that indirect issuance had built to carry the currency into the hinterland then carried the inflation along the same routes.

Indirect issuance has long occupied the margins of China's monetary and financial historiography. This paper has sought to move it closer to the center. The indirect issuance system was more than a contractual curiosity. It was one of the principal institutional mechanisms through which a fragmented metallic currency gave way to a unified fiduciary money, and through which China's modern banks extended their reach from the treaty ports into the commercial hinterland. China, which first made paper money its legal tender under the Yuan and abandoned it after the Ming notes collapsed in the fifteenth century, found its way back to a unified fiduciary currency through private institutional bridges. Within little more than a decade of the state taking control of those bridges, the cycle that Tullock (1957) traced in imperial China had turned once more.

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Appendix

A1. Additional historical information

1. Indirect issuance contract example

The document is an eleven-clause agreement governing the drawing of Bank of China convertible notes by the Shanghai Commercial and Savings Bank at Tianjin. We translate it to English. Clause numbering follows the original. Square brackets enclose material supplied for clarity and absent from the document; round brackets reproduce parenthetical matter present in the original. Sums are given in yuan as in the original. The document carries the Republican date 11 October, Year 12, corresponding to 11 October 1923. *Source:* Tianjin Municipal Archives, file no. J161-2-2733.

Agreement on the Drawing of Bank of China (Tianjin) Convertible Notes by the Shanghai Commercial and Savings Bank (Translation)

The terms under which the Shanghai Commercial and Savings Bank (hereafter "the Shanghai Bank") shall draw convertible notes from the Bank of China, Tianjin (hereafter "the Bank of China") are as follows.

Article 1. The Shanghai Bank shall draw convertible notes from the Bank of China at Tianjin up to a limit of 300,000 yuan. The notes shall bear distinguishing marks (暗記) agreed between the two banks, and shall be drawn by the Shanghai Bank in successive instalments of not less than 30,000 yuan each.

Article 2. Upon drawing such notes, the Shanghai Bank shall deliver to the Bank of China, as security, cash equal to 50 percent and securities equal to 25 percent of the amount drawn. The Shanghai Bank must obtain the prior consent of the Bank of China as to which securities may be used. Securities shall be valued at their prevailing local market price rather than at par (for example, where a security trades at 50 percent of face value, securities with a face value of 20,000 yuan shall be required to satisfy 10,000 yuan of the 25 percent margin). Should the market value of the deposited securities fall below the valuation at which they were accepted, the Shanghai Bank shall immediately deposit additional securities to make up the deficiency.

Article 3. The Bank of China shall pay interest at 2.5 percent per annum on the 50 percent cash margin deposited by the Shanghai Bank. The Shanghai Bank may not draw upon either the cash or the securities held as margin at any time during the term.

Article 4. The two banks shall mutually accept and redeem both the marked notes issued by the Shanghai Bank and the Bank of China's own convertible notes. Any balance remaining after the daily

exchange and set-off shall be settled in cash; where the balance is owed by the Shanghai Bank, it may not request that the sum be deducted from the margin it has deposited.

Article 5. In the event of a run or other disturbance in the market, the Bank of China may overdraw from the Shanghai Bank an amount equal to the 50 percent of the notes drawn that is not covered by cash, to complete the reserve against the notes. Against such an overdraft the Bank of China shall deliver to the Shanghai Bank the securities constituting the 25 percent margin, to be held as collateral; upon repayment of the overdraft the Shanghai Bank shall return the collateral to the Bank of China, where it shall again serve as margin against the notes drawn. The Shanghai Bank shall be under a full obligation to accommodate such an overdraft and may not evade it on the pretext of disturbed monetary conditions. Interest shall be agreed at the time, but in the spirit of mutual assistance between the parties it shall be set as low and as reasonable as possible. During the period of the overdraft, all marked notes issued by the Shanghai Bank shall be redeemed by the Bank of China on its own account and shall not be presented to the Shanghai Bank for settlement; once the disturbance has subsided and the overdraft has been repaid, the settlement procedure under Article 4 shall resume.

Article 6. Where the branches and sub-branches of the Bank of China at other places within Zhili province redeem such marked notes in amounts of 1,000 yuan or more, the Bank of China shall, on the basis of the returns submitted by those offices, draw up a custody certificate for notes redeemed on behalf of the Shanghai Bank, against which it shall recover cash from the Shanghai Bank. Where redemption at other ports is substantial in amount and the Bank of China thereby incurs excessive loss by reference to the tael–dollar rate (洋厘) prevailing at the place of redemption, it may negotiate with the Shanghai Bank for an agio. Where such compensation is due on the calculation of the local tael-dollar rate, the Shanghai Bank shall pay it in full. Such marked notes shall be shipped to Tianjin by the Bank of China from time to time, and the Shanghai Bank shall be notified to take delivery against the custody certificate; the cost of carriage shall be borne by the Shanghai Bank.

Article 7. Having drawn convertible notes from the Bank of China, the Shanghai Bank shall be obliged to always redeem the Bank of China's convertible notes on demand and shall display a signboard indicating that it redeems Bank of China notes.

Article 8. This agreement shall remain in force for a term of ten years. On its expiry, should the Shanghai Bank wish to continue drawing notes or to increase its allotment, the Bank of China shall review market conditions and conclude separate terms with the Shanghai Bank, whereupon the present agreement shall lapse. Should the Bank of China at that time consider continued drawing or an increased allotment to present real difficulty, it may decline to enter further negotiation.

Article 9. Having drawn convertible notes from the Bank of China, the Shanghai Bank shall not, for the duration of this agreement, issue notes of its own, nor draw the convertible notes of any other bank.

Article 10. On the expiry of this agreement, the Shanghai Bank shall return to the Bank of China the whole of the marked notes it has drawn. Failing this, the Bank of China may set off the corresponding amount against the margin previously deposited, and should the margin prove insufficient, the Shanghai Bank shall make up the shortfall in cash.

Article 11. This agreement is executed in duplicate, signed and sealed by both parties, each retaining one copy, and shall be observed by both.

11 October, Year 12 of the Republic [1923]

Agreement on the Drawing of Bank of China (Tianjin) Convertible Notes by the Shanghai Commercial and Savings Bank (Chinese)

天津市檔案館藏檔，檔案號 J161-2-2733。

上海商業儲蓄銀行（下稱上海行）領用天津中國銀行（下稱中國行）兌換券協定辦法如左

一、上海行今在天津領用中國行兌換券，以三拾萬元為度，兩行互加暗記，由上海行陸續向中國行領用，每次至少以三萬元為限。

二、上海行領用前項兌換券時，應備現金五成，有價證券二成五交付中國行，以充保證金。此項有價證券准用何種，上海行須先得中國行同意。蓋應按照該證券當地市面時價實足計算（例如證券市價在票面五成者，應以證券面額二萬元，繳充二成五保證金一萬元）。倘在領券期內所繳證券市價跌落，比較原作價格為小時，應即由上海行增加證券，補其不足。

三、中國行對於上海行所繳五成現金，應給年息二厘五毫，但上海行對於前項現金及證券保證金，不得隨時動用。

四、上海行所發之前項暗記券及中國行自發之兌換券，兩行應互相收兌。每日交換抵沖不足，則照補現金，但上海行有尾欠時，不得請於所繳存保證金內扣除。

五、遇有擠兌或市面有他項風潮發生時，中國行得按上海行領券所空五成現金數，向上海行透支現款，以補足兌券準備。此項透支現款，中國行即以上海行原繳二成五證券，交與上海行，作為抵押品。俟透支還清時，再由上海行將該抵押品交還中國行，仍充領券保證金。上海行對於此項透支有充分幫助義務，不得以市面金融變動藉口推諉，利息臨時約定，但雙方本互謀之宗旨，以力求低廉適當為主。在透支期內所有上海行發行之前項暗記券，統歸中國行自兌，不向上海行沖換，俟風潮平息透支還清後，仍照第四條沖換手續辦理。

六、中國行直隸本省他埠各分支行，如代兌前項暗記券滿一千元以上時，中國行憑各該分支行報單，製成代兌領券保管證，向上海行換回現金。如他埠代兌為數甚巨，按照代兌地點洋厘，中國行虧耗過多，亦得向上海行商議補收貼水。按代兌地點洋厘計算應行補水時，上海行並應照數（補水）。此項暗記券隨時由中國行運津，通知上海行憑保管證提取，其運費應由上海行擔負。

七、上海行既領用中國行兌換券，應負隨時代兌中國行兌換券之義務，並應懸掛代兌中國銀行鈔票之招牌。

八、此項辦法有效期間以十年底為限，期滿後，如上海行擬繼續領用或擴充領額，應由中國行察看市面情形，與上海行另訂條件辦理。（本辦法即行作廢）。但屆時中國行若認為繼續領券或擴充額數實有困難，亦得停止續議。

九、上海行既領用中國行兌換券，在此項辦法有效期內，不得自發鈔票，及另向他行領用他行之兌換券。

十、此項辦法期滿時，上海行應將所領暗記券悉數繳還中國行，否則中國行得於前繳之保證金內照數抵銷，倘仍不敷，應由上海行另以現金補足。

十一、此項辦法照繕兩份，雙方簽字蓋章，各執一份，互相遵守。

十二年十月十一日

A2. Additional Figures and Tables

Figure A1. An example of indirect issuance banknotes



圖十八　　177×90（右長有）

中國銀行國幣券民國十五年美鈔版上海伍圓券

Notes: The identifying marks are "56" and the characters *yu jin*, indicating that the receiver was the Yuheng native bank of Jinhua, which contracted with the Bank of China's Lanxi sub-branch in 1933.
Source: Editorial Committee of the Grand Dictionary of Chinese Numismatics, ed., *Zhongguo qianbi da cidian: Minguo bian, guojia yinhang zhibi juan* 中國錢幣大辭典·民國編·國家銀行紙幣卷 [Grand dictionary of Chinese numismatics: Republican series, volume on state banknotes] (Beijing: Zhonghua Book Company, 2007), p. 320.

Table A1. Average number of principal banks per year by operation type, 1921-31

Bank type	Average banks per year	Share (%)
Provincial or Municipal Bank	1.2	4.5
Commercial Saving Bank	15.0	56.3
Agricultural or Industrial Bank	2.8	10.6
Specialized Bank	1.3	4.7
Overseas Chinese Bank	4.0	15.1
State Bank	2.4	8.8
Total	26.6	100.0

Notes: Averages are taken over 11 years; years in which a type has no banks count as zero. Share is the type's average share of all banks in a year.
Source: Economic Research Department (1933).

Table A2. Average number of banks per year by operation type, 1932-36

Bank type	Average banks per year	Share (%)
Provincial or Municipal Bank	17.6	13.3
Commercial Saving Bank	66.4	50.1
Agricultural or Industrial Bank	22.6	16.9
Specialized Bank	14.8	11.3
Overseas Chinese Bank	7.0	5.3
State Bank	4.2	3.2
Total	132.6	100.0

Notes: Averages are taken over 5 years; years in which a type has no banks count as zero. Share is the type's average share of all banks in a year.
Source: Economic Research Department (1934, 1935,1936, 1937).