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Modernizing the financial system in Japan during the 19th century: National Banks in Japan in the Context of Free Banking

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Abstract***

In this paper, we explore the role of competing concepts of the banking system in the process of modernizing the financial system in Japan. The country has a long history of its own version of private note issuance dating back to the early 17th century. In the late 19th century, the Japanese government considered two options for modernizing its financial system, national/free banking as in the United States, and central banking as in Europe. It first decided to adopt the former because the Japanese economy was decentralized and more closely resembled the economy of the United States than that of the European countries. However, the Japanese government customized the banking system for the Japanese situation. After some trial and error, the government turned to the latter option and established the central bank in 1882.

Key words: the modern banking system, free banking, national banks, the Bank of Japan

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Introduction

Historically, we have only a few examples of pure free banking, but a rich experience of banking systems which contain some elements of free banking. Among them, we will visit two experiences of national banking systems which evolved in the Pacific Basin. We have chosen these two experiences because they highlight the theoretical potential of stable banking systems with multiple issuing banks and the practical constraints required to make them workable. [1]

A stable monetary system requires 1) a flexible supply of liquidity in normal times, which facilitates an inter/intra-regional and intertemporal accommodation of funds, and 2) a lender of last resort (LLR) to deal with crises. Dowd (1996) describes the equilibrium of free banking in a way that a small number of issuing banks with nationwide branch networks meet such conditions:

> The banking industry exhibits extensive economies of scale, but not natural monopoly, and there is typically a small number of nationwide branch banks, with a larger number of specialist banks that cater to niche markets. The industry is competitive and efficient by any reasonable standard.
>
> We can think of this banking system operating on a convertible, commodity-based monetary standard (e.g. a gold standard). Bank liabilities are denominated in terms of the economy's unit of account (such as pound), and underlying the system is some rule that ties the unit of account to a unit of the 'anchor' commodity on which the monetary standard is based. The price level in this system is then determined by conditions in the market for the 'anchor' commodity. Bank currency is convertible – the banks must redeem their currency when required to – and so the amount of currency in circulation is determined by the demand to hold it. If banks issue too much currency, the public simply return it to the banks for redemption, and the excess currency is automatically retired.[2]

In relation to the above conditions, Selgin and White argue that the emergence of a free banking system requires some basic financial infrastructure as a precondition:

> The evolution of a free banking system, following the emergence of standardized commodity money, proceeds through three stages. These are, first, the development of basic money-transfer services which substitute for the physical transportation of specie; second, the emergence of easily assignable and negotiable bank demand liabilities (inside money); and third, the development of arrangements for the routine exchange ("clearing") of inside monies among rival banks.[3]

In this paper, we look into the national banking systems which emerged in the United States and Japan during the second half of the 19th century. As we will see later, the two systems had some of the distinctive features of free banking though both lacked crucial elements to make free banking effective.

In the United States, after the free banking era of the late 1830s to the early 1860s, the onset of the Civil War brought the federal government into banking regulation. The National Bank Acts of 1863 and 1864 created a new type of commercial bank – "national banks," which were private banks with a federal charter operating under the new rules and regulations.[4] Still,

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[1] Briones and Rockoff (2005) discuss the divergence of definitions of free banking among scholars and propose a broad definition of it as "lightly regulated banking."

[2] Dowd (1996) and Dowd (2000), p.18.

[3] Selgin and White (1987) and Selgin and White (1996), p.58.

[4] National banks both in the United States and in Japan were not state-owned.

the law inherited some distinct features of free banking. In fact, the law was very much based on the existing New York State free banking law. Many of its distinctive features in both operations and structure—free entry, note issues secured by public securities deposited with a government official, centralization of note redemption facilities in major financial centers, a tiered hierarchy of banks, and so forth—derive from the New York State model.

Japan has a long history of its own version of free banking dating back to the early 17th century. Four years after the Meiji Restoration in 1868, the Japanese government promulgated the National Bank Act of 1872. Before the legislation, the Japanese government considered two options, national banking as in the United States, or central banking as in Europe, and decided to adopt the former. The decision was made because the Japanese economy in the late 19th century was decentralized and more closely resembled the economy of the United States than that of the European countries. However, the Japanese government customized the banking system for the Japanese situation. After some trial and error in the 1870s and the early 1880s, the government established a central bank, the Bank of Japan (BOJ).

In both the US and Japanese cases, the national banking system was a layer of free banking. In retrospect, both systems proved less than fully successful. What was the initial intention of the founders of the systems? How did the operations of banking systems based on similar laws differ between the two countries? Did the systems work as expected? What problems developed in the two countries? To explore these questions, we look at the experiment undertaken by the Japanese policymakers and bankers to introduce the Japanese version of a national banking system, modeled after the U.S. system.

[1] The Economy and Money in Japan during the Edo Period (1603-1867)

1) The National Commodity and Financial Markets

Japan has a long history of banking activities.[5] The civil war period during the late medieval era (from the late 15th century to the middle of the 16th century) brought about the breakdown of the previous national distribution and financial systems and led to their restructuring. In the early 17th century, the Tokugawa Shogunate finally resolved the civil war and established a national government as a version of the feudal system.[6] At the same time, the government prohibited foreign emigrants/immigrants and banned private foreign trade.[7] From the early 17th to mid-19th century, Japan was a kind of microcosm, highly independent and closed off from the rest of the world, without major wars either with other countries or domestically.

During the Edo Period, a kind of highly-sophisticated market economy developed in Japan. Agricultural production was widespread in the whole country. Osaka developed as the national commercial and financial center, Kyoto as the industrial center because of its technological edge, and Edo (now Tokyo) as the political and commercial centers, where the Shogun and feudal lords' families and their subordinates resided. Taxes were imposed by *koku*, the unit of rice.[8] Feudal lords shipped their rice to Osaka and sold it to merchants there in exchange for money to be used to finance their daily purchases. Seasonality in rice production forced feudal lords to depend on commercial credits supplied by rich merchants in other times of the year. Commodities from all over the country were sent to Osaka and then were distributed to Edo and other consumption sites. As commercial activities penetrated into the countryside and division of labor became widespread nationwide, some merchants engaged in sophisticated

[5] We define 'banking' as a combination of financial services such as accepting deposits and issuing currency, transferring funds, and lending.

[6] Iwahashi (2004), pp.85-104.

[7] This is mainly due to religious and economic reasons: the government regarded Christianity as politically dangerous, and it aimed to monopolize benefits from foreign trade. Toby (1984/1991), pp.3-22.

[8] 1 *koku* is the volume of 180 liters, or the equivalent of annual per capita rice consumption.

financial operations.[9] [10]

2) Currency and Banking System

During the Edo Period, Japan established a three-tier currency system, using gold, silver and copper coins as specie. As media of exchange, gold coins and silver bars were mainly used in transactions of larger denominations; copper coins were mainly used in smaller transactions although copper coins were also used for transaction of larger denominations in some areas. Gold and copper coins were currencies by table; one unit was *ryo* for gold and *mon* for copper. Silver bars (*cho-gin* and *mameita-gin*) were currency by weight traded by *monme*, that is, 3.75g.[11] Exchange rates among gold, silver and copper floated. The currency unit in silver (*monme*) was widely used as a unit of account by merchants until the end of the Edo period and even in the beginning of the following Meiji period.

Due to a scarcity in specie to meet the increasing demand for media of exchange, and also in order to finance fiscal deficits in many cases, many feudal lords issued clan notes (*hansatsu*). When backed by commodities such as rice and/or local products demanded in Osaka, Kyoto, Edo or other cities and towns, the clan notes circulated at around par, but excess issuance often led to the collapse in the value of the clan notes.

The distinction between merchants and moneychangers was vague in the Edo Period. Most moneychangers had their origins as merchants and stayed engaged in commodity trading while operating *de-facto* banking businesses. Merchants with financial expertise operated in a wide range of banking businesses. They not only exchanged currencies, but also accepted deposits from their customers, established correspondence networks with each other and with their customers, and extended credits to their customers. Some of them obtained licenses of *ryogaesho* (or official moneychangers' status) from the Shogunate or feudal lords, while still conducting their usual commercial activities such as the trading of rice, textiles, and mining products. Other merchants, who did not have licenses as official moneychangers, also operated banking businesses as well as their usual commercial activities. In many cases of clan notes, merchants/moneychangers were engaged in issuing them. In some cases, merchants/moneychangers issued paper monies for themselves.

[2] Transformation Toward Modern Banking

After the opening up of the Japanese economy to international trade during the 1850s and the Meiji Restoration in 1868, the new government moved to establish modern monetary and financial systems, but with some trial and error. In the course of events, the government first introduced a banking system based on the US model after a sharp debate, then abolished it and introduced a European type of central banking system by establishing the BOJ.

1) Debate on Banking Systems and Establishment of National Banks

In 1868, the government introduced new government notes (*dajoukan-satsu*) based on the unit of account in gold (*ryo*) and abolished the use of silver currency by weight (*cho-gin* and *mameita-gin*). *Dajoukan-satsu* were initially introduced as a substitute for gold and silver coins issued under the rule of the Tokugawa Shogunate. However, due to massive fiscal expenditure towards the civil war and the shortage of fiscal revenues, the *dajoukan-satsu* suffered from excessive issuance, which resulted in inflation.

In 1869 a prototype of modern commercial banks (*kawase-gaisha*) was introduced by

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[9] For example, futures markets for rice emerged in Osaka in the late 17th or the early 18th century.

[10] Honjo (2002).

[11] In the late Edo period, the Shogunate reminted silver coins as subsidiary currency for gold by casting silver bars.

merchants with the support of the government. *Kawase-gaisha* were established in eight trading centers: Tokyo, Osaka, Kyoto, Yokohama, Kobe, Niigata, Otsu, and Tsuruga. The *kawase-gaisha* were to be engaged in the usual banking activities such as accepting deposits from and extending credit to customers, and transferring funds over long distances. They were also authorized to issue banknotes. But almost all *kawase-gaisha* soon suffered from bank runs and failed (only the one in Yokohama survived).

In 1870, Hirobumi Ito, a high-ranking official in the Ministry of Finance (MOF) who had been sent to the United States to study Western monetary and banking systems, submitted a proposal for establishing banks of issue and the gold standard system. After exploring the American national bank system, Ito argued that the Japanese issuing bank system should be modeled after the national bank system in the United States. He proposed the introduction of the U.S. system because the Japanese economy in the late 19th century was decentralized and more closely resembled the economy of the United States than it did that of the European countries.[12]

In 1871, Kiyonari Yoshida, another MOF official who had lived in Europe and the United States from 1864 to 1870 to study the financial systems there and had just returned home, proposed a plan for the establishment of a single issuing bank, modeled after the Bank of England.[13]

At this stage, a sharp debate arose over the two competing plans for the new issuing bank system. Ito argued, "If we introduce the U. S. system, we will be able to redeem half of the existing currency into banknotes issued by the newly established issuing companies and convert the other half into government bonds. In doing so, we will recover the credibility of the currency."[14] Yoshida responded, "We should introduce the common method of banknote issuance in Europe by establishing an issuing company with specie reserves. By doing so, we will eventually be able to make coins and paper money convertible."[15] Ito criticized his opponent, "Such an argument overlooks the nature of the government as an entity that can utilize the power of private sector. It merely considers the accounting of the government without any thought for people's progress."[16]

In a sense, Ito advocated an endogenous supply of money to promote industrial development, based on the approach of the banking school. In contrast, Yoshida emphasized stabilization through control of money based on the approach of the currency school.[17]

In 1871, the government declared it would adopt the gold standard and introduced the *yen* as the new unit of account. It also issued gold coins for general use and silver coins for international trade.[18] In 1872, the government issued government notes denominated in yen, and proclaimed the National Bank Act. Under the National Bank Act of 1872, national banks were allowed to engage in the usual banking activities and were also authorized to issue convertible notes. The establishment of private banks which could issue convertible notes was a compromise between Ito and Yoshida's arguments. By law, the amount of national banknotes could not exceed 100 million yen, which was effectively unlimited allowance for banknote issuance since the value of notes in circulation (including those issued by the government and former feudal lords) was less than 100 million yen. However, due to strict regulation, especially a high reserve ratio, only four national banks were established under the National Bank Act of 1872.

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12 Bank of Japan (1982), pp.16-18.
13 Bank of Japan (1982), pp.18-19.
14 Shunpo-kou Tsuihan-kai (1940), p.527.
15 Ministry of Finance (1905), p.25.
16 Ministry of Finance (1905), p.26.
17 Bank of Japan (1982), p.19.
18 During the late 19th century, silver was widely used in international trade in the Asia-Pacific region.

2) Amendment of the National Bank Act in 1876

In 1876, the government amended the National Bank Act, making national banknotes inconvertible. Under the new National Bank Act of 1876, national banks were allowed to issue banknotes backed by national bonds.

The government changed its policy to deal with the reforms necessary in the stipend scheme for former *samurai*. After the collapse of the Tokugawa Shogunate, the government continued paying stipends to former *samurai*. In 1876, the government stopped paying stipends and compensated for them by giving former *samurai* coupon bonds.[19] As a result, a large number of national bonds were floated. The government allowed national bonds to serve as reserves for national banknote issuance.

At this stage, Ito's proposal was fully implemented. From 1876 to 1879, 153 national banks were established, including four re-chartered banks, which had been established under the previous National Bank Act. Some banks were established by moneychangers, some by merchants, and some by former *samurai*.

Also in 1876, the government gave a charter to Mitsui Bank, the first private bank (*shiritsu ginko*) in Japan apart from the national banks. A number of private banks were established after this. The private banks were chartered by the government to engage in the usual banking business, but they were not allowed to issue banknotes.

While the origins of the national and private banks differed, the operations of these banks depended on the managerial skills of moneychangers. At the same time, many moneychangers remained engaged in the banking business without government charters. The Meiji government called such moneychangers quasi-banks.

Table 1 shows the number and the amount of capital of Japanese financial institutions which were recognized by the government in 1881. A total of 149 national banks, 90 private banks, and 369 quasi-banks were recognized. The government admitted that it was not able to acquire sufficient information about quasi-banks and that the quasi-bank statistics may be underestimated.

On average, quasi-banks were much smaller than national or private banks. The average capital of national banks was 295,000 yen, that of private banks was 116,000 yen, and that of quasi-banks was 16,000 yen. Even excluding the giant Fifteenth National Bank, which was established with funds from former feudal lords, the average capital of national banks amounted to 176,000 yen, still larger than the other types of financial institutions.

In response to the banking boom and in the face of rampant inflation during and after the Seinan Civil War in 1877, the government moved to regulate the supply of money. In 1877, Finance Minister Shigenobu Okuma proposed a cap on the banknote issuance amount by prefecture. In 1878, the National Bank Act was amended again to set an effective limit on banknote issuance. Then, the government introduced a regulation on the allowance of banknote issuance in each prefecture. The national limit was set at 34 million yen, and when the total allowance reached the limit, the government stopped accepting requests for new bank establishments. This was a retreat from free banking.

3) Establishment of the BOJ in 1882

After the Seinan Civil War in 1877, the government became inclined to the establishment of a central bank as the sole issuer of convertible banknotes. In the initial phase, Finance Minister

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[19] After the Meiji Restoration, the government eliminated the feudal privileges of former *samurai*. In 1876, the government abolished payment of stipends to former *samurai*. In return, these former *samurai* received government bonds. The purpose of the amendment of the National Bank Act was twofold: to deregulate national banks and to mobilize capital held by former *samurai* as government bonds. See Bank of Japan (1982), pp.26-28.

Okuma proposed issuing bonds in the international markets to build up specie for conversion of banknotes into specie. As we will see later, another financial statesman Masayoshi Matsukata opposed Okuma's proposal, arguing that issuing foreign bonds would risk Japan's sovereignty in case Japan had trouble repaying it. Instead, Matsukata advocated an austerity policy towards the establishment of the central bank.[20] In 1881, Matsukata finally won a series of internal battles with Okuma and became Finance Minister, thus initiating the Matsukata Financial Policy, which included an austerity fiscal policy and the establishment of the BOJ. The BOJ was established as the central bank of Japan in 1882, and the right to issue banknotes was taken from the national banks and given to the BOJ alone. The transformation from a multiple issuing bank system to a single issuing bank system, turning previous national banks into ordinary banks, was completed in 1899.

[3] Comparison of National Banks in the United States and in Japan

As we have seen, the national bank system in Japan was modeled after that in the United States. At a glance, the text of the National Bank Act in Japan seems a literal translation of the US law from English to Japanese. However, Japanese policymakers modified the US articles on some points.

Most previous studies have emphasized the similarities rather than differences between the two systems, though some have scrutinized the differences. Here we compare the two national banking laws to shed light on the structure of the two systems focusing on the inter-bank payment and clearing systems.

Among previous studies, Miyajima and Weber (2001) compares the institutional framework and functions of the banking systems under the National Bank Acts in the two countries. The paper concludes that the banking system was less developed in Japan than in the United States in terms of deposit banking. Though deposit banking constituted an important part of the banking businesses, we need to broaden our study before concluding that the overall banking business was underdeveloped in Japan compared with the United States. We will scrutinize the articles of the National Bank Act in both the countries focusing on the banking reserve system and the domestic exchange payment system.

[4] The National Bank Act in the USA

In the USA, the National Bank Act was enacted in 1864 in the midst of the Civil War.[21] It comprised 68 articles. We summarize its contents focusing on the clauses related to capital requirements, regulations on banking business, and reserve requirements.

1) Capital Requirements

Under the National Bank Act, the national banks were to be limited-liability joint-stock companies. The Act set the minimum capital amount of a bank at $100,000 in principle. There were exceptions in the case of small towns with populations of less than 3,000, set at $25,000, and towns with a population of less than 6,000, set at $50,000. Anyone had the right to become a shareholder. Each shareholder was entitled to execute one vote per share. The Act stipulated the face value of a share of stock to be $100. The bank could open a business when the paid-in capital reached 50 percent of the applied capital stock.

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[20] Having studied the European financial and banking systems with the advice of French Financial Minister Leon Say, grandson of Jean-Baptiste Say, Matsukata was fascinated by the newly established Belgian central banking system. See Bank of Japan (1982), p.103.

[21] The Act, which was later called "the National Bank Act," was initially entitled "An Act to provide a national currency secured by a pledge of United States bonds, and to provide for the circulation and redemption thereof," and was approved in June 3, 1864.

2) Banking Business Regulations

The banking business mainly consisted of banknote issuance and deposit-lending. The national banks were authorized to issue banknotes up to the total amount of $300 million. By depositing US-registered (government) bonds to the Treasury, each bank was allowed to issue banknotes up to 90 percent of the current market value of the deposited bonds in exchange. All the banknotes had the same design with ten denominations from $1 to $100.

There were several regulations on depositing the US bonds to the Treasury. First, eligible bonds had to have a more than five percent coupon rate. Second, the total amount of bonds deposited by each bank had to be more than $30,000, and this amount had to be more than one-third of the paid-in capital of the bank. Last, any kind of note competing with banknotes as money was prohibited.

The banks were allowed to engage in any business other than banknote issuing, such as bill discounts, deposits, exchanges, and personal loans. However, the government implemented some regulations on their businesses: 1) the interest rates could be no more than seven percent, which basically abided within the State law, 2) real estate businesses such as trading, holding or mortgage were prohibited, 3) the amount of lending to a single customer was limited to under one-tenth of the amount of the paid-in capital stock while bill-discount was exempted, 4) banks could not trade or lend on the bank's own stock shares, and 5) debts could not go over the capital amount.

3) Reserve Requirements

The reserve structure under the national banking system had several characteristics.

First, the national banks had to hold "lawfull money" (lawful money) as reserves. This lawful money consisted of "legal tender" and securities issued by clearing houses appointed in 18 cities. The legal tender included not only gold and silver coins but also fiduciary money issued by the US government. It was uncommon for fiduciary money, rather than specie, to be accepted as reserve money in those days. A reserve ratio was not stipulated against each part of banknotes and deposits but against total amounts of notes and deposits. As the depositary banking business developed, this reserve stipulation was amended in 1874: deleting an article on banknotes, simplifying it to only the reserve on deposits.

Second, the reserve structure of national banks comprised a three layered pyramid. While many national banks scattered over the nation belonged to the lowest layer, the banks in the 17 reserve cities were placed in the second layer, and the banks in New York were placed at the top of the pyramid. The 17 reserve cities were core cities in national financial activities: Albany, Baltimore, Boston, Cincinnati, Chicago, Cleveland, Detroit, Louisville, Milwaukee, New Orleans, New York, Philadelphia, Pittsburgh, Saint Louis, San Francisco, Washington DC, and Leavenworth. The national banks in the lowest layer deposited a part of their reserve money in the national banks in the reserve cities. The national banks in the reserve cities deposited a part of their reserve money in the national banks in New York. The reserve ratio for the national banks differed between reserve cities and the other cities: 25 percent in the reserve cities and 15 percent in the other cities. National banks in cities other than reserve cities may have deposited money equivalent to three-fifth of their 15 percent reserves in national banks in a reserve city. And, national banks in reserve cities may have deposited a half of their reserves in national banks in New York. Under such a multi-layered reserve system, the reserve cities worked as regional money centers and New York worked as the national money center.

Third, the national banks had an inter-bank clearing system. National banks in the reserve cities were required to convert the banknotes issued by the national banks in other cities into the lawful money *at par*. Payments between remote areas were settled between their respective reserve deposit accounts through a "check" drawn on the national banks in the reserve cities, while payments between national banks within a city were settled through a clearing house associated with the banks in the city. Without such a reserve deposit system, clearings and settlements over long distances could have been executed only through a correspondent system, which was burdened with entangled procedures to clear bills. Evidently, the pyramid reserve system of the national banks was more efficient than a dispersed correspondent clearing system.

[5] Comparison of the National Bank Systems in Japan and the US

Japan's National Bank Act was modeled after the act in the United States. At first glance, the Japanese Act seems like a literal translation from English to Japanese. However, the designers of the Japanese system such as Eiichi Shibusawa selected and modified the US articles to make the system fit Japanese conditions.

In around 1871, financial architects such as Hirobumi Ito and Eiichi Shibusawa wrote the *Banknote Act* as the first draft of the National Bank Act. That title indicates that their main concern was the rearrangement of fiduciary currencies to establish a stable monetary system. As the newly-born Meiji government had issued various kinds of fiduciary currencies since the Meiji Restoration in 1868, the monetary system had fallen into disorder. The government planned to restore monetary stability by introducing banknotes to replace fiduciary currencies. Almost all the contents of the Banknote Act were transferred into the National Bank Act promulgated in 1872. However, this trial failed because only four national banks were established under the legislation of 1872. The government revised the National Bank Act to stimulate the creation of more national banks. Relaxing the requirements for the establishment of national banks resulted in the creation of 153 national banks. These national banks laid the foundation for a modern banking system in Japan. Later, the national banks yielded their banknote issuance rights to the BOJ, which was established in 1882, and became private, ordinary banks.

Here we will take a look at three legislative settings in Japan by comparing them with the US National Bank Act: 1) the 1871 first draft of the Banknote Act, 2) the 1872 National Bank Act, and 3) the 1876 revised National Bank Act. The Banknote Act of 1871 consisted of 62 articles, the original National Bank Act of 1872 had 27, and the revised National Bank Act of 1876 had 110.

1) Capital Requirements

Japan's national banks were organized as limited-liability joint stock companies, as in the United States. National banks are pioneers of joint stock companies in Japan. It was in the revised National Bank Act of 1876 that the word "capital" was first translated as "shihon," a word that is used in modern-day Japan, instead of the more casual word, "moto-kin" (funds), which was used in the former two Acts of 1871 and 1872.

Capital requirements were set according to the size of the city in which the bank was established. The draft of the "Banknote Act" in 1871 established a minimum requirement of 50,000 yen, which was about half that in the US (at an exchange rate of $1=¥1). The National Bank Act of 1872 raised the minimum requirement to 500,000 yen in cities with populations of more than 100,000. The National Bank Act of 1876 reduced the minimum requirement to 200,000 yen. As an exception, national banks in depopulated areas were allowed to be established with a lower amount of capital: 25,000 yen in the 1872 Banknote Act and 50,000 yen in the 1876 National Bank Act.

The bank's stock share had only one denomination of 100 yen in the 1871 Banknote Act and the 1872 National Bank Act. In the 1876 revised National Bank Act, banks were allowed to issue banknotes in denominations of 25, 50, and 100 yen.

2) Banking Business Regulations: Banknote Issuance

As in the US, Japanese national banks were allowed to issue up to the same amount of banknotes in exchange for government bonds deposited in the Treasury. The amount of deposited government bonds was raised from more than one-third of the capital in the 1871 Banknote Act to more than six-tenths in the 1872 National Bank Act, and further, to more than eight-tenths in the 1876 revised National Bank Act.

A cap for banknotes issued by all national banks was set at 100 million yen. Banknotes were issued in denominations of 1, 2, 5, 10, 20, 50, 100, and 500 yen. The total amount for small denominations less than 5 yen could not be higher than half of the total amount for all denominations. Banks were prohibited from issuing other bills similar to banknotes.

While banknotes could be exchanged for specie both under the Banknote Act of 1871 and the original National Bank Act of 1872, under the revised National Bank Act of 1876, they could be exchanged for “currencies” including fiduciary money. Japan’s national banks eased the terms of convertibility of banknotes from specie to fiduciary money, as in the case of lawful money in the United States.

3) Banking Business Regulations: Deposits and Loans

The banking business included deposits, exchanges, promissory notes, exchange bills, loans etc. Deposits were not divided into subcategories of demand deposits and time deposits until the revision of the National Bank Act in 1876.

The following businesses were prohibited in Japan as in the United States: 1) real estate transactions, 2) loans to a single party amounting to more than a tenth of the bank’s capital (excluding commercial bills), and 3) holding of and lending on its own stock shares and its own banknotes.

4) Reserve Requirements

Ito and Shibusawa held, at first, the idea of a reserve city system similar to the United States, based on the notion of “Harbor Cities.” The Harbor Cities were eight financial centers: Tokyo, Kyoto, Osaka, Yokohama, Nagasaki, Hyogo, Niigata, and Hakodate. The national banks in cities other than the Harbor Cities were required to hold reserve assets equivalent to 15 percent of their total debt of banknotes and deposits, within three-fifths of which could be deposited in the account of national banks in Harbor Cities. The national banks in “Harbor Cities” were required to store specie equivalent to a quarter of the reserves in their own vault and one-eighth of the reserves in the national banks in the two big cities of Tokyo and Osaka. By doing so, the national banks in the Harbor Cities could convert their banknotes to specie at the national banks in Tokyo or Osaka. Any national bank in a Harbor City that did not have sufficient reserves was compelled to stop its banking business for thirty days.

Although the 1871 draft of the Banknote Act contained provisions for a reserve city system similar to the US Act, there was a difference between Japan and the US in terms of the contents of the reserves. While the reserves in the US Act were lawful money including fiduciary currency, the reserves in Japan’s 1871 draft were specie, that is, gold and silver coins. Leaders in Japan in the initial stage adhered much more to the establishment of convertibility between banknotes and specie than leaders in the US did. More rigorous provisions were adopted in the Japanese legislation of the National Bank Act in 1872. The banks were required: 1) to keep reserves for banknotes in the form of specie equivalent to four-tenths of capital in the vault, 2) to keep specie as reserves for the deposit corresponding to more than a fourth of the total deposit amount separately in the vault, 10 percent of which could be in the form of government bonds, and 3) the national banks in the Harbor Cities were obliged to convert their own banknotes to specie at their branches in Tokyo and Osaka when the national banks in other areas requested.

Such restricting provisions on specie convertibility were relaxed in the 1876 revision of the National Bank Act, because only four banks could be established due to the severity of regulations. The revised act abandoned the requirement of specie convertibility, thereby changing the monetary scheme from a specie-based one to one based on lawful currency as in the United States. The national banks were requested to store reserves: 1) equivalent to two-tenths of the amount of banknotes issued, and 2) equivalent to a quarter of the total deposits. In addition, 3) the 1876 revised Act induced stock owners to pay depositors temporarily in case of short reserves

In short, the two legislations of the 1871 draft of the Banknote Act and the 1872 National Bank Act aimed to establish a three-layered pyramid reserve system following the United States. The specie convertibility of banknotes in Japan was much more restricting than lawful money in the United States. This early rigorous obligation of the convertibility of banknotes was relaxed from specie to fiduciary papers in the 1876 revision of the National Bank Act.

The provision of the pyramid reserve system was eliminated along with the relaxation of the reserves proposition. Why was the provision of the pyramid reserve system eliminated in the revised Act? Unfortunately, we have few materials to answer this question. A hypothesis is that the US and Japanese aims in establishing a reserve city system were different from the start. The Japanese government, worried about consecutive massive overseas specie drains, hoped to establish the banknote system with specie convertibility for a stable national currency. In a monetary mess right after the Meiji Restoration, the government preferred the pyramid reserve system as an efficient system for preserving scarce specie. When the government felt little necessity to stop specie outflow, it relaxed the convertibility obligation and abandoned the pyramid reserve system. Japanese leaders' main concern was to keep the specie at home, while the American leaders established the pyramid reserve system for the stability of the domestic banking system.

[6] Emergence and Development of a Joint Domestic Exchange System

The revision of the National Bank Act in 1876 ignited start-ups of national banks, and the number of national banks established reached 153. However, the reserve-deposit system, which had been the backbone of the US national banks, was not adopted in Japan. As the result, the Japanese national banks had no institution acting as the central clearing system for domestic exchange. The 153 national banks and many other private banks were scattered separately without any clearing center. Their distance payments could not be settled through any clearing center but only through correspondent networks, through which a bank had to search a netting partner one by one through its own connection of correspondents for a payment. Due to this institutional drawback, the Japanese national banks inherited a traditional distance-payment system from the pre-modern era. The banks, faced with such inefficiency, began to make their own efforts to build up a more efficient system toward central clearing. Trials were done by voluntary movement within the private sector. The National Bankers Association was established, and several attempts were made to build up a coordination mechanism to connect the 153 banks with each other.

The first step was to establish a mutual mechanism of banknote exchange among the national banks, through which banks could collect their own banknotes held by other banks. Through this mechanism, the national banks would succeed in exchanging banknotes with each other on *a par* nationwide.

The second step was the proposal of an "Exchange Reserve System" for national banks by Eiichi Shibusawa, a former official of Ministry of Finance and then governor of the First Bank, at meetings of the National Bankers Association in 1877 and 1878. His plan was modeled after the US system, which Seiichi Taneda studied intensively in the United States under Shibusawa's instruction. The point of discussion was the reserve city provision, which was deleted from the articles of the 1876 National Bank Act. After heated debates about the heavy burden shouldered by "clearing" banks in the cities, the association concluded by making a proposal to the government. The Bankers Association's plan was different from the 1872 National Bank Act in terms of the number of the reserve cities, decreasing from the eight Harbor cities to the two of Tokyo and Osaka, taking into account the burden of small and middle banks in the Harbor cities. However, the government did not adopt the cooperation plan from the private sector.

After the failure of the National Bankers' Association's plan, some regional bankers' associations set up clearing systems in regional bases. The Eighteenth National Bank, located in Nagasaki, proposed an "Expansion of exchange" in the 1880 meeting of the Kyushu Bankers Association. The plan was to establish a three layered national clearing system for the exchange of bills. This was called the "Joint Domestic Exchange System," which was a combination of regional systems in the nation. The system consisted of six regional centers, Hakodate, Sendai, Niigata, Nagoya, Hiroshima, and Nagasaki, and the two national centers, Tokyo and Osaka. The system dealt with term exchange bills of denominations less than 100 yen. Member banks would deposit government bonds in the Treasury or the Fifteen National Banks and could borrow up to 2,000 yen. The plan would be a national clearing system for "remittance bills," not a reserve-deposit system like the US system.

This "Joint Domestic Exchange System" was built as a regional clearing system, but it never became a nationwide clearing system. The Kyushu Bankers Association at first adopted the plan and implemented the system in the Kyushu area. The leaders, such as the governor of the Eighteenth National Bank, persuaded members of other bankers' associations and the BOJ to move toward a nationwide system. The Bankers Association in Chugoku-Shikoku Region, and the Bankers Association in Oshu-Hokkai Region adopted the system in 1888 and 1893 respectively. Although the five regional bankers' associations adopted this system, the two big cities, Tokyo and Osaka, did not participate. The clearing banks in the big cities declined to take part because of the heavy burden accompanying the clearing procedures. The BOJ also did not accept the plan because the timing was "premature." As a result, the plan ended with the regional clearing system covering only the northern and south-western regions, and excluding the national financial center of Tokyo and Osaka.

[7] Operations and Demise of the National Banking System

1) Operation of the Network of National/Private Banks

The national and private banks along with quasi-banks (former moneychangers and other various financial institutions) formed a network which was an extended version (in size and function) of the network of moneychangers in the Edo period. These financial institutions agreed to have correspondent relations with each other. There was no central bank or any single entity which was responsible for the operation of a national payment/financial system. A few big banks such as Mitsui Bank and the First National Bank functioned as hubs of the national payment/financial system.

There were some structural differences in the operation of the financial network between the moneychangers in the Edo period and the national/private banks in the early Meiji period. First, tax reforms changed money flows. Second, in some regions such as Tokyo and Osaka, banks established clearing houses to net out each other's claims on bills of exchange and checks.

In 1873, the Meiji government initiated land tax reforms. The government declared that all land taxes were to be paid in cash instead of rice. To get cash for tax payments farmers had to sell their produce in the local markets. Many local commodity exchanges were established to facilitate transactions of cash crops. Merchants, instead of feudal lords, were engaged in the transportation and sale of rice and other cash crops in the central markets such as Osaka and

Tokyo.

As financial transactions among banks increased, banks in financial centers proposed the establishment of a clearing house. In 1879, banks in Osaka established the first clearing house in Japan. In 1880, banks in Tokyo also established a clearing house. There were a number of attempts to establish clearing houses or bankers associations in other financial centers.[22]

2) Effects of the Establishment of the BOJ on Financial Markets

The payment/financial system in Japan during the early 1880s was decentralized. There was no organization, such as a central bank, responsible for the national payment/financial system.

The Seinan Civil War in 1877 was the last, but fiercest battle after the Meiji Restoration, fought between the new government and remnants of former *samurai*. To finance the war, the government was forced to issue additional government notes and to borrow from the national banks, which resulted in paper money inflation. (Table 3)

After the Seinan Civil War, the government began a policy of fiscal austerity by raising taxes and cutting spending. At this stage, the government became inclined to establish a central bank. Even Ito, in tandem with Finance Minister Okuma, proposed the establishment of a "specie bank." A finance official named Masayoshi Matsukata, who was to became the Finance Minister in 1881, advocated the promotion of national financial market integration and the establishment of a central bank. He traveled to Europe and studied the European financial and banking systems in 1878. With the advice of French Finance Minister Leon Say, he became fascinated by the newly established Belgian central banking system. In *Zaiseigi* (A Proposal for Economic Policies) in 1881, Matsukata called for a central bank, paving the way toward the establishment of the BOJ in 1882.

In *Nippon Ginko Setsuritsu Shishu no Setsumei* (An Explanation of Reasons for the Establishment of the BOJ), Matsukata blamed national banks for not integrating the national payment/financial system.

The BOJ created a correspondent network with national and private banks in its early days. In 1884, the BOJ held 133 correspondent agreements with banks, growing from 55 in 1883, while having until 1890 only one branch in Osaka apart from the headquarters in Tokyo. From the 1890s onward, the BOJ established local branches.[23] Ohnuki (2007) argues that the evolution of a banking network centered on the BOJ contributed to financial integration in Japan.

The amended National Bank Act of 1883 declared that the charters of all existing national banks would expire in twenty years from their establishment, that national banknotes should be redeemed before the expiration of the charters, and that national banks should be transformed into private banks or closed once the charter has expired. From 1896 to 1899, the charters of all the national banks expired; of them, 122 were transformed into private banks, others were closed.

After the establishment of the BOJ, the national banks lost the right to issue banknotes and by 1899 had become ordinary banks. They were regulated under the Ordinary Private Bank Act issued in 1890. It had only eleven articles: 1) a ban on savings deposits with compound interests, 2) the prohibition of loans to a single person worth more than one-tenth of the bank's capital, 3) regulations on operating times. The Act had very few regulations even compared with the National Bank Act. The business of ordinary banks might almost have been free. The BOJ, established in 1882, only took control over the market in around 1900.

Tsurumi (1991) argues that the establishment and evolution of the central bank's network was not a direct path toward financial integration. Rather, it was a complicated process with

[22] Tsurumi (1991).
[23] Ohnuki (2007).

twists and turns. The government and the newly established BOJ tried to include existing financial institutions in their network, while old institutions tried to sustain their own networks (Table 2).

[8] National Banking in Japan as a Layer of Free Banking

To conclude, we look back at the national banking system in Japan as a layer of free banking. First, the amendment of the National Bank Act in 1876 stipulated some distinctive features of free banking. The elimination of the specie reserve clause could have given individual national banks substantial capacities to issue banknotes in a flexible manner. Second, there were minimum regulations regarding banking activities and virtually no regulations on branches. If the government had implemented the act literally to its full extent, Japan would have entered a free banking era.

However, the government imposed regulations which took away the crucial elements required to make a free banking system work. First, the government in 1877 set a limit on the issuance of banknotes for each prefecture. Along with the elimination of the hierarchical structure of reserves in the amendment of 1876, the issuance limit curbed the ability of national banks to accommodate contingent demand fluctuations in liquidity. Second, the government switched from free banking to central banking in a short time even though a number of attempts to facilitate free banking proceeded.

As a whole, the Japanese national bank system failed to meet the first condition of a stable monetary system, which is a flexible supply of liquidity in normal times. However, this was not due to the nature of free banking; rather, it seems to have stemmed from incomplete regulation/deregulation. The second condition, the function of an LLR, was not tested because there was no financial panic during the short period of national banking. Under the central bank system that followed, the BOJ was doomed to go through a bumpy road after its foundation in 1882.

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Table 1. Financial Institutions as of the end of 1881

	National Banks			Private Banks			Quasi-banks			Grand Total Capital 1)
Prefecture	Number	Average Capital 1)	Total Capital 1)	Number	Average Capital 1)	Total Capital 1)	Number	Average Capital 1)	Total Capital 1)	
Tokyo	15	1,528	22,926	13	275	3,570	2	0	155	26,651
Osaka	13	224	2,910	11	51	560	1	50	50	3,520
Kanagawa	4	280	1,120	5	111	555	57	19	1,105	2,780
Nagano	5	178	890	17	78	1,330	10	0	5	2,225
Shizuoka	5	138	690	10	118	1,175	4	37	149	2,014
Fukushima	6	180	1,080	3	57	170	15	0	183	1,433
Ishikawa	4	130	520	1	30	30	42	18	747	1,297
Ibaraki	4	93	370	2	260	520	10	18	183	1,073
Kagoshima	3	167	500	1	400	400	12	13	151	1,051
Niigata	5	206	1,030	0	0	0	1	18	18	1,048
Yamaguchi	2	340	680	0	0	0	4	73	291	971
Nagasaki	5	140	700	2	85	170	3	15	46	916
Aichi	4	168	670	3	77	230	0	0	0	900
Oita	3	110	330	0	0	0	75	7	557	887
Gunma	2	250	500	0	0	0	14	24	340	840
Yamanashi	1	250	250	1	100	100	25	19	474	824
Gifu	6	87	520	3	85	255	5	0	32	807
Hyogo	6	108	650	0	0	0	8	20	157	807
Tokushima	1	260	260	1	500	500	0	0	0	760
Ehime	4	110	440	1	80	80	12	16	192	712
Shiga	3	167	500	1	100	100	2	0	60	660
Kochi	4	163	650	0	0	0	1	10	10	660
Saitama	1	200	200	3	37	110	16	22	348	658
Fukuoka	3	117	350	1	120	120	8	20	161	631
Yamagata	4	138	550	1	30	30	4	4	17	597
Okayama	2	190	380	4	45	180	0	0	0	560
Mie	4	88	350	2	50	100	10	7	66	516
Tochigi	1	300	300	1	100	100	7	11	74	474
Hiroshima	2	165	330	0	0	0	5	24	120	450
Kyoto	4	100	400	1	30	30	0	0	0	430
Shimane	2	140	280	0	0	0	9	9	80	360
Fukui	4	88	350	0	0	0	0	0	0	350
Aomori	2	150	300	1	2	2	4	0	33	335
Hokkaido	2	165	330	0	0	0	0	0	0	330
Tottori	2	135	270	0	0	0	1	17	17	287
Kumamoto	3	88	265	0	0	0	0	0	0	265
Miyagi	1	250	250	0	0	0	0	0	0	250
Chiba	2	108	215	1	30	30	0	0	0	245
Wakayama	1	200	200	0	0	0	0	0	0	200
Akita	1	100	100	0	0	0	2	37	75	175
Iwate	2	75	150	0	0	0	0	0	0	150
Okinawa	1	130	130	0	0	0	0	0	0	130
Total	149	295	43,886	90	116	10,447	369	16	5,895	60,228
Total excl. 15th Bank		176	26,060							

1) thousand yen.
Source: *The Second National Statistical Abstract of Japanese Empir*e, 1884.

Table 2. Developments in Japanese Banks

	National Bank		Private Bank		Quasi-bank		Average Capital				
year	number	total capital	number	total capital	number	total capital	National banks	National banks excl. 15th bank	Private banks	Private banks excl. Mitsui	quasi-banks
1876	5	2,350	1	2,000	n.a.	n.a.	470	470	2,000	0	n.a.
1877	26	22,986	1	2,000	n.a.	n.a.	884	206	2,000	0	n.a.
1878	95	33,596	1	2,000	n.a.	n.a.	354	168	2,000	0	n.a.
1879	151	40,616	10	3,290	n.a.	n.a.	269	152	329	143	n.a.
1880	151	43,041	39	6,280	120	1,212	285	168	161	113	10
1881	148	44,886	90	10,447	369	5,895	303	184	116	95	16
1882	143	44,206	176	17,152	438	7,958	309	186	97	87	18
1883	141	44,386	207	20,488	573	12,072	315	190	99	90	21
1884	140	44,536	214	19,422	741	15,143	318	192	91	82	20
1885	139	44,456	218	18,759	744	15,398	320	193	86	77	21
1886	136	44,416	220	17,959	748	15,391	327	197	82	73	21
1887	136	45,839	221	18,896	741	15,118	337	208	86	77	20
1888	135	46,878	211	16,762	713	14,454	347	217	79	70	20
1889	134	47,681	218	17,472	695	14,421	356	224	80	71	21
1890	134	48,645	217	18,977	702	14,513	363	232	87	79	21
1891	134	48,701	252	19,797	678	13,827	363	232	79	71	20
1892	133	48,326	270	22,856	680	13,945	363	231	85	78	21
1893	133	48,416	604	31,030	n.a.	n.a.	364	232	51	48	n.a.
1894	133	48,816	700	37,410	n.a.	n.a.	367	235	53	51	n.a.
1895	133	48,951	792	49,967	n.a.	n.a.	368	236	63	61	n.a.

Note: *The Fourth Report of Banking Bureau* (1884) admitted that the coverage of private banks and quasi-banks were incomplete and the statistics was underestimated.
Sources: Goto (1970), *Japanese Financial Statistics; National Statistical Abstract of Japanese Empir*e (various issues).

Table 3. Currency in Circulation (in thousand yen) and Prices (y/y, percent change)

	Notes			Bullion coins		Subsidiary coins		Ancient currencies		Total	Prices	
year	Gov’t	national banks	Bank of Japan	gold	silver	silver	copper	clan notes	coins		WPI	CPI
1868	24,037	0	0	0	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.
1869	50,091	0	0	0	0	0	0	n.a.	155,886	n.a.	22.2	n.a.
1870	55,500	0	0	0	0	0	0	40,361	n.a.	n.a.	3.8	n.a.
1871	60,272	0	0	2,667	2,740	1,409	5,625	38,551	n.a.	n.a.	-0.8	n.a.
1872	68,400	0	0	26,161	3,663	3,859	5,625	24,904	n.a.	n.a.	9.8	n.a.
1873	78,381	853	0	43,551	3,663	7,597	5,634	19,234	n.a.	n.a.	0.7	n.a.
1874	91,902	803	0	39,712	4,572	8,765	6,060	4,655	0	156,469	4.1	n.a.
1875	99,072	234	0	32,317	4,478	9,610	6,934	1,101	0	153,746	2.8	n.a.
1876	105,148	1,655	0	29,840	6,140	12,868	7,952	607	0	164,210	-4.5	n.a.
1877	105,797	13,223	0	25,741	5,869	15,547	9,034	91	0	175,302	4.3	n.a.
1878	139,419	25,571	0	23,227	6,423	16,913	9,734	n.a.**	0	221,287	4.9	n.a.
1879	130,309	33,965	0	19,823	7,384	14,159	10,192	0	0	215,832	9.9	n.a.
1880	124,940	34,398	0	14,929	9,443	9,589	10,666	0	0	203,965	13.6	14.9
1881	118,905	34,376	0	13,697	9,368	8,136	11,241	0	0	195,723	11.4	10.1
1882	109,369	34,213	0	13,049	13,843	7,499	12,231	0	0	190,204	-7.4	-7.3
1883	97,999	31,693	0	12,655	17,196	7,301	13,199	0	0	180,043	-18.8	-12.2
1884	93,380	31,006	0	11,998	20,138	7,263	14,183	0	0	177,968	-11.4	-2.6
1885	88,345	30,093	3,956	12,555	n.a.	9,253	14,756	0	0	158,958	1.8	0.3
1886	67,801	29,457	39,761	13,226	n.a.	9,006	15,079	0	0	174,330	-7.7	-15.4
1887	55,815	28,567	53,469	14,049	n.a.	11,240	14,913	0	0	178,053	3.8	14.4
1888	46,735	27,611	65,822	14,617	n.a.	11,955	14,799	0	0	181,539	5.1	0.0
1889	40,913	26,542	79,109	16,304	n.a.	12,167	13,485	0	0	188,520	4.5	6.7
1890	34,272	25,811*	102,932	6,588	7,958	12,048	14,864	0	0	204,473	4.7	5.7

Notes * The amount was of allowance.
** The amount was negligible.

Source: Bank of Japan (1986), *Nihon Ginko Hyakunen-Shi Shiryo-Hen* (Bank of Japan: The First Hundred Years: Materials), pp.414-5, p.434.