

Japan¹

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1. Background

The modern financial statistics system in Japan has evolved since the Meiji Restoration in 1868, when political power moved from the Shogunate to the newly established government. In 1871, the New Currency Act was passed and the new currency units, *yen*, *sen* and *rin* were introduced. Since then, the government and the Bank of Japan, established in 1882, have compiled statistics based on administrative data such as accounting records. Yet, at least until after World War II, the quantity and quality of the compiled data varied. There is a limit to the scope of the data that can be retroactively revised, because of the gradual development of the statistical system, undeveloped markets, and varying industrial or market structures. Even where data are seemingly consecutive, changes in data quality should be carefully noted. A further reason for data discontinuity is that compiler or data format for certain data series has changed over time. Territorial changes, especially those in 1945 at the end of World War II, should also be noted as affecting data coverage.²

Following the establishment of the modern Meiji government, Japan expanded its territory up until the 1930s.³ In 1937, Japan's territory consisted of Japan proper (*naichi*) and its colonies (*gaichi*). The former included the four main islands and the Kuriles (the Chishima Islands) and Okinawa, as well as the Ogasawara and other smaller islands. The latter were Korea, Taiwan, southern Sakhalin (Karafuto), the Kwantung Leased Territory in the Liaodong Peninsula, and the islands of the South Pacific. Most of the outer ring of the Japanese Empire (*gaichi*) was acquired as the spoils of war. The post-World War II territory of Japan was, in principle, determined by the San Francisco Peace Treaty, which came into effect in April 1952. By its terms, Japan renounced all rights to Korea, Taiwan, the Kurile Islands, Sakhalin and the South Pacific Islands, and it agreed that the Nansei Islands and the Nanpō Islands, including Okinawa and the Ogasawara Islands, would fall under United States administration.⁴

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² Besides the changes in national borders as a result of World War II, the boundaries of each prefecture are not necessarily the same as those of the present.

³ The descriptions in this paragraph are based on Yamamoto (1989) unless otherwise noted.

⁴ Article 2 of the San Francisco Peace Treaty (1951) stipulated that (a) Japan, recognizing the independence of Korea, renounces all right, title and claim to Korea, including the islands of Quelpart, Port Hamilton and Dagelet.

(b) Japan renounces all right, title and claim to Formosa and the Pescadores.

(c) Japan renounces all right, title and claim to the Kurile Islands, and to that portion of Sakhalin and the islands adjacent to it over which Japan acquired sovereignty as a consequence of the Treaty of Portsmouth of September 5, 1905.

Since then, Japan's territory has changed according to several reversions, such as those of the Amami Islands in 1953, the Ogasawara Islands in 1968 and Okinawa in 1972.

The effects of such territorial changes on data are not identical across statistics. For example, the note in the Annual Statistical Yearbook of Imperial Japan (Nihon Teikoku Tōkei Nenkan) published in 1924 states that "Japan overall" (zenkoku) in that publication means principally the aggregate of all prefectures in Japan proper (naichi). However, it also states that some statistics include figures for colonies (gaichi) and, when a particular table includes figures for colonies, one can recognise these by examining the names of regions in each table. This example shows that one needs to examine the footnotes closely even when using statistics compiled by official entities.

In the process of modernising its economic system, Japan's monetary arrangements changed over time, and reforms regarding monetary systems have affected the development of economic statistics. When the New Currency Act was enacted in 1871, the government intended to adopt the gold standard. However, it also introduced a one-yen silver coin for international settlements at the same time. In 1878, the government allowed the domestic circulation of one-yen silver coins and Japan legally adopted a bimetallic system through the reform.⁵ Some previous studies consider this system as a silver standard, whether on a de facto basis or otherwise.⁶ In 1897, Japan shifted from the silver standard to the gold standard on receiving an indemnity from China for reparations after the first Sino-Japanese War.

During World War I, Japan followed the US decision to suspend the gold standard by imposing a gold embargo in September 1917. The country's strong trade balances during the war started to erode away once the war ended. Japan sought to return to gold following the example of other major countries but was unable to do so during the 1920s. Japan finally returned to gold in January 1930 in the midst of the Great Depression, but the restored gold standard endured for less than two years. Japan then re-imposed a gold embargo and abandoned the gold standard in December 1931 on a de facto basis.

After the short period with a strictly controlled trade system imposed by the occupying authorities, the yen was pegged to 360 yen per dollar on 25 April 1949 in conjunction with a series of economic reforms planned by Joseph Dodge (these reforms are called the Dodge Line)⁷ and remained at that level until the collapse of

(d) Japan renounces all right, title and claim in connection with the League of Nations Mandate System, and accepts the action of the United Nations Security Council of April 2, 1947, extending the trusteeship system to the Pacific Islands formerly under mandate to Japan.

(e) Japan renounces all claim to any right or title to or interest in connection with any part of the Antarctic area, whether deriving from the activities of Japanese nationals or otherwise.

(f) Japan renounces all right, title and claim to the Spratly Islands and to the Paracel Islands.

⁵ The descriptions in this and the following paragraphs are based on Bank of Japan (1982, 1983a, 1983b) unless otherwise noted.

⁶ Teranishi (1982), Ono (2000).

⁷ On this point, see Asai (2011).

the Bretton Woods system. From 14 February 1973, Japan's foreign exchange rates floated.⁸

2. Documentation of data and link to the spreadsheet

The Bank of Japan published the "Hundred-Year Statistics of the Japanese Economy" in 1966, comprising approximately 140 principal time series, which were selected with the aim of providing a statistical picture of Japan's economic development process and facilitating the collection of the basic data necessary for economic analysis and forecasting.⁹ The Bank also publishes the "Financial and Economic Statistics Monthly". Historical statistics regarding the Bank, financial markets, prices, and employment and wages are provided by the Institute for Monetary and Economic Studies via a link on the Bank of Japan website.¹⁰ The latest data compiled by the Bank are available mainly through the "BOJ Time-Series Data Search" on the Bank's website.¹¹

The time series that are targeted in this BIS HMFS project (interest rates, credit, and property/land prices) are available in spreadsheet format (XLSX) on the Bank's website.¹² The majority of the data series currently provided through the Bank's website cover only the most recent decades and the spreadsheet offers digitised data sets that were previously available only on paper. Some data in the spreadsheet are based on the "Hundred-Year Statistics of the Japanese Economy" or the "Financial and Economic Statistics Monthly."¹³ These data are not comparable to recent data due to changes in data coverage and definitions. More comprehensive descriptions of each data series can be found in the original data source.

⁸ For the development of post war foreign exchange policies and related matters, see Ito (2009) and Takagi (2015).

⁹ It should be noted that some data series in this volume contain data from different sources for different periods. For example, lending rates on deeds in Tokyo before 1892 are based on data compiled by the Toyo Keizai and those between 1897 and 1940 are extracted from statistics by the Ministry of Finance and the Tokyo Bankers Association. The editors keep records of such detailed sources in footnotes.

¹⁰ www.imes.boj.or.jp/en_publications.html.

¹¹ www.stat-search.boj.or.jp/index_en.html.

¹² www.imes.boj.or.jp/en_publications.html.

¹³ As a first step for the HMFS project, we start with digitising data mainly from official published statistics because the selection of data series requires methodological considerations (on this point, see Borio et al (2020)). Almost one third of the "Hundred-Year Statistics of the Japanese Economy" consists of detailed information on data sources, the methodologies for compiling historical data series and relevant information, although this information is available only in Japanese. We consider that this information supports the quality of data sets in this volume and that, therefore, the data sets in this volume should be one of the first choices for publication through this project.

3. Credit

The major financial institutions providing credit in modern Japan have been banks, although the role of capital markets and other institutions has also been considerable.^{14,15}

The latest data for bank lending are available in the “Financial and Economic Statistics Monthly”.

Several kinds of private financial institution existed from the beginning of the Meiji Era, including national banks (*kokuritsu ginkō*), ordinary banks (*futsū ginkō*), savings banks (*chochiku ginkō*), special banks (*tokushu ginkō*) and quasi-banks (*ginkō ruiji kaisha*). These organisations varied in size, but they all accepted deposits and made loans.

National banks were established under the National Bank Decree.¹⁶ Originally, the number of national banks was just four, but this rose to 153 at their peak in 1879. Then, due to institutional reform, all the national banks were dissolved or transformed into ordinary banks by 1899.¹⁷

In addition to the national banks, private banks were established from the 1870s. Most of these banks were initially established in major cities, where international trading business was conducted,¹⁸ or where major commodities were produced; they numbered 39 in 1880, and then some 1802 by 1900.¹⁹ Special banks were established by laws particular to each type. Some of them, such as Nihon Kangyō Bank, were specialised in their activities with the aim of mobilising capital to encourage business,²⁰ while the Yokohama Specie Bank (*Yokohama Shōkin Ginkō*) was established to deal with silver coins and then expanded its operations to the foreign

¹⁴ For the roles of banks and capital markets in industrial developments in pre-war Japan, see Teranishi (2007).

¹⁵ For details of historical changes in financial institutions, see Table 62, Historical Diagram of Financial Institutions, Bank of Japan, 1966.

¹⁶ In 1872 the government issued the National Bank Decree, which was revised in 1876.

¹⁷ “Ordinary banks” were private commercial banks (Tamaki (1994)). After applications for setting up national banks were closed, financial institutions developed that took deposits, conducted lending and dealt with domestic bills but did not issue bank notes (Kasuya (2019)). The 1876 revisions of the National Bank Decree allowed would-be bankers to use the title of “bank,” and Mitsui Bank was established as a western-style modern bank (Tamaki (1995)). Until the enactment of the Bank Act in 1893, there was no legal base for such institutions and these institutions were called “private banks”. They were later called “ordinary banks” after the enactment of the Bank Act of 1893 (Kasuya (2019)). The Annual Statistical Yearbook of Imperial Japan (*Nihon Teikoku Tōkei Nenkan*), one of the contemporary resources for official statistics, used the term “private banks” until 1898 and “ordinary banks” from 1899. Bank of Japan (1966) follows this practice. Small companies engaging in lending had become common after 1868 or even before. Little is known about their businesses, but the Annual Statistical Yearbook of Imperial Japan compiled by the government statistical bureau published in 1882 gave a definition of a quasi-bank (*ginkō ruiji kaisha*) as follows: “companies conducting monetary business such as bills of exchange, exchange of coins, advances, deposits and so on are called quasi-banking companies” (Tamaki (1995)).

¹⁸ In Yokohama and Kobe.

¹⁹ Bank of Japan (1966).

²⁰ Tamaki (1995).

exchange business.²¹ Quasi-banks appeared early in the Meiji era and were quite common in rural areas; there were 748 quasi-banks in 1886.²² Their capitalisation was relatively small compared with that of national and private banks.^{23,24}

The regulatory framework changed with the development of the banking system. The National Bank Decree of 1872 capped the maximum loan size to a given borrower at 10% of total capital, included specific provisions for bank examinations and required would-be banks to obtain a banking licence.²⁵ For private banks, the Ministry of Finance allowed banks to be established according to its own internal rules from 1884.²⁶ The Bank Act was enacted in 1893 and the definition of a “bank” was set out for the first time. This limited the lending to a single borrower, required banks to obtain banking licences, imposed an obligation to submit business reports, required banks to publish balance sheets, and regulated business hours and bank holidays. It had articles about inspections and fines to support the effectiveness of such regulations.²⁷ However, the Act did not regulate the minimum level of capital nor did it prohibit businesses other than banking such as warehousing and real estate, and it therefore failed to safeguard financial stability.²⁸ The Act was amended in 1920 to simplify merger procedures in order to bring about a sounder approach to banking. A new Bank Law was then enacted in 1928, which restricted the businesses that banks could engage in. This law also strengthened the monitoring of banks by regulators. In 1936, the Ministry of Finance announced a policy of “one bank in one prefecture”, and accelerated bank mergers in order to make the best use of financial institutions under wartime conditions. As a result, the number of banks fell from 538 in 1932 to 61 in 1945.²⁹

Wide-ranging post-World War II reforms to the financial sector led to changes in the types of bank mentioned above. Special banks were transformed into ordinary banks or long-term credit banks, although the Bank of Tokyo, the descendant of the Yokohama Specie Bank, became a foreign exchange bank.

Regarding regulatory frameworks for banks, strict regulation continued until the deregulatory era of the 1980s, since when deregulation has made further progress.

Other financial institutions expanded during the World War I boom.³⁰ Insurance company assets, both in the life and non-life sectors, surged in that period and their size in terms of funds swelled, becoming the second biggest next to commercial

²¹ Bank of Tokyo (1980).

²² Bank of Japan (1966).

²³ Tamaki (1995).

²⁴ Their assets are not included in Tables 3-1, 3-2 and 3-3 for the BIS HMFS project.

²⁵ Hotori et al (2022).

²⁶ Kasuya (2000).

²⁷ Ibid.

²⁸ The number of banks peaked at 1890 in 1901. See Goto (1970).

²⁹ See Goto (1970).

³⁰ Descriptions hereafter are based on Bank of Japan (1966) and Tamaki (1995).

banks during the interwar period.³¹ The securities markets also developed significantly at the same time.

For credit to individuals, mutual loan associations (*mujin*) were widespread in the early modern period.³² These were eventually transformed into mutual loans and savings banks and then ordinary banks after World War II.³³ Another traditional credit institution, pawn shops, were active in the early Meiji period. Their collective lending outstanding is said to have been larger than that of private banks in the mid-1880s but their share of total retail lending decreased gradually. Individual money lenders also had a long working record and are said to have played an important role as financial intermediaries before World War II, although their share of total credit is not available partly due to a lack of statistics. Many of them were gradually transformed into banks and other modern financial institutions.

Smaller savings amounts have been collected by the government through postal savings.³⁴ Since 1887 post offices have been vehicles for money collection and funds were entrusted to the deposit department of the Ministry of Finance in the pre-World War II era, and then to the Trust Fund Bureau after World War II.

Regarding data on credit, the Bank of Japan has compiled statistics on loans and bills discounted that cover data from domestically licensed banks, foreign banks in Japan, *shinkin* banks³⁵ and other financial institutions. Data on aggregate credit are also available from the "Flow of Funds Accounts"³⁶ or the "Monetary Survey", both compiled by the Bank. The original data are available through the "BOJ Time-Series Data Search" on the Bank's website. Lending data extending back to 1870s are available in the "Hundred-Year Statistics of the Japanese Economy".

³¹ The first modern life insurance company, Meiji Life Insurance Company, was established in 1881. Non-insurance firms started their business in the 1870s and the first company with the name of "insurance company", Tokyo Marine Insurance Company, was set up in 1879.

³² The origins of *mujin* can be traced back to the Middle Ages.

³³ Their credits are included in Tables 3-1 from 1942.

³⁴ Its origins can be traced back to 1875 when the Ministry of Internal Affairs started accepting money at their offices.

³⁵ "Shinkin banks" are cooperative financial institutions. Their membership comprises local residents and small and medium-sized enterprises. Although they limit their lending in principle to their members, their other functions are almost the same as those of commercial banks.

³⁶ Flow of Funds Accounts compiled by the Bank of Japan are available from 1953. Prior to that period, some academic works provide estimations designed to maintain consistency with official statistics to some extent. Utsunomiya (2011) and Utsunomiya (2013) estimate stock basis flow of funds accounts for the period between 1949 and 1952 and between 1941 and 1948, respectively. Fujino and Teranishi (2000) estimate stock figures between 1871 and 1940, although figures for items of the non-financial private sector are not available.

3.1 Credit across different lending sectors³⁷

Lending amount available in the spreadsheet

Data from banks³⁸ and from life and non-life insurance companies were collected in the “Hundred-Year Statistics of the Japanese Economy”. The start of the data series is 1873 for banks (data for the period 1876 to 1887 are not available), and 1909 for insurance companies.

Loans and bills discounted available in the spreadsheet

Data of domestically licensed banks, foreign banks in Japan, shinkin banks and others³⁹ are compiled and released monthly by the Bank. The start of the data series is 1998. The Bank collects the loan figures voluntarily reported from the above banks.

3.2 Credit across different borrowing sectors

Aggregate credit available in the spreadsheet

Data from financial institutions to different sectors (public, private) can be calculated on a quarterly basis from the “Flow of Funds Accounts” released by the Bank. The data series based on 68SNA is available from December 1953 onwards, while the series based on 93SNA and 08SNA is from March 1980 onwards. In the Flow of Funds Accounts, the data on the financial institutions are mainly estimated with their balance sheets combined with market data of stock and government bonds etc. For instance, the seven data series in the Table 3-5 in the spreadsheet are estimated with the Flow of Funds Accounts based on the 08SNA and include not only the total aggregate credit outstanding by financial institutions excluding the Central Bank, but also its breakdown classified by creditors (bank/non-bank) and debtors (private/public).⁴⁰

Data from depository corporations⁴¹ are available from the “Monetary Survey” released by the Bank and the “Monetary Survey” is primarily compiled from the Flow of Funds Accounts. The data in Table 3-6 cover claims on four sectors, namely government, local government, other financial corporations, and others. The claims on each sector are an aggregation of different types of claim. For instance, the “Claims on Government” shows part of “T-Bills,” “Central government securities and FILP

³⁷ For detailed information on each data series, please see the notes available in the spreadsheet, www.imes.boj.or.jp/en_publications.html.

³⁸ The definition and types of private bank change over time. Banks here include savings banks and commercial banks.

³⁹ Others include the Rōkinren Bank, the Prefectural Credit Federations of Agricultural Cooperatives, the Norinchukin Bank, the Shōkō Chūkin Bank, the Shinkin Central Bank, and the Shinkumi Federation Bank.

⁴⁰ As for the amount of credit to the public sector, claims on “Treasury discounted bills”, “Central government securities and FILP bonds”, “Local government securities” and “Loans to general government” are included in these figures. As for the amount of credit to the Private sector, the claims on “Industrial securities”, “Equity”, “External securities issued by residents”, “Commercial paper” and “Loans to other than general government” are included in the figures.

⁴¹ Depository corporations in monetary survey on the current version consist of domestically licensed banks, foreign banks in Japan, financial institutions for agriculture, forestry and fisheries, and financial institutions for small businesses, and collectively managed trusts in the Flow of Funds Accounts.

bonds," "Public corporation securities," and part of "Loans to general government" on the assets side of depository corporations in the Flow of Funds Accounts. The start of the data series is 1953, although there are several discontinuities due to changes in sector coverage.⁴²

4. Interest rates

The Bank of Japan has compiled statistics on average contract interest rates on loans and discounts, prime lending rates and call rates. The latest data are available through the "BOJ Time-Series Data Search" on the Bank of Japan's website. Data on government bond yields are released by the Ministry of Finance or the Japan Securities Dealers Association. It should be noted that certain rates were provided as daily rates in decimal notation and others as annual rates in the original data sources.

Today, one of the most representative short-term interest rates in Japan is the uncollateralised overnight call rate. The daily uncollateralised overnight call rate is available at the "BOJ Time-Series Data Search." For long-term interest rates, the current benchmark yield is a newly issued government bond yield for 10-year bonds and data are published by the Japan Bond Trading Co.⁴³

4.1 Government bond yields

Japan launched its first government loans on the London market in 1870, just two years after the Meiji Restoration, to raise funds for railway construction. Sporadic issuance of government debt through bonds in London, Paris and later New York followed until the 1920s.⁴⁴ The first domestic government bond was issued in 1873. Several domestic issues followed up to the mid-1880s. In 1886, the Public Bond Consolidating Law (*Kōsai Seiri Jōrei*), which consolidated various bonds previously issued, was enacted. Domestic bonds were issued successively; the representative issue with a 5% coupon and 55-year-maturity was issued almost every year in the 1910s. Both domestic and foreign bonds were known to be actively traded in domestic and foreign markets before World War II; for example, sterling-denominated bonds were listed on the London Stock Exchange and domestic bonds were listed and traded on the Tokyo Stock Exchange. Information about the prices of these major bonds is available in various statistics compilations such as the "Economic Statistics for Japan (*Honpō Keizai Tōkei*)" published by the research department of the Bank of Japan, or in business magazines such as *The Economist*. However, they are usually available in the form of bond prices rather than in the form of yields.

The outbreak of the Pacific War in 1941 brought the rapid expansion of government bond issuance. The launching of new government bonds was then banned in principle, with only a limited number of exceptions after the end of the war, first by the directive of the occupation authorities in 1945 and then in Article Four of

⁴² For the details, see the notes of the spreadsheet.

⁴³ For the issue of benchmark yield, see Borio et al (2022).

⁴⁴ For the history of Japanese government foreign bonds and overseas transactions of yen-denominated government bonds, see Suzuki (1994) and Eichengreen et al (2021).

the Public Finance Law applied in the fiscal year of 1948. Issuance of government bonds resumed in 1965.

Domestic bond yields available in the spreadsheet

Data were collected in the “Hundred-Year Statistics of the Japanese Economy.” The data were collected from 1877 to 1965 at a five-yearly frequency. The data from 1877 to 1940 cover the highest [lowest] issued interest rates of bonds during each year.⁴⁵

The data from 1945 to 1965 cover the average of final yield to subscribers of long-term government securities issued during the second half of each year. However, the figure in 1950 shows the average yield of long-term government securities issued during the first half of the year.

Government bond yields available in the spreadsheet

Data are available on a monthly basis from the “Reference Statistical Yields for OTC Bond Transactions” released by the Japan Securities Dealers Association (Table 4-8). The data have been released by the Ministry of Finance on a daily basis from 24 September 1974 onwards (Table 4-9).

4.2 Short-term rates

The official discount rate was the representative policy interest rate for a long time after the establishment of the Bank of Japan. Rather than open market operations, as at present, the Bank of Japan’s main policy tool used to be lending to financial institutions at the official discount rate.⁴⁶ When it was established on 10 October 1882, the Bank of Japan decided on its first business day to set the interest rate on loans secured by government bonds at 11%, obtaining the necessary approval from the finance minister on 12 October. On 11 October, it also determined that the discount rates of commercial bills would be 10.22%.

From 1998, however, uncollateralised overnight call rates became the policy rate. Under the new policy framework, the Bank released a public statement regarding the guideline for market operations, clearly announcing the target level of the uncollateralised overnight call rate; for example, “it expects that the call rate will remain on average slightly below the official discount rate.”⁴⁷ Under the quantitative

⁴⁵ Contemporaries closely watched bond prices rather than bond yields. For example, the Reference Book of Financial Matters (*Kinyū Jikō Sankō Sho*) compiled by the Ministry of Finance usually provides tables for bond prices rather than bond yields. The Bank of Japan created a table for internal use with major economic indicators and the Bank of Japan’s accounts on a daily basis called *Kinyū Yōryaku* (Financial Data Summary), which are stored at the Bank of Japan Archives. In that table, bond prices are available rather than bond yields. As Borio et al (2022) point out, calculating bond yields from price data for analytical purposes requires various technical considerations. The figures in the “Hundred-Year Statistics of the Japanese Economy” are, according to its footnotes, collected by the Bank of Japan but information on the detailed calculation process is not available. On the technical issues for bond yield calculations for pre-war Japan, see also Mitchener et al (2010), and Flandreau and Legentilhomme (2022).

⁴⁶ For the issues regarding central bank policy rates, see Borio et al (2022).

⁴⁷ With the completion of deregulation of deposit interest rates in 1994 and the ensuing change in the financial market environment, the guidance of market interest rates became more important than the control of the official discount rate, the function of which was to directly change deposit interest rates and lending rates. See Ito et al (2020).

easing policy from 19 March 2001 to 9 March 2006, the main operating target for money market operations changed from the uncollateralised overnight call rate to the outstanding balance of the current accounts at the Bank.⁴⁸ On 9 March 2006, the uncollateralised overnight call rate again became the main operating target for money market operations.⁴⁹ On 4 April 2013, “quantitative and qualitative monetary easing” was introduced and the main operating target for money market operations was changed from the uncollateralised overnight call rate to the monetary base.⁵⁰ On 29 January 2016, “quantitative and qualitative monetary easing with a negative interest rate” was introduced in order to achieve the price stability target of 2% at the earliest possible time. Under this policy, the Bank applied a negative interest rate of minus 0.1% to the Policy-Rate Balances in current accounts that financial institutions held at the Bank. The Bank introduced a multiple-tier system, as some central banks in Europe had put in place. Specifically, the Bank adopted a system in which the outstanding balances of financial institutions are divided into three tiers, with a positive interest rate, a zero interest rate, or a negative interest rate applied to each.⁵¹ On 21 September 2016, the Bank introduced “quantitative and qualitative monetary easing with yield curve control” under which the Bank controls short-term and long-term interest rates. The Bank has applied a negative interest rate of minus 0.1% to the Policy-Rate Balances in current accounts held by financial institutions at the Bank and it has purchased Japanese government bonds (JGBs) so that 10-year JGB yields have remained more or less at the targeted level.⁵² On 19 March 2021, the Bank announced that the Bank considered it appropriate to clarify that the range of 10-year JGB yield fluctuations would be between around plus and minus 0.25%.⁵³ On 20 December 2022, the Bank announced that it would expand the range to between around plus and minus 0.5 percentage points.⁵⁴

The short-term money markets developed in the early modern period. When the Bank of Japan was established in 1882, a bills market had not yet developed, and the government and the Bank of Japan took steps to enhance the market for modern types of bill.⁵⁵ But these early measures initially failed to encourage bill transactions⁵⁶ and it was not until the early 20th century that this activity gradually expanded and spread nationwide.⁵⁷ The call market was established in 1901.⁵⁸

⁴⁸ www.boj.or.jp/en/announcements/release_2001/k010319a.htm/.

⁴⁹ www.boj.or.jp/en/announcements/release_2006/k060309.htm/.

⁵⁰ www.boj.or.jp/en/announcements/release_2013/k130404a.pdf.

⁵¹ www.boj.or.jp/en/announcements/release_2016/k160129a.pdf.

⁵² www.boj.or.jp/en/announcements/release_2016/k160921a.pdf.

⁵³ www.boj.or.jp/en/mopo/mpmdeci/state_2021/k210319a.htm/.

⁵⁴ www.boj.or.jp/en/announcements/release_2022/k221220a.pdf.

⁵⁵ During the Edo period, cheques were the common tool for settlements rather than bills (Kasuya (2020)).

⁵⁶ For the details on this point, see Tsurumi (1991).

⁵⁷ Kasuya (2020).

⁵⁸ Tsurumi (1991).

Official discount rates available at the website

Data on official discount rates are provided in “Historical Statistics” on the Bank’s website.⁵⁹ The data period is from 1882 to 1941. Data prior to July 1906, when official discount rates were standardised across all branches, cover interest rates at the Osaka, Saibu, Hokkaido and Fukushima branches, in addition to the Head Office. Since certain rates were provided as daily rates and others as annual rates,⁶⁰ the database provides both daily and annual rates together until the listing of official discount rates was standardised on daily rates in December 1890, in accordance with the original data, with the exception of certain periods during the 1880s.

Call rates in the spreadsheet

Data were collected in the “Hundred-Year Statistics of the Japanese economy,” in Table 4-5 although the frequency is as low as every five years.⁶¹ The start of the data series is 1916. The data are available on a monthly basis from January 1960 onwards in Table 4-6.

4.3 Lending rates

Lending rates in the spreadsheet

Data on lending rates in Table 4-1 from banks were collected in the “Hundred-Year Statistics of the Japanese Economy”. The start of the data series is 1877 for the Tokyo area⁶² and 1892 nationwide, although there are some changes in definitions.⁶³

Average contracted interest rates in the spreadsheet

Data on average contracted interest rates on outstanding loans in Table 4-2 are available from 1955, although the frequency is as low as every five years. The data are available on a monthly basis from January 1976 onwards in Table 4-3.

⁵⁹ www.imes.boj.or.jp/en_publications.html.

⁶⁰ The daily rate represented the amount of interest per day on a loan of 100 yen. For example, “3.53” in an interest-rate table represents an interest of 3.53 sen (0.0353 yen). In certain cases, the daily rates are multiplied by 365 to convert these amounts into annual interest rates. For example, Showa 17-nen Shirabe Kinyū Jikō Sankō-sho (Reference Book of Financial Matters, 1942), published by the Financial Bureau of the Ministry of Finance, includes a table on converting annual and daily rates.

⁶¹ In other sources, data with greater frequencies are available in some cases. For example, the Domestic Economic Statistics (*Honpō Keizai Tōkei*) compiled by the Bank of Japan provides monthly data.

⁶² For Tokyo, data are collected mainly from the member banks of the Tokyo Clearing House. The interest rates on loans from Tokyo member banks show new lending rates. The data from 1877 to 1887 show the highest [lowest] lending rates, which are calculated as the arithmetic average of the highest [lowest] rates in each month in the year. The data from 1892 to 1965 show the highest [lowest] rates during the year.

⁶³ As for nationwide lending rates, the arithmetic average of the highest [lowest] lending rates in major cities is calculated to evaluate the highest [lowest] lending rates. The lending rates differ according to the period. For instance, the lending rates from 1892 to 1940 show the highest [lowest] new lending rates, while those from 1955 to 1965 show the average of contracted lending rates.

Prime lending rates in the spreadsheet

Data on prime lending rates of principal banks are available from 1966 onwards in Table 4-4. The short-term rate shows the most frequent rate, which is the rate adopted by the largest number of the city banks. Since 23 January 1989, these banks have independently set the rate, taking into consideration funding costs and other factors. The long-term rate shows the interest rate adopted and released by Mizuho Bank.

5. Property/land prices

In 2012, the government started publishing property price indices based on transaction data, following recommendations by international organisations such as Eurostat. The recent data are available at the website of the Ministry of Land, Infrastructure, Transport and Tourism (www.mlit.go.jp/).

The major price indicators for real estate markets in Japan have been land prices rather than housing prices.⁶⁴ The origins of modern land transactions can be traced back to the 1870s when the government lifted the ban on transactions involving agricultural land imposed by the Tokugawa Shogunate and established a tax system with a levy on land (JAREA (2016)).

The Nihon Kangyō Bank started publishing urban land price indices in the 1930s and the Japan Real Estate Institute succeeded in compiling and publishing indices in the 1950s.⁶⁵ These two institutes played an important role in the development of appraisals, on which their published indices are based.⁶⁶

As in Kasuya (2007), real estate price data covering wide-ranging transactions are unavailable for the pre-World War II period, with the indices published by the Japan Real Estate Institute being the exception.⁶⁷ These indices consist of land prices rather than housing prices, which may reflect the ownership structure of housing markets. Nataka (2007) argues that, in the pre-war period, houses in urban areas were owned by land owners and rented to individuals. The expansion of individual home ownership was a phenomenon mainly of the post-war high-growth period.

⁶⁴ The ownership for structures and land has been separated in Japan since the creation of modern tax system in the 1870s (Uchida (2005)).

⁶⁵ The Nihon Kangyō Bank was established in 1897 to support the agricultural and manufacturing industries via lending against real estate collateral (Nihon Kangyō Bank (1917, 1953)).

⁶⁶ In the database, the start of the data series is 1936, and the data for the 1936–54 period have been cited from the “Hundred-Year Statistics of the Japanese Economy”, Bank of Japan (1966).

⁶⁷ As for other data, those for land values were collected by the government for tax collection purposes from 1880. They consisted of values per unit (1 tan=about 990m²) of rice fields, farm fields and residential areas and are available in the “Annual Statistical Yearbook of Imperial Japan”, which was first issued in 1882. We should be aware, however, that the data were collected for tax collection purposes and did not reflect market prices. Therefore, the development could be quite different from other, commercially based data series. For example, paddy field data estimated by the government are stable between 1913 and 1928, while those estimated by Nihon Kangyō Bank fluctuated over the same period.

According to Nanjō (2002), there are some estimates of agricultural land prices that extend back to the 1910s.⁶⁸

In the late 1960s, against the background of a price spike on increasing demand for residential land, the government introduced several policy tools and the Land Market Value Publication was established to publish official estimates of market values based on appraisals (Ministry of Finance (1980)).

It should be noted that there are cases where discrepancies among different data series arise because of methodological differences. For example, the prices of the Residential Property Price Index in Table 5-3 are much higher than those of the Urban Land Price Index in Table 5-2 during the period of rising land prices from the mid-1980s to the early 1990s. This can be attributed to the fact that the Residential Property Price Index relies on transaction prices, while the Urban Land Price Index is based on real estate appraisal prices.⁶⁹

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⁶⁸ Prior to WWI, the "agricultural, forestry, and fishery industries" and "commercial and service industries" each accounted for more than 30%, whereas "mining and manufacturing industries" totalled only 20%. From 1928, however, the proportion of the mining and manufacturing industries exceeded that for the agriculture, forestry and fishery industries and the contribution of the mining and manufacturing industries further increased in the 1930s. The representative data series for property/land prices may have changed accordingly.

⁶⁹ There are three types of methodology for the valuation of real estate in Japan (Tatebe (1977), Uno (1992)) as well as in the United States (Appraisal Institute (1992)). The first is the cost approach, where the value of properties is calculated at a cost equivalent to the case in which the property in question is rebuilt. The second is the income approach, in which property prices are the present value of future rents. The third is the sales comparison approach, where property prices are calculated referring to cases of similar transactions. In theory, the three methods should be applied side by side: see "Proposal for the standard for real estate appraisal in 1974" in Japan Real Estate Institute (2009) or the "income approach dominates" (Tatebe (1977)). In practice, the income approach was adopted first (Nihon Kangyō Bank (1917)) and, later, the sales comparison approach became dominant (Japan Real Estate Institute (2009)). As Nishimura (1995) points out, "In practice, the sales comparison approach with cases in the areas referred to is said to be dominant these days."

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