

Modern Banking Reforms and Financial Activities of Indigenous Merchants:
A Case from Japan in the Late 19th Century

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Abstract

Following the opening of the treaty ports in 1859 and Meiji Restoration in 1868, Japan instituted a series of drastic reforms, successfully modernized, and achieved prolonged economic growth. Among other entities, national banks structured as joint stock companies according to the US model played a key role in the modernization of the country by providing the society with liquidity and integrating the national financial markets. I explore the factors that led to the success of the national banks by constructing new datasets characterizing the origins of the national banks and the viability of individual national banks. I then perform regressions with this database to test whether the origins of the banks affected their viability and regional economic growth. Empirical results from econometric analysis and case studies demonstrate that commoners who engaged in commercial activities played a key role in Japan's modernization as the founders of the national banks.

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1. Introduction

Does finance promote economic development? If so, how? Schumpeter (1911) argues that financial intermediaries played a pivotal role in promoting innovation, the core of economic development, by evaluating projects, monitoring managers, and facilitating transactions. Tracing through the activities of commercial banks in several countries in Western Europe from the second half of the 18th century through the middle of 19th century, Cameron (1963) suggests that banks facilitated capital accumulation by serving as financial intermediaries and providing means of payment. Chapman (1984) investigates the emergence and evolution of merchant bank in Britain. Cross-country analyses by King and Levine (1993) show that financial development correlates positively with economic growth contemporaneously and predicts economic growth in the future. Rajan and Zingales (1998) formally confirm the causal mechanism behind the argument by King and Levine with an industry-country matrix. They find that industries that depend more on external finance, and thus have greater potential to benefit from financial development, grow faster in more financially developed countries. They interpret this result as evidence of a causal effect of financial development on economic development.

If we count Western European banks as successful contributors to economic development, we can find many counterexamples in the rest of the world. In the final days of the Ottoman Empire, for example, flourishing indigenous financial institutions called the *sarrafs* failed to transform themselves into modern banks. The Ottoman banking system fell under the control of a monopoly by the Banque Imperiale Ottoman (BIO), led by French and British capital, as a result. And even then, the BIO was held back by the challenge of finding suitable branch managers to extend its branch network (Clay 1994).

Indigenous caste banks (*Chettiar*) in India played a decisive role in inland commodity trade, and some of them engaged in international trade. At the beginning of the 20th century, however, two underpinnings of the *Chettiar* business model were lost: community-based monitoring of agents and mutual informal insurance within the caste. While the top *Chettiar* banks were able to transform themselves into modern joint stock banks, deficiencies in capital and information on formal banking institutions suitable to modern technology and the global business environment prevented most of the *Chettiar* banks from doing the same (Mucherjee 2017).

In colonial Java of the 19th century, indigenous informal financial institutions supported traditional industries and the daily life of ordinary households by providing credit to local traders of agricultural and locally manufactured products. These financial institutions, however, were not to transform to modern banks (Alexander and Alexander 1990).

A group of merchants in China built multilevel financial networks, thereby providing liquidity for inland trade and sound mechanisms for risk management. When European banks expanded their business in China's treaty ports during the late Qing dynasty, they worked closely with the indigenous Chinese financial institutions as interdependent partners rather than as masters of

Chinese financial institutions and compradors (Nishimura 2005; Horesh 2013; Moazzin 2020).

In this context, 19th century Japan was uniquely successful in transforming from an indigenous to a modern formal financial system outside of Europe and America. Following the opening of the treaty ports in 1859 and Meiji Restoration in 1868, Japan instituted a series of drastic reforms, successfully modernized, and achieved prolonged economic growth (Rousseau 1999; Mitchener and Ohnuki 2007; Tang 2013).

Among other entities, national banks structured as joint stock companies according to the US model played a key role in the modernization of the country by providing the society with liquidity and integrating the national financial markets. Once established in 1872, the national banks were entitled to issue convertible banknotes, as well as to engage in various banking activities. Four years later, in 1876, the government distributed national bonds to the former samurai as compensation for the abolished stipend payments. At the same time, the government made the national banknotes inconvertible and permitted the use of national bonds as reserve assets for banknotes. This deregulation was a move to appease the former samurai by offering them a chance to invest in profitable businesses. A banking boom ensued for the next several years, until the government decided to establish a national central bank and deprive the national banks of the power to issue banknotes. When their charters expired, twenty years from their foundation, the national banks had to either transform themselves into ordinary banks or close their doors. Most of them chose to become ordinary banks and played a pivotal role in the integration of the national financial system (Miyajima and Weber 2002; Miwa and Ramseyer 2002).

Little is known about the factors that led to the success of the national banks. In this work I explore those factors by constructing new datasets characterizing 1) details on the origins of the national banks, such as the previous occupations of their founders and their past experience in issuing paper money, and 2) the viability of individual national banks. I then perform a probit regression analysis with this database to test whether the origins of the banks affected their viability. I also employ a cross-section regression to relate the origins of the banks to the regional economic growth. The case studies to follow shed light on the origins of the national banks and how those origins related to their viability.

This study contributes to several existing literatures. First, it evinces how banks that originated as providers of commercial finance played a pivotal role in Japan's economic development. The financial expertise of indigenous merchants enabled banks to screen and monitor entrepreneurs during the early stage of modernization. Rajan and Zingales (2001) argue that a relationship-based financial system can work well in the early stages of industrialization. Japan's experience in the early Meiji Period accords with their view: the transformation of indigenous merchants to modern bankers was effective in kick-starting modern economic growth.

Second, this study contributes to the debate on the source of the early development of Japan's modernization by showing that commoners played a more important role than samurais in driving

economic development through their banking activities in the early Meiji Period. It supports the view of Asakura (1961) and Yamamura (1967), or Yamamura's assertion that, "The role played by samurai in this process was, on the whole, a passive one." A recent study by Basco and Tang (2020) tests how the initial endowment of the *kinroku kousai* (a commutation bond distributed to the former samurai in compensation for the abolishment of their stipend) affected later economic growth, albeit with inconclusive results. The present study suggests that future research on merchant activities may be more useful than further analysis of the one-time effect of the allocation of the samurai bond.

2. Background

(1) Trade and Finance in the Edo Period

Before looking into the details of the national banks of the late 19th century, I will briefly describe the economic conditions of pre-modern Japan. Japan experienced economic growth and financial deepening even before the opening of the treaty ports in 1859, at the tail end of the Edo Period (1603-1867).

The Tokugawa Shogunate, the central government during the Edo Period, set strict regulations on international communication, including commodity trade, mainly to ward off an influx of Christianity. The Shogunate, meanwhile, established a kind of federal state system that allowed individual lords (*daimyo*) to run independent domains with their own police forces, armies, and taxation systems, on the condition that they remained loyal to the Shogun. Under the alternate attendance (*sankin koutai*) system, every lord had to travel from his domain to Edo (now Tokyo) once every two years to pledge his loyalty. These arrangements served as initial conditions to promote inland trade. After collecting rice as tax in kind, a domain government had to exchange it into money to cover the costs of its master's journey to Edo and the keeping of a permanent office there. Rice markets in Osaka, Edo, and other commercial centers were developed chiefly to satisfy the need of domain governments to sell their tax rice and get money. Merchants engaging in inter-territorial trade also provided financial services to domain governments by taking deposits, operating bills of exchange, lending, settling debts and credits, etc. (Hayami 2004; Miyamoto 2004; Shizume 2018a).

The Shogunate monopolized the minting of specie coins of gold, silver, copper, and other metals. At the same time, it allowed the domains to issue paper notes to supplement the metal currencies when coins were in short of supply. When domainal notes were issued, merchants with strong connections with the domain governments usually acted on behalf of the domains as agents (Miyamoto 2004; Shizume 2018a).

Commercial activities were further promoted by the following factors from the 18th century: growing and diversified demand for commodity products in cities and rural areas, technological progress chiefly focused on agricultural production, and a tax incentive to increase rice production by setting a fixed amount of tax (*jomen*) to effectively increase the marginal revenue of rice producers. Technological progress enabled farmers to produce commercial crops such as cotton, rapeseed, indigo,

tea, mulberry, tobacco, sugarcane, paper mulberry, hemp, safflower, and vegetables, as well as their mainstay rice. In time, the fruits of this economic growth fell mainly into the hands of the farmers and merchants who effectively operated the supply chains of those products, while the Shogunate and domains, and hence, the samurai class as a whole, were left behind (Hayami 2004; Miyamoto 2004).

From the late 18th century through to the abolition of the domains in 1871, many domains tried to capture some portion of economic development by establishing trading houses (*sanbutsu kaisho*). Typically, the trading houses or domain governments themselves issued domain notes, advanced the notes to producers, received local specialties in return when they were produced, and shipped the specialties to commercial centers such as Osaka and Edo to sell them. The merchants usually played the critical role in trading houses. They were often deeply involved in business and were closely surveilled by the domain governments in their dealings. The basic structure of their business was similar to the sale of tax rice, except that the commodities were not originally tax in kind, but commodities purchased by the domains from local producers (Iwahashi 2020). Typical cases of this type will be discussed in a later section.

Table 1. Domainal note issuance by domain size and region*

Size ** (1,000 <i>koku</i>)	Region							Total	
	Tohoku	Kanto	Chubu	Kinki	Chugoku	Shikoku	Kyushu		
510 and over	1/1	-	2/2	1/1	-	-	2/2	6/6	(100.0)
410-510	-	-	-	-	1/1	-	-	1/1	(100.0)
310-410	1/1	-	1/1	-	2/2	-	1/1	5/5	(100.0)
210-310	1/1	-	-	-	1/1	1/1	1/1	4/4	(100.0)
110-210	3/4	3/3	2/2	3/3	2/2	3/3	3/3	19/20	(95.0)
90-110	4/4	1/1	5/5	1/1	1/1	1/1	1/1	14/14	(100.0)
70-90	1/1	3/3	1/1	2/2	-	-	2/2	9/9	(100.0)
50-70	5/5	1/1	9/13	5/5	3/3	2/2	7/8	32/37	(86.5)
30-50	2/4	5/6	9/10	6/6	3/3	3/3	4/5	32/37	(86.5)
10-30	5/19	14/26	19/26	28/30	10/13	3/4	7/10	86/128	(67.2)
Total	23/40	27/41	48/60	46/48	23/26	13/14	28/33	208/262	(79.4)
	(57.5)	(65.9)	(80.0)	(95.8)	(88.5)	(92.9)	(84.8)	(79.4)	

* Issuing domains / all domains. Figures in parentheses are percentage shares of the issuing domains.

** 1 *koku* = 180 liters of annual rice production.

Source: Kato (2020), Table 2-1 and 2-2.

Most domains had experienced the issuance of notes. Out of the 262 domains that existed

both before and after 1867, the formal end of the Tokugawa Shogunate¹, data compiled by Kato (2020) indicate that 208 (79 percent) issued domainal notes at least once (Table 1). All but one of the big domains, the producers of 70 thousand *koku* or more of rice within their territories, issued notes (the exception being Shounai/Tsuruoka domain in Dewa Province, now Yamagata Prefecture). Even among the smallest domains (under 30 thousand *koku*), 67 percent (86 out of 128) issued notes.² The figures also varied by region, with western Japan (Kinki, Chugoku, Shikoku, and Kyusyu) having a higher share of issuing domains than eastern Japan (Tohoku and Kanto). This regional variation may have stemmed partly from the Shogunate's decision to remove metal currencies denominated by weight in silver (*monme*), a type then widely circulated in western Japan, in the second half of the 18th century. The removal of the *monme* may have caused shortages in small-denomination currencies, leading to the issuance of domainal notes to replace metal currency.

From the late 18th century, domains often related their note issuance to the operation of trading house. Nishikawa and Amano (2004) report that many domains in the Edo Period built trading houses to produce, market, and distribute domain specialties such as sugar, cotton, and indigo in central markets such as Osaka and Edo. Local and/or Osaka merchants were typically involved in the management of the houses and issued domainal notes to promote local industries. Nishikawa and Amano (2004) point out the examples of the Kaga, Himeji, Wakayama, Tokushima, and Takamatsu domains, all of which issued domainal notes in the Edo period.

Here I will attempt to illustrate the trading house scheme by presenting a case in Kochi Domain, Tosa Province (Southern part of Shikoku Island) described earlier by Hirao (1960) and Kobayashi (2015) (Figure 1).

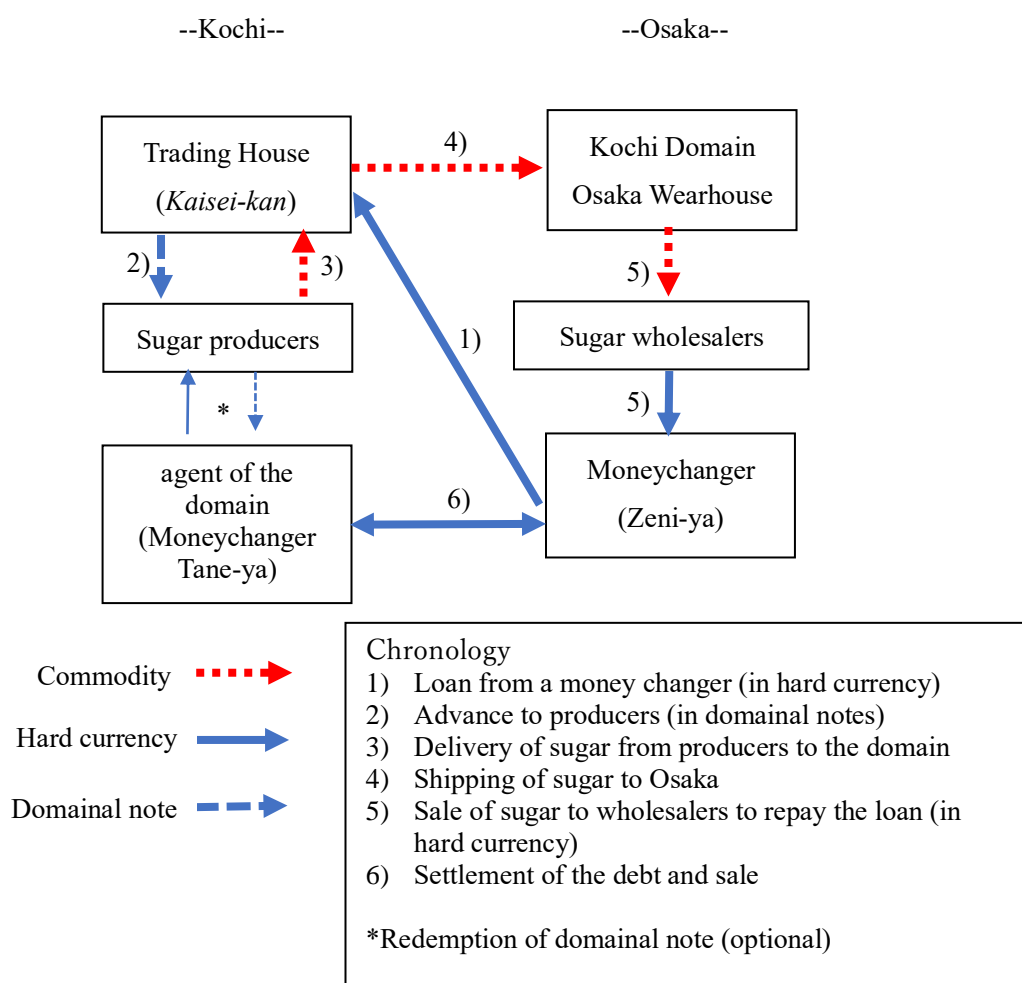
Kochi produced local specialty commodities such as paper, lumber, dried bonito, and sugar. The domain established a new trading house, *Kaisei-kan*, in 1866, the penultimate year of the Tokugawa Shogunate. *Kaisei-kan* started issuing notes to promote the production of sugar in the same year. Kobayashi (2015) describes the procedure for the 1867 issuance as follows. 1) Kochi Domain procured a loan in hard currency from an Osaka moneychanger, *Zeni-ya*. 2) As an advance, the trading house passed sugar producers promissory notes indicating the face value in silver denomination (*monme*), the payee of the debt (*Zeni-ya*), the place of redemption when the bearer wanted to redeem the notes (*Tane-ya*), and the year of issuance. *Tane-ya* was a moneychanger in Kochi that acted as the agent of the house. 3) The sugar producer delivered the harvested and processed sugar to the house. 4) The house shipped the sugar to Osaka. 5) The house sold the sugar to wholesalers in Osaka, received payment in specie, and repaid the debt to *Zeni-ya*. 6) The debt was settled by netting the sales and the sum of the principal and interest.

¹ This definition excludes domains that only existed temporarily. Kato (2020:79).

² The numbers include domains that issued notes for only short periods, but the exact periods of issuance are unknown in many cases. Iwahashi (2020: 122-131).

Two moneychangers, one in Osaka and other in Kochi, acted as the main banks of the domain in this scheme. Zeni-ya in Osaka lent hard currency to the domain and monitored the production, delivery, and sale of the sugar, expecting repayment from its sale. A senior manager of Zeni-ya stayed in Kochi to monitor operations. Tane-ya in Kochi acted as the cashier. The debt and sale were settled between Tane-ya and Zeni-ya. If the business was profitable, the domain notes would retain their credibility and would be circulated within the domain territory by par value.

Figure 1. Note-Issuing Scheme of Kochi Domain (1867)



Source: Hirao (1960): 192-193; Kobayashi (2015): 86.

(2) Banking Reforms in the Early Meiji Period

After the forced opening of treaty ports in 1859, Japan grappled with the crises of national independence and civil wars for several years. In 1867, the Tokugawa Shogunate returned the power of government to the Emperor. The new Meiji government was thereupon formed under the leadership of former samurai, mainly from the Satsuma and Choshu domains. The fiscal structure, however, was

almost unchanged from that in the previous years of the Tokugawa Shogunate: lords governed over more than two-thirds of Japan, and the new government took in revenue only from the territories previously under the direct control of the Shogun. The newly formed government issued inconvertible notes denominated in *ryo*, the old gold denomination, with a view to promoting domestic industry, but the notes were diverted to finance a fiscal deficit. The new leaders shared a sense of national crisis and called for urgent reforms.

In 1871, the government abolished all domains and set a nationwide prefectural system. The government initially appointed former lords as governors of the new prefectures, then replaced them with bureaucrats. At the same time, the central government inherited all of the debts of the domains, including the domainal notes. The largest effective debt was the stipend paid to the former samurai. The unification of the tax system posed another big problem, as taxation in the Edo Period was decentralized, with each lord levying domainal taxes independently. Also, in 1871, the government introduced the new national unit of account, the *yen*. In the same year, 1871, the government declared the introduction of the gold standard and minted sovereign gold coins and government notes denominated in *yen* (Shizume 2018a). A shortage of species, however, thwarted any efforts to make government notes convertible.

In 1872, the government introduced a new issuing bank system modeled after the national bank system in the United States. Under the initial law, the Japanese national banks were joint stock banks issuing convertible notes with the aim of replacing inconvertible government notes and promoting domestic industries. Before introducing the national bank system, the government considered an alternative single-issuing-bank system modeled after the central banks in Europe. Ito Hirobumi pushed for the adoption of the American system of multiple issuing banks, arguing that the decentralized structure of the Japanese economy more closely resembled the structure of the US economy compared to that of Europe. A plan for an American style of decentralized issuing bank system, Ito argued, would enable a better utilization of the power of the private sector. Ultimately, however, only four national banks were established under the initial National Bank Act of 1872, as strict regulations were imposed to keep the banknotes convertible (Shizume 2018a).

In a decisive fiscal reform instituted in 1876, the government halted the payment of stipends to the former samurai and compensated them by giving them coupon bonds. In the amended National Bank Act of 1876, the convertibility clause was removed, and national bonds became eligible as reserves for banknotes. The amendments served two purposes: to appease the former samurai for their lost privileges by deregulating their investments through national bank shares and entrepreneurial projects financed by the banks, and to mobilize domestic capital to promote industries. One hundred and fifty-three national banks were established under the amended Act from 1876 to 1879, including four re-chartered banks that had been established under the previous National Bank Act (Shizume 2018a).

In the same year, 1876, the government awarded Mitsui Bank a charter to go into business

as Japan's first privately owned bank not designated as a national bank (*shiritsu ginko*). More privately owned banks were established in large numbers in ensuing years. None of them were allowed to issue banknotes. Many merchants also entered the banking business, informally, outside the regulatory purview of the government. The government called these merchant-run institutions quasi-banks (Shizume 2018a).

After the Satsuma Rebellion of 1877, the largest uprising by the former samurai against modern reforms and the last of Japan's civil wars, the government inclined toward the establishment of a central bank as a sole issuer of convertible banknotes. The government spent several years studying the institutional framework of European central banks and established the Bank of Japan (BOJ) in 1882. A year later, the national banks were deprived of their right to issue banknotes. Upon the passage of 20 years from their founding charters, they were told, they would have to either transform into ordinary privately owned banks or close their doors. The BOJ started issuing its banknotes in 1885. When the last national bank charter expired, in 1899, most of the national banks had become ordinary banks without issuance rights (Shizume 2018a).

Table 2 enumerates the Japanese financial institutions recognized by the government in 1881, and their capital. The government acknowledged that difficulties in collecting sufficient information on the quasi-banks may have led to underestimations in the quasi-bank statistics. The government's inability to report an exact number of financial institutions suggests that it had loose regulatory control over financial businesses and the rigorous momentum with which the private banking sector grew in the early Meiji Period.

Table 2. Financial Institutions as of the end of 1881

	Number	Total capital*	Average capital*
National Banks	149	43,886	295
Excl. the 15th Bank	148	26,060	176
Other privately owned Banks	90	10,447	116
Quasi-banks	369+	5,895+	16
Total	608+	60,228+	n.a.

* thousand yen.

Source: *The Second National Statistical Abstract of the Japanese Empire*, 1884.

3. Data and Empirical Analysis

(1) Data on the Origins and the Viability of National Banks

I will begin this analysis by bringing together a few details on the origins of the national banks to

create a novel dataset (Table 3).

Table 3. The Origins and the Viability of National Banks

		All regions		Excl. Tokyo & Osaka	
			%		%
Total		153	100.0	127	100.0
Founders	Mainly samurais	89	58.2	79	62.2
	Samurai and commoners	20	13.1	20	15.7
	Mainly commoners	56	36.6	43	33.9
	Unknown	8	5.2	5	3.9
With experience of note issuing		86	56.2	86	67.7
In a treaty port/city		34	22.2	8	6.3
Survived through the chartered period		118	77.1	100	78.7

Sources: See text.

Among 153 national banks, 89 (58 percent) were founded by former samurai and 56 (37 percent) were founded by commoners engaged in commercial activities. The origins of the remaining 8 (5 percent) are unknown³. According to these numbers, nearly 40 percent of the national banks were established through the bottom-up initiative of indigenous merchants independently of the government's original plan to appease the former samurai. Another newly compiled database of domainal notes, a resource that became available in April 2019,⁴ can also be used to show how bank survival relates to the headquarter locations or hometowns of the founders and the experience of issuing paper money during the preceding Edo period. In total, 86 national banks (56 percent) were established either by former samurai from a domain having issued domainal notes or in a city/town where domainal/private notes were issued in the Edo period.

The viability of the banks can be traced by examining whether individual banks could successfully survive and transform themselves into ordinary banks without experiencing bank runs, takeovers by other banks, or closures before or upon the expiration of their charters. According to a heretofore unexplored database published by the National Bankers Association, 118 (77 percent) of the 153 national banks successfully transformed themselves into ordinary banks. The other 35 (23

³ The information on the origins of national banks was obtained from various sources such as official history books of successor banks, archives of municipal governments, and previous studies on individual national banks. Details of the data sources are given in Shizume (2020).

⁴ Images of domainal and private notes are available at: https://www.i-repository.net/il/meta_pub/G0000381kahei
As of March 2020, 10,109 notes have been uploaded.

percent) either went bankrupt, were taken over by other banks, suspended their operations during bank runs and re-opened (typically with new management), or closed their doors when their charters expired.

(2) Probit Regressions on the Viability of National Banks

Here I employ a probit regression on a dummy variable representing the survival of a bank past the date of its charter's expiration as a dependent variable. As independent variables I introduce dummies for the previous occupations of the bank founders and the past experience of issuing paper money.

$$Survive_i = \alpha_0 + \alpha_1 Commoner_i + \alpha_2 Note_i + \sum_{j=1}^k \beta_{j,i} X_{j,i} + \varepsilon_i \quad (1),$$

where $Survive_i$ is a dummy variable that takes a value of 1 if a bank survives past the date its charter expires (and a value of zero otherwise); $Commoner_i$ is a dummy variable that takes a value of 1 if a bank is founded by commoners engaged in commercial activities (zero otherwise); $Note_i$ is a dummy variable that takes a value of 1 if a site and/or founders of a bank have a previous experience of issuing notes (zero otherwise); and $X_{j,i}$ are control variables.

Table 4. Results of the Bank Survival Analysis (Probit Regression)

Dependent variable: dummy for bank survival through the chartered period (Yes: 1 / No: 0)

Coefficient of independent variable	(a)		(b)		(c)	
		rob. std. err.		rob. std. err.		rob. std. err.
Constant	0.094	0.229	-0.005	0.244	-0.179	0.305
Commoner	0.587	0.286 **	0.775	0.308 **	0.855	0.350 **
Samurai+Commoner	-	-	-	-	0.610	0.811
Note	0.850	0.271 ***	1.008	0.308 ***	1.120	0.372 ***
Commoner*Note	-	-	-0.525	0.544	-0.586	0.575
(Samurai+Commoner)*Note	-	-	--	-	-0.366	0.928
Treaty port/town	-	-	-	-	0.248	0.333
No. of observations	145		145		145	
Pseudo R ²	0.080		0.086		0.094	

*** denotes significance at the 1 percent level; ** denotes significance at the 5 percent level.

Table 4 shows the regression results. The explanatory variables *Commoner* and *Note* are statistically significant in all regressions run at different settings. The control variables are dummies representing joint foundation by samurai and commoners, establishment in treaty ports/towns, and a cross-term combining founder characteristics and the previous experience of issuing notes. While the

coefficients have no statistical meaning, we notice that two types of banks were more likely to survive: those established by commoners engaged in commercial activities and those that had a previous experience of issuing notes.

We can derive an average marginal increase in the probabilities by calculating changes in the dependent variable for all cases. The calculation using regression (c) with all control variables shows that if the founders of a bank were commoners, not former samurai, the survival rate went up by 23 percent. This finding suggests that the commoners' capacity to run financial institutions helped the national banks operate more viably. It also turned out that if a bank was established in an area where domainal or private notes were issued earlier, during the Edo period, or if the founder of a bank originated from such an area, the survival rate rose by 31 percent. Hence, the past experience of issuing paper money also seemed to contribute to the smooth operation of modern banking.

Here we may run into the endogeneity problem. That is, the performance of the national banks was affected by unobserved factors that also influenced the founders' decisions on whether to establish the banks in the first place. One such factor might have been the bank location. If the former samurai were obliged to establish a bank in the former castle town of their domain, the performance of the bank would be subject to the local economic conditions of the domain, no matter the capacity or will of the bank founders.

As a counterexample to this concern, the bank founders often had the discretion to choose the locations of the banks. Many national banks were in fact established in locations different from the castle towns of the former domains from which the founders came. Tokyo, for example, was the chosen location for all of the following banks: the giant Fifteenth National Bank (jointly established by lords from all around the country), The Fifth National Bank (founded by former samurai from Satsuma, now Kagoshima Prefecture), The Twentieth National Bank (former samurai from Uwajima, Ehime Prefecture), The Thirtieth National Bank (former samurai from Saga, Saga Prefecture), The Sixtieth National Bank (former samurai from Sendai, Miyagi Prefecture), The One-Hundredth National Bank (former samurai from Tottori, Tottori Prefecture), The One-Hundred-and-Nineteenth National Bank (former samurai from Usuki, Oita Prefecture). Osaka, likewise, was the chosen location for The Twenty-Sixth National bank (former samurai from Okayama, Okayama Prefecture) and the One-Hundred-and-Twenty-First National Bank (former samurai from Kochi, Kochi Prefecture). While the Ministry of Finance (MOF) may have had some control, these cases show that when former samurai intended to establish banks with their bonds, they had the discretion to pick the locations. If they expected to run banking businesses in a financial center like Tokyo or Osaka, they were not compelled to base their headquarters in the remote castle towns of their previous domains. By adding a dummy variable for treaty ports and cities in regression (c) to check the effect of the bank location, I find that the coefficient of the dummy variable is statistically insignificant⁵.

⁵ Treaty ports were port towns in which foreigners were allowed to reside and operate businesses in

(3) Bank Capital and the Regional Economic Growth

Next, I employ cross-section OLS regressions to detect how the volume of the bank capital classified by the bank origins affected economic growth at the prefectural level.

Bank origins were classified in two ways, based on the classification shown in Table 3: 1) founded by either commoners engaged in commercial activities (commoner banks) or samurai (samurai banks), and 2) founded by founders with note-issuing experience in previous years and/or founded in areas with note-issuing experience. The output data are taken from Fukao et al. (2015).⁶ Descriptive statistics are presented in Table 5. We see large regional variations in the per capita output growth and bank capital.

Table 5. Descriptive Statistics

Variables	Observations	Mean	Std. Dev.	Min	Max
Per capita gross prefectural output in 1874*	47	116.2	41.3	74.7	267.3
Per capita gross prefectural output in 1890*	47	128.3	51.3	73.7	355.5
Per capita gross prefectural output in 1909*	47	152.8	53.9	113.1	371.5
Growth rate in per capita output, 1874-1890	47	11.2	16.7	-24.7	54.8
Growth rate in per capita output, 1874-1909	47	35.0	28.4	-9.9	134.0
Per capita capital of all national banks	47	1.076	3.338	0.162	23.254
Per capita capital of commoner banks	47	0.304	0.553	0.000	2.485
Per capita capital of samurai banks	47	0.772	2.990	0.000	20.769
Per capita capital of banks with previous note-issuing experience	47	0.480	0.483	0.000	2.586
Population in 1874	47	741,286	291,388	151,733	1,526,407
*Note: Per capita gross prefectural output is constant, at 1934-1936 yen.					
Source: Fukao et al. (2015).					

Following the methodology of Basco and Tang (2020), I use the growth rate in the per capita gross prefectural product from 1874 to 1890 or from 1874 to 1909 as the dependent variable. While Basco and Tang (2020) use the total initial endowment of samurai bonds in a prefecture as the key independent variable, I use the per capita capital of national banks in a prefecture, classified by the origins. I include the per capita gross prefectural product in 1874, population density in 1874, and number of national banks per population of one million as control variables.

$$\Delta GPPpc_i = \alpha_0 + \alpha_1 BC_i + \alpha_2 GPPpc_{i,t-1} + \alpha_3 Density_{i,t-1} + \alpha_4 NB_{i,t-1} + \epsilon_i \quad (2),$$

where $\Delta GPPpc_i$ is the growth rate in the per capita gross prefectural product in prefecture i , BC_i is

designated areas. Treaty cities were cities in which foreigners were allowed to reside and operate businesses in designated areas. There were five treaty ports (Hakodate, Niigata, Yokohama, Kobe and Nagasaki) and two treaty cities (Tokyo and Osaka) in Japan. These seven locations represented commercial centers in this period.

⁶ I thank Kyoji Fukao and Tokihiko Settsu for providing background data.

the per capita bank capital in prefecture i , $GPPpc_{i,t-1}$ is the per capita gross prefectural product in prefecture i in 1874, $Density_{i,t-1}$ is the population density in prefecture i in 1874, and $NB_{i,t-1}$ is the number of national banks per population of one million in prefecture i .

Table 6. Regression Results of the Effect of Bank Capital on Regional Economic Growth (OLS)

Table 6-A											
Dependent variable:	GPP growth in 1874-1890	a)		b)		c)		d)		e)	
Independent variables:	Constant	20.015	***	30.742	***	19.454	***	20.640	***	29.230	***
		(6.494)		(7.039)		(5.924)		(5.922)		(7.939)	
	Per capita capital of national banks	-0.578		-		-		-		-	
		(0.633)									
	Per capita capital of commoner banks	-		16.366	**	-		-		17.219	*
				(6.646)						(8.818)	
	Per capita capital of samurai banks	-		-		-0.924		-		-0.298	
						(0.587)				(0.751)	
	Per capita capital of banks with note-issuing experience	-		-		-		-9.609		-10.113	
								(8.405)		(8.348)	
Control variables	Per capita gross prefectural product in 1874	-0.282		-0.301	***	-0.283	***	-0.267	***	-0.289	***
		(0.083)		(0.079)		(0.082)		(0.088)		(0.080)	
	Population density in 1874 (thousand per square ri)	6.388	***	4.454	***	6.510	***	5.878	***	0.004	**
		(1.804)		(1.468)		(1.709)		(2.047)		(0.002)	
	Number of national banks per population of one million	2.329	**	0.099		2.461	**	2.988	**	1.282	
		(1.126)		(1.231)		(1.043)		(1.180)		(1.485)	
	Observations	47		47		47		47		47	
	R-squared	0.282		0.367		0.290		0.310		0.412	
	F-statistics	5.51		7.39		4.90		6.10		7.70	
Table 6-B											
Dependent variable:	GPP growth in 1874-1909	a)		b)		c)		d)		e)	
Independent variables:	Constant	73.550	***	89.614	***	71.609	***	72.398	***	89.121	***
		(8.441)		(11.463)		(7.787)		(8.477)		(11.228)	
	Per capita capital of national banks	0.533		-		-		-		-	
		(0.914)									
	Per capita capital of commoner banks	-		32.410	**	-		-		32.217	**
				(12.865)						(12.780)	
	Per capita capital of samurai banks	-		-		-0.117		-		-0.262	
						(0.984)				(1.136)	
	Per capita capital of banks with note-issuing experience	-		-		-		4.083		2.304	
								(13.842)		(12.667)	
Control variables	Per capita gross prefectural product in 1874	-0.678	***	-0.719	***	-0.679	***	-0.684	***	-0.722	***
		(0.128)		(0.116)		(0.126)		(0.138)		(0.124)	
	Population density in 1874 (thousand per square ri)	11.840	***	9.034	***	12.225	***	12.232	***	9.225	***
		(3.606)		(2.716)		(0.004)		(3.343)		(3.038)	
	Number of national banks per population of one million	2.992	*	-0.279		3.422	**	2.908	*	-0.360	
		(1.490)		(1.607)		(1.407)		(1.519)		(1.905)	
	Observations	47		47		47		47		47	
	R-squared	0.468		0.589		0.466		0.468		0.590	
	F-statistics	8.11		10.88		8.44		11.02		11.93	

*** denotes significance at the 1 percent level; ** denotes significance at the 5 percent level; * denotes significance at the 10 percent level.

Table 6 shows the regression results. The upper column (Table 6-A) shows the effect of bank capital on the growth in 1874-1890, and the lower column (Table 6-B) shows the same in 1874-1909.

The per capita capital of commoner banks significantly contributed to the per capita economic growth (rows b, e) in the period of 1874-1890, while that of samurai banks (row c) and banks with previous note-issuing experience (row d) did not. The result yielded by the capital of all banks (row a) is also insignificant, and qualitatively the same as that reported by Basco and Tang (2020).⁷ A one yen increase in the per capita commoner bank capital raised the regional growth rate

⁷ Basco and Tang (2020) test the effect of the capital of all banks, as well as the endowment of

by 16-17 percent.

The latter result indicates that commoners who engaged in commercial activities in previous years played an essential role in the industrialization and economic growth in the early stage of modern Japanese development as bankers and investors. The result accords with Yamamura (1967) by confirming the active role of merchants and passive role of former samurai in the emergence of modern banking business in Japan. It also endorses the notion by Rajan and Zingales (2001), that a relationship-based financial system can work well in the early stages of industrialization.

The results yielded by the classified bank capital are also statistically significant in the period of 1874-1909, which suggests that the contribution of commoner banks to the regional economic growth endured into the early 20th century. A one yen increase in the per capita commoner bank capital raised the regional economic growth by 32 percent.

Table 7. Regression Results on the Effect of Surviving Bank Capital on Regional Economic Growth (OLS)

Table 7-A																			
Dependent variable:	GPP growth in 1874-1890			a)			b)			c)			d)			e)			
Independent variables:	Constant	20.244	***	31.577	***	19.797	***	21.697	***	30.747	***								
		(6.462)		(7.186)		(5.946)		(6.166)		(8.138)									
	Per capita capital of national banks	-0.543		-		-		-		-									
		(0.689)																	
	Per capita capital of commoner banks	-		19.601	**	-		-		21.259	**								
				(7.401)						(9.742)									
	Per capita capital of samurai banks	-		-		-0.864		-		-0.106									
						(0.636)				(0.738)									
	Per capita capital of banks with note-issuing experience	-		-		-		-1.611		-11.493									
								(10.496)		(8.301)									
Control variables	Per capita gross prefectural product in 1874	-0.281	***	-0.313	***	-0.283	***	-0.278	***	-0.301	***								
		(0.083)		(0.082)		(0.082)		(0.090)		(0.082)									
	Population density in 1874 (thousand per square <i>ri</i>)	6.353	***	4.578	***	6.475	***	6.043	***	4.322	**								
		(1.823)		(1.307)		(1.742)		(1.748)		(1.802)									
	Number of national banks per population of one million	2.258	**	0.113		2.363	**	2.021	*	1.280									
		(1.116)		(1.196)		(1.044)		(1.070)		(1.467)									
	Observations	47		47		47		47		47									
	R-squared	0.281		0.374		0.287		0.277		0.424									
	F-statistics	5.42		7.51		5.68		4.21		8.76									

Table 7-B																			
Dependent variable:	GPP growth in 1874-1909			a)			b)			c)			d)			e)			
Independent variables:	Constant	73.475	***	90.436	***	71.767		72.805	***	90.606	***								
		(8.424)		(11.699)		(7.778)		(8.188)		(11.940)									
	Per capita capital of national banks	0.547		-		-		-		-									
		(0.983)																	
	Per capita capital of commoner banks	-		37.152	**	-		-		37.158	**								
				(13.905)						(14.130)									
	Per capita capital of samurai banks	-		-		-0.060		-		0.061									
						(1.053)				(1.156)									
	Per capita capital of banks with note-issuing experience	-		-		-		14.066		0.093									
								(15.901)		(12.816)									
Control variables	Per capita gross prefectural product in 1874	-0.678	***	-0.741	***	-0.679	***	-0.704	***	-0.741	***								
		(0.128)		(0.122)		(0.127)		(0.144)		(0.133)									
	Population density in 1874 (thousand per square <i>ri</i>)	11.845	***	9.404	***	12.196	***	12.091	***	9.374	***								
		(3.620)		(2.373)		(3.622)		(2.855)		(2.950)									
	Number of national banks per population of one million	3.029	**	-0.096		3.385	**	2.594	**	-0.141									
		(1.462)		(1.558)		(1.389)		(1.181)		(1.895)									
	Observations	47		47		47		47		47									
	R-squared	0.468		0.588		0.466		0.485		0.588									
	F-statistics	8.10		10.83		8.61		9.09		13.03									

*** denotes significance at the 1 percent level; ** denotes significance at the 5 percent level; * denotes

samurai bonds, and report that the “overall economic impact on growth was neutral.”

significance at the 10 percent level.

Table 7 shows the regression results when only surviving banks are counted. The results are qualitatively the same as when all banks are counted, including failed and merged banks. The commoner bank capital contributed to the regional economic growth, while the capital of the samurai banks and banks with note-issuing experience did not. A one yen increase in the per capita surviving commoner bank capital raised the regional economic growth by 20-21 percent in the period of 1874-1890 and 37 percent in the period of 1874-1909, or to levels 4 percent and 5 percent higher than the levels obtained when all banks are counted, respectively. These results indicate that surviving commoner banks contributed more to the regional economic growth than the failed or merged banks.

4. Case Studies

In this section I present a number of illustrative cases to further relate the origins of the national banks with their viability.

(1) Banks founded by commoners

The case of the Tenth National Bank is illuminating. Silk merchants established this bank in Kofu, Yamanashi Prefecture, a mountainous area to the west of Tokyo. Virtually no former samurai participated in its foundation. Yamanashi was one of the territories directly governed by the Shogun in the Edo period. No domainal notes were issued through the Edo period, as the Shogunate government took a conservative stance against note issuance to promote the use of its own minted species. The opening of Yokohama as a treaty port led to a rapid increase in local silk production, and silk merchants opened branches in Yokohama. A group of silk merchants sought to establish an issuing bank soon after the National Bank Act was amended in 1876 and managed to do so in 1877. They based the bank headquarters in Kofu and began correspondent transactions with the First National Bank, including its Yokohama Branch. A year later, the young bank established branches in Tokyo and Saruhashi, a town in eastern Yamanashi Prefecture. The bank operated smoothly, in sound financial condition, for two decades. When its original charter expired in 1897, it successfully transformed itself into an ordinary bank.

The Seventh National Bank in Kochi was another example of a commoner bank. The founder was Ikusaburo Kawasaki, the son of a major sugar merchant in Kochi with strong connections with the Kochi Domain. The first president was a former samurai, Naoeda Yui, the stepson of one of executive directors (*bugyou*) of the trading house *Kaisei-kan*. Yui had the experience of studying in London. The other board members included the merchant Yoshiemon Sakuragi and former samurai Masayori Owaki. Owaki had held a position in *Kaisei-kan*, as well. The chief manager of the bank was a merchant by the name of Teisaku Nakazawa. Overall, the bank inherited the management of the Kochi Domain's trading house, and merchants connected to the domain committed to the bank's

operations. The bank survived through the chartered period, then merged with the Eightieth National Bank in Kochi to become the Tosa Bank, when its charter expired.

(2) Banks founded by former samurai

As indicated by the econometric analysis, many banks established by former samurai suffered from a lack of expertise in the banking business and experienced financial distresses.

The Eighth National Bank was established in Toyohashi, Aichi Prefecture in 1877 at the initiative of two former officials of the Yoshida Domain, based in Toyohashi. Success, however, eluded the bank: “Virtually no one liked to deposit at the bank, and no one liked to borrow from it. When the bank lent money to venture activities such as raising silkworm eggs or milling rice by former samurai, the ventures failed and went bankrupt due to the lack of business expertise.” In 1886, the bank merged into the One Hundred and Thirty-Fourth Bank in Nagoya. “The losers were ultimately former samurai who invested their precious fortunes in commutation bonds into the bank’s shares.” (Toyohashi City 1956)

The Twenty-Fourth National Bank was established in Iiyama, Nagano Prefecture in 1877 at the initiative of Noritoshi Sakamoto, the leading retainer of the Iiyama Domain. Sakamoto went on to become the president of the bank. The principle shareholders were former samurai, local merchants, and landowners. “Merchants were reluctant to affiliate themselves with the bank. Those who participated only did so at the urgent behest of former high-ranking officials of the domain.” When the bank started its business, over 60 percent of the lending was to former samurai, and around 80 percent was credits without collateral. The bank went bankrupt in 1882 (Irimajiri 1964).

An official history of the MOF describes the situation: “At one point in time, the establishment of banks became a fad. Former samurai rushed over to the MOF offices without first considering local commercial or financial conditions or gaining any expertise in the banking business. Once they had their commutation bonds in hand, they seemed to believe that they had somehow to establish a bank.” (the MOF 1927)

Notwithstanding the examples above, some of the banks established by former samurai stayed on good footing. The Fifty-Five National Bank in Izushi, Hyogo Prefecture, was established purely by former samurai from the Izushi Domain. The domain had a long tradition of issuing domainial notes dating back to at least 1674. The domain established a trading house in 1819 in collaboration with local merchants. It promoted sericulture and silk reeling industries by advancing notes to silk producers. Presumably, the former samurai in Izushi gained enough expertise in finance and maintained sufficiently good relationships with local merchants to smoothly operate their bank and soundly manage its risks (Iwahashi 2020).

5. Conclusion

In the present study, I have made the first attempt to connect modern banking to the indigenous

commercial and financial activities in Japan in a systematic way. To do so, I focused on the origin of founders of modern banks during the national reforms of late 19th century Japan. I constructed a novel dataset of the origins of Japan's first modern joint stock banks and a collaborative economic activity of domain governments and indigenous merchants, that is, the issuance of domain notes related to trading houses run by domain governments and connected merchants. My analysis revealed the importance of the indigenous merchants who engaged in financial businesses in the preceding Edo Period. Many of the governments of the domains that issued notes also established trading houses to earn profits. The experience in trading by those domains may have helped them gain commercial and financial expertise. Even in those domains, merchants played a pivotal role in operating the trading houses and issuing the notes. This study accords with Yamamura (1967) by confirming the active role of merchants and passive role of former samurai in the emergence of modern banking in Japan.

Some previous works focus on the leading role played by former samurai in providing financial and human capital for the modernization of the Japanese financial system in the late 19th century (Jha, Mitchener and Takashima 2015; Basco and Tang 2018). The present study demonstrates that the key players in the modernization of the banking sector were not the former samurai, but the commoners who engaged in commercial activities during the Edo and early Meiji periods. Japan built its own version of a financial system before the treaty ports were opened. Later, when modern banking reforms came, Japan inherited indigenous institutions that had engaged in activities such as banking and note issuance (Shizume 2018a, 2018b).

Eiichi Shibusawa, the designer of the Japanese national bank system and the president of the First National Bank, supports these findings as a first-hand witness by recounting how he learned the essence of modern banking through the issuance of domain notes.⁸

"I thought it would be convenient," he recalls, "to use notes backed by specie as reserves. Issuers should never think of the physical loss of notes as a benefit to themselves. If we made every effort to circulate the notes, we could have achieved smooth circulation within the Hitotsubashi territory. Though I knew nothing about the paper money issuance operations of other countries at the

⁸ Eiichi Shibusawa (1841-1931) was born in a farmer's family in Musashi Province (now Saitama Prefecture). His family ran businesses in commodity products such as indigo and sericulture. When Shibusawa worked for the nationalist movement in the 1860s, Lord Yoshinobu Hitotsubashi, who was later to become the last Shogun, spotted his talent as an economic bureaucrat and posted him as an accounting officer for the Hitotsubashi Domain. During his years in the Hitotsubashi Domain, Shibusawa planned and conducted a project to promote cotton production in Harima Province (now part of Hyogo Prefecture) by issuing domain notes. When lord Hitotsubashi became the Shogun in 1866, he appointed Shibusawa as a retainer. Shibusawa joined the Japanese delegation to Paris International Exposition of 1867 and stayed in Europe until the delegation was called back by the new Meiji government in 1868. He was brought into the new government, joined the MOF, and drafted the National Bank Act of 1872. He left the MOF in 1873 to become the executive manager of the First National Bank, and was named the bank president two years later, in 1875. He spent his remaining years outside of government as a leader of Japan's business community. He has been often called "the father of Japanese capitalism."

time, I see in retrospect that my guess was consistent with the economic mechanism. Paper money has both conveniences and risks. We can derive the true benefits from its use if we make paper money effective and avoid the negative side effects.”

The government policies in other countries and regions in transition over the same period, such as China, Turkey, India, and Java, differed from those of Japan. The central government in Japan encouraged indigenous merchants to engage in reforms and tried to mobilize their physical, financial, and human capital for modernization. The governments in other parts of Asia lacked either the capacity or willingness to mobilize capital of indigenous merchants, or both. The former samurai exercised their leadership and expertise mainly in government, while indigenous merchants held the advantage in the commercial and financial worlds.

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