

The Finance of Small and Medium-Sized Enterprises in Japan: A Study of Hiroshi Kawaguchi's Theory of Finance Today

Jun Shirota

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1. Introduction

In the 1960s and 1970s, the dual structure of the Japanese economy, and thus of finance, was discussed by Japanese economists.¹⁾ And the dual structure theory was associated with arguments such as interest rate distortion and criticism of the uneven distribution of funds.

This paper examines the relevance of the dual structure theory of finance and other theories today. Here, we focus on the arguments of honorary professor Hiroshi Kawaguchi of Chuo University.²⁾ First, the dual structure theory of finance. There is a

1) By Prof. Miyohei Shinohara, Prof. Kenichi Miyazawa, Prof. Hiroshi Kawaguchi and others.

2) Hiroshi Kawaguchi and Ichiro Kawai (eds.), *Lectures on Financial Theory 5: Japanese Finance*, 1965 (first edition), "Chapter 1: Characteristics of Financial Structure", Yuhikaku.

Hiroshi Kawaguchi (ed.), *Seminar Economics Class 6: Modern Financial Theory*, 1975, Nippon Hyoronsha, Hiroshi Kawaguchi, *Financial Institutions under Deceleration Growth: First Volume and Second Volume*, 1979, Nippon Keizai Hyoronsha.

Hiroshi Kawaguchi, *Nihon no Kinyu (Japanese Finance)*, Nippon Hyoronsha, 1966.

Hiroshi Kawaguchi, *The Theory of Finance*, Chikuma Shobo, 1966, Professor Kawaguchi was a member of the Financial System Investigative Commission from 1966 to 1968. At the time, the argument for financial efficiency was put forward, but Professor Kawaguchi argued in favour of shinkin banks from the standpoint of small and medium-sized enterprise finance. Professor Kawaguchi served as President of Chuo University from 1981 to 1984, and introduced and developed a system of entrance examinations with recommendations, such as the sports recommendation entrance examination. He lived in Kyoto in his later years, and the author, who was then an

dual structure of financial borrowers: large enterprises and small, medium and micro enterprises, agriculture, etc. With regard to enterprises, there is a disparity in interest rates according to the size of the enterprise, with large enterprises being lent to at low interest rates and small and medium-sized enterprises at high interest rates. Large banks, such as city banks, lend intensively to large enterprises. On the other hand, there is a dual structure of lenders. On the one hand, there are large corporate financial institutions such as city banks, while on the other hand there are small and medium-sized corporate financial institutions such as regional banks, mutual banks and shinkin banks. SME finance tends to have higher cost ratios due to their small size, as well as screening and administrative costs, which means higher lending rates.

Second, there is an interest rate distortion. The call rate must be lower than the official interest rate. This is because the central bank lending rate should be higher than the interbank lending rate. The yield on government bills, a liquid asset, should also be lower than the yield on bank lending rates, etc., which are profitable assets. However, in April 1963, the interest rate system was based on an artificial interest rate policy, with the official interest rate at 5.8% and the city bank lending rate at 5.8%, while the yield on Treasury Bills was in the 6% range and the call rate was much higher at 8.9%. In the extension of lending by city banks, lending rates were lower than deposit rates. This is made possible by the requirement for depositing part of the loan proceeds in lending to small and medium-sized enterprises as compensation.

Third, is the criticism of the uneven distribution of funds theory. At the time, city banks claimed that there was a shortage of funds relative to the demand for funds. According to the city banks, the regional banks and other banks had a surplus of funds relative to demand. The city banks had to raise funds at a high call rate (high cost) while relying on Bank of Japan credit. This argument of the city banks was related to the bank branch administration. At the time, the branch administration was regulated by the Ministry of Finance (MOF). It appears that the city banks, for its part, sought to liberalise the branch administration and developed the theory of uneven distribution of funds. Professor Kawaguchi acknowledged the fact that regional banks and others were the providers of funds in the call market, and criticised the fact that there was shortage of demand for funds from regional banks and others. Regional banks are only a source of funds in the call market because they have high call rates and are an advantageous investment destination. He argued that the artificially low interest rate policy keeps interest rates under policy control, causing call rates to soar in the call market where the price mechanism is functioning.

The conclusions of this paper can be stated in advance as follows. First, with regard to

associate professor at Ritsumeikan University, had personal exchanges with him and was inspired by him in many ways.

the dual structure theory of finance, the ratio of loans to SMEs (Small and Medium-sized Enterprises, same hereafter) etc. in city banks' lending today is generally around 60%, a change from the past. However, even for SMEs, more than 90% of the SMEs lent to by city banks are in the metropolitan area centred on Tokyo, and almost none in the regional areas. The city banks' lending to SMEs diverges from the regional blocs or local economies. A new dual structure has emerged, with city banks serving the urban areas and regional financial institutions serving the regional areas.

Second, interest rate distortions continue to persist, albeit with a different content than in the 1960s and 1970s. In the past, the distortion was that the official interest rate was kept artificially low, the lending rates of the city banks were at the same level, lending to large corporations was extended and market interest rates exceeded them. As the official interest rate was significantly lower than the call rate, the call rate and the official interest margin were also criticised as subsidies to the banks. Today, the official discount rate has been renamed the basic loan rate (0.3%) and is positioned as a ceiling on the unsecured call rate. The interest rate attached by the complementary lending facility (0.1%) was expected to serve as the lower limit of the unsecured call rate, but in reality it was below 0.1%. To further ease monetary conditions, a negative interest rate (-0.1%) was introduced on a portion of current accounts. Thus, Bank of Japan (BOJ) now has four policy rates: 0.3% (basic lending rate), 0.1% (complementary current account rate), zero interest rate and policy rate (-0.1%). BOJ's monetary policy appears to have lost its direction with regard to interest rate formation. Under these monetary policies, the reference interest rates of private banks have almost become a formality. The short-term prime rate, one of the reference rates, has remained unchanged at 1.475% for 11 years. However, banks' real effective lending rates have continued to fall. Thus, interest rate formation is still distorted today.

Third, with regard to the uneven distribution of funds, a significant concentration of deposits has been created in city banks. In the past, regional banks were the providers of funds in the call market, and to this extent their deposits were plentiful. Today, however, deposits are concentrated in city banks. Possible reasons for this include the concentration of funds in urban areas as a result of inheritances occurring in rural areas, and the ever-increasing income of higher-income groups due to the increase in deposits, mainly high value deposits. The retained earnings of large companies in urban areas are concentrated in the city bank deposits.

Therefore, the perspectives of financial duality, interest rate distortions and uneven distribution of funds still seem valid, although they have changed in content from what they used to be.

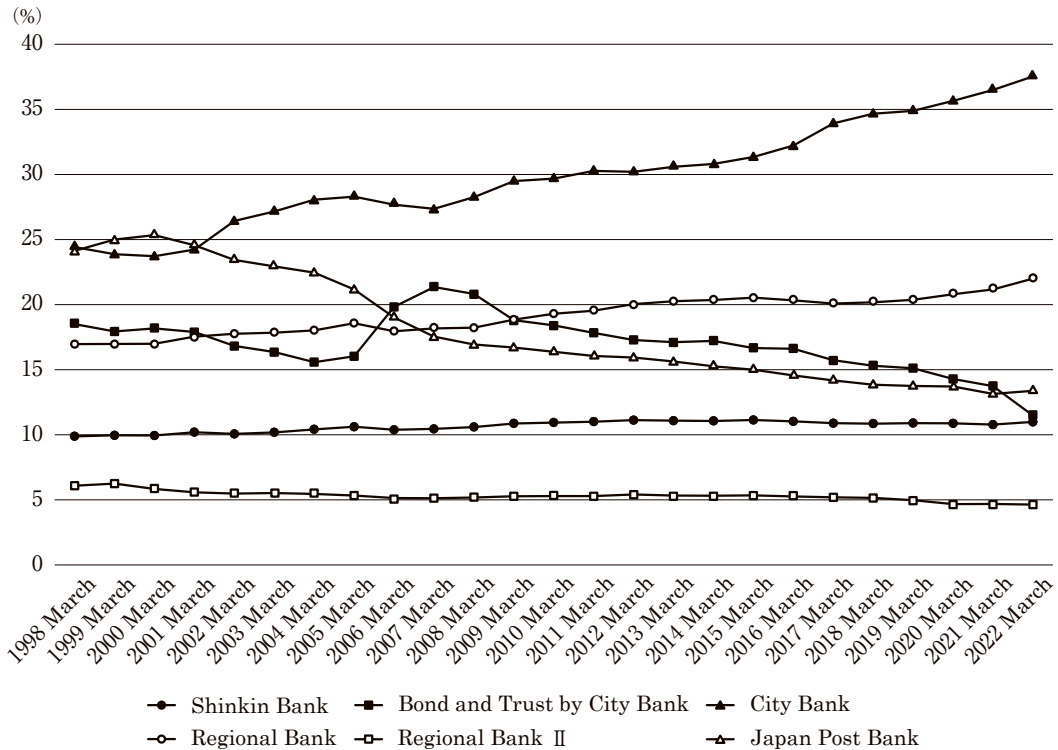
2. The concentration of deposits in city banks

During the 1960s and 1970s, the share of city banks declined, both in deposits and in lending. The share of city banks in the composition of outstanding deposits and bond issues fell from 33.1% in 1955 to 22% in 1973. In lending, the share of city banks also fell from 30.5% to 23.6% over the same period. At the time, the growth of non-bank financial intermediaries was pointed out and theorised by Gurley & Shaw in the USA. In Japan, too, while the share of city banks declined, the share of trust, life and non-life insurers rose from 9.4% to 14.7% in terms of deposits and bond issues, and from 6.9% to 11.7% in terms of loans outstanding. Professor Hiroshi Kawaguchi stressed that this should not be viewed in the same way as the growth of non-bank financial intermediaries in Europe and the US, but as an increase in the share of large corporate financial institutions under indirect finance.³⁾

On the other hand, today, there has been a marked increase in the share of city banks in deposits. Graph 1 shows the share of deposits and savings by type of banks. First, the most significant feature is the continuous increase in the share of large banks (including trust banks as well as city banks), from 24.4% in March 1998 to 37.5% in March 2022, an increase of 13 percentage points. The first factor contributing to the 13 percentage point increase in the share of the major banks may be the impact of inheritance. According to long-term time series data from the National Tax Administration, the number of people subject to inheritance tax rose from 41,604 in 1989 to 155,267 in 2019, an increase of approximately 3.7 times. The total taxable value also decreased from ¥11,724.6 billion in 1989 to ¥9,851.2 billion in 2004, but increased again to ¥15,784.3 billion in 2019.⁴⁾ Looking at this by price class, the increase in both the number of taxable persons and the taxable value was greatest in the “below ¥100 million” category. The number of taxable persons in the “¥100 million and below” category was 11,275 in 1989 and decreased to 7,286 in 1996, but increased to 69,875 in 2019. The taxable value of the estate increased from ¥906.9 billion in 1989 to ¥4,659.1 billion in 2019. This may be due to the lowering of the minimum inheritance tax threshold and the expansion of the taxable population, but it is also likely to be due to the rise in asset values. A look at the composition of inherited assets by type shows that, firstly, the proportion of land in the value of assets has declined. The value of land acquired through inheritance exceeded ¥15 trillion in 1992, but fell below ¥6 trillion in 2019. On the other hand, the value of cash and savings was ¥987.8 billion in 1989, but exceeded ¥5 trillion for three consecutive years from 2017 to

3) Hiroshi Kawaguchi (ed.), *Seminar Economics Class 6: Modern Financial Theory*, 1975, Nippon Hyoronsha, p. 52.

4) <https://www.nta.go.jp/publication/statistics/kokuzeicho/jikeiretsu/01.htm>

Graph 1 The share of deposits and savings by type of bank

Source: <https://www.scbrj.jp/publication/toukei/>

2019. Securities also exceeded ¥5 trillion for three consecutive years from 2009 to 2019, compared with approximately ¥1.8 trillion in 1989. When such inheritances occur in rural areas, it is likely that many savings are withdrawn from Japan Post Bank and deposited in city banks and other banks in the urban areas where the heirs live.

Second, in Graph 1, Japan Post Bank's share fell from 24.1% in March 1998 to 13.4% in March 2022, again by 11 percentage points. As a result, the share of Japan Post Bank has shifted to the major banks. As already explained, this decline in the share of Japan Post Bank can be seen as an effect of inheritance in the rural areas. Another factor is probably the loss of the interest rate advantage of the Post Office (Yucho), which until around 1990 had a fixed savings rate of around 3–4%.

Third, the share of regional banks increased from about 17% in March 1998 to about 22% in March 2022. The increase in the share of regional banks appears to be the result of an increase in deposits from major regional banks in urban areas, such as Bank of Yokohama, Bank of Fukuoka and Bank of Kyoto. Elsewhere, the share of regional banks II fell slightly, while the share of shinkin banks remained unchanged.

Looking at deposit trends over the past year or so, city banks have still shown high year-on-year growth in deposit balances. The year-on-year increase in deposit balances

at city banks has generally continued to be around 10% from June 2020 until April 2021. Although regional and regional banks II also continue to see year-on-year growth rates of 6–8%, the rate of growth at city banks is higher. This appears to be due to the fact that the benefits and subsidy payments from COVID-19 have been paid mainly in urban areas, and these have been deposited mainly at city banks.

Table 1 shows the composition of deposits by type of bank. It shows that there are considerable differences in the composition of deposits by type of bank. Demand deposits are liquid deposits with no restrictions on withdrawals and deposits. Demand deposits comprise current and ordinary deposits. Current deposits are settlement-only deposits

Table 1 The composition of deposits by type of bank

(%)

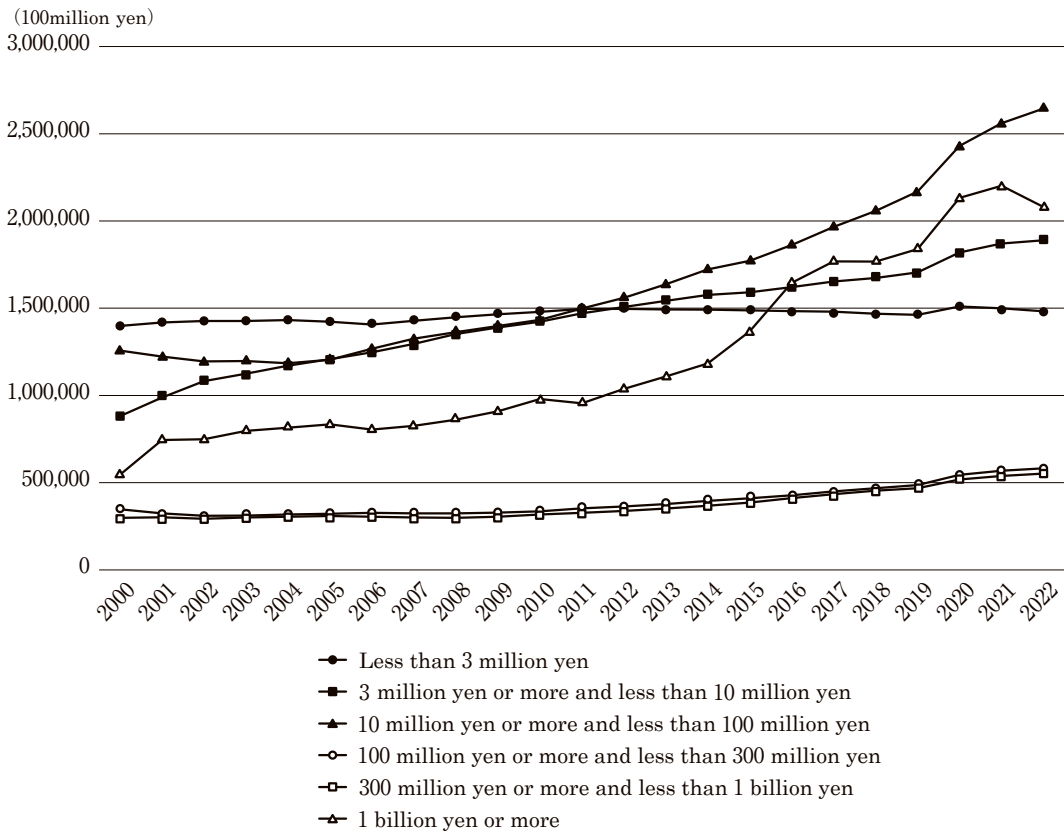
	City bank				Regional bank			
	demand deposit			Time deposits	demand deposit			Time deposits
		current deposits	ordinary deposits			current deposits	ordinary deposits	
2011	60.5	8.5	49	35.2	53.5	4	47.6	44.6
2012	60.9	8.3	49.2	34.6	54.2	4	48.4	43.6
2013	61.5	8.1	50	33.6	55.1	3.9	49.6	42.6
2014	62.3	8.3	50.4	32.3	56	3.9	50.5	41.5
2015	64.8	8.8	52.3	29.8	57	4	51.4	40.5
2016	67.2	9.3	54.3	27.7	59.3	4.3	53.5	38.2
2017	69.4	9.9	56	25.9	61.6	4.5	55.6	36.1
2018	69.8	10	56.3	25.4	63.5	4.5	57.6	34.3
2019	71.3	10.7	57.7	23.8	64.8	4.3	59.2	33
2020	74.2	11.5	59.8	20.9	68.2	4.7	62.2	29.6
2021	74.6	11.3	60.2	20.4	69.7	4.6	63.8	28.0
	Regional bank				Shinkin bank			
2011	44.4	3.5	39.2	54.3	34.4	2.2	30.5	65.1
2012	45.7	3.5	40.6	53	35	2.2	31.1	64.5
2013	46.7	3.3	41.6	51.9	35.8	2.2	31.8	63.8
2014	47.8	3.4	42.9	50.8	36.6	2.2	32.6	63
2015	49.2	3.5	44.2	49.5	37.3	2.2	33.4	62.3
2016	51.2	3.5	46.2	47.5	38.9	2.3	35	60.7
2017	53.6	3.8	48.4	45.3	40.5	2.4	36.5	59.2
2018	55.2	4	49.9	43.7	42.1	2.4	38.1	57.6
2019	57.9	4	52.5	40.7	43.8	2.4	39.8	55.8
2020	62.3	4.3	56.7	36.5	48.5	2.6	44.3	51.3
2021	64.2	4.2	58.6	34.6	50.1	2.6	46	49.7

Source: Japanese Bankers Association, Shinkin Central Bank Research Institute. <https://www.zenginkyo.or.jp/en/>
<https://www.scbrj.jp/publication/toukei/>

and do not carry interest at an attached rate. Therefore, the bank's funding costs are zero. Ordinary deposits, on the other hand, carry interest and therefore incur a small cost. Time deposits do not require liquidity provision from the bank's perspective, as the funds are held for a certain period of time. However, this makes the interest rate on time deposits relatively high.

First, in the deposit structure of city banks, the proportion of demand deposits has increased from 60.5% in FY 2011 to 74.6% in FY 2021. Among demand deposits, the proportion of current deposits in city bank is higher than in other types of bank, rising from 8.5% in FY 2011 to 11.3% in FY 2021. In Japan, current accounts are traditionally rarely opened for individuals, but mostly for companies. This may therefore be a reflection of the fact that city banks have the largest number of corporate transactions. And the high composition of these current accounts means that the cost of deposits for city banks is low, as current deposits are non-interest bearing. The composition of ordinary deposits has also increased from 49% to 60.2%, although today there is a noticeable increase in deposits by corporations. As can be seen in Graph 2, among

Graph 2 Amounts outstanding of deposits by amounts



Source: <https://www.boj.or.jp/en/>

deposits by depositor, there has been a marked increase in deposits of more than 1 billion yen, most of which are deposits by corporations. This can be seen as a reflection of large corporations in urban areas increasing their retained earnings, much of which is deposited with banks.

On the other hand, the composition of time deposits in city banks is low, falling from 35.2% in 2011 to 20.4% in 2021. Interest rates on time deposits are relatively high, with the average interest rate on new time deposit acceptances (between 3 and 10 million yen and between 3 and 6 months) at 0.206%.⁵⁾ Therefore, city banks have a low proportion of time deposits and a high proportion of current deposits, which results in lower deposit interest rates as a funding cost compared to other types of bank.

Second, for regional banks and regional banks II, generally similar trends can be read, although there are some differences. First, with regard to the composition of demand deposits, the ratio is high and rising, although not as high as that of city banks. The proportion of demand deposits at regional banks rose from 53.5% in FY 2011 to 69.7% in FY 2021. Of demand deposits, the proportion of current deposits is generally 3–4% for both regional and regional banks II, with a slight upward trend. On the other hand, the composition of ordinary deposits is high, in line with city banks, and is also on an upward trend. The composition of ordinary deposits at regional banks rose from 47.6% in FY2011 to 63.8% in FY 2021. On the other hand, the composition of time deposits has been declining, but remains high compared to city banks: as of FY 2021, the composition of time deposits was 28% for regional banks and 34.6% for regional banks II, compared to 20.4% for city banks. This is seen as a contributing factor to the higher cost of deposits for regional and regional banks II compared to city banks.

Third, shinkin banks have the lowest proportion of demand deposits compared to other types of banks, although this is rising. In particular, the proportion of current deposits is low, remaining in the 2% range. The proportion of ordinary deposits is also rising, but is still 46% as of FY 2021, which is low compared to other bank types. On the other hand, the composition of time deposits is higher at 49.7% in FY 2021, although it is declining. Time deposits by individuals, especially by the elderly, are seen to be high. On the other hand, for shinkin banks, the high proportion of time deposits results in higher deposit costs as a funding cost. The shinkin banks have higher lending rates than other types of banks, which is often explained by the small size of SME finance, high screening costs and monitoring costs.⁶⁾ That is a fair point, but at the same time, on the funding side, the high

5) Bank of Japan, *Monthly Report on Financial and Economic Statistics*, April 2021, p. 20; for over ¥10 million, the rate is 0.102%, which is low. It is possible that banks are raising the interest rate on time deposits of ¥3–10 million as a matter of policy.

6) Tadashi Saito, 'Chapter 11: Regional Finance', in Yoichi Kawanami and Takao Kamikawa (eds.), *Modern Finance [New Edition]*, Yuhikaku, 2016, p. 205.

proportion of time deposits and high deposit rates may also be a factor. High deposit rates and other funding costs necessitate higher lending rates.

The composition of time deposits by remaining term shows that regional banks tend to have a higher proportion of time deposits with longer terms.⁷⁾ Time deposit balances of 'less than three months' accounted for 49% of total balances at the city banks. However, it is relatively low among regional banks (25.6%) and among regional banks II (24.2%). In addition, 15.4% of city banks, but 20.8% of regional banks and 20.8% of regional banks II have a high deposit interest rate of 0.2% for "more than three months but less than six months". As for "more than six months but less than one year", 20.9% of city banks, but 36.2% of regional banks and 37.6% of regional banks II have higher percentages. Thus, a higher proportion of regional and regional banks II have time deposits with longer remaining terms or higher deposit rates, which appears to have an impact on deposit rates.

As shown in Graph1, one explanatory factor for the increasing concentration of deposits in city banks is inheritance. When parents pass away in regional areas, their children living in urban areas inherit the money, and deposits shift from Japan Post Bank and other banks to city banks. Another factor is the increase in personal income in urban areas, the widening gap with regional areas, and the increase in corporate deposits in urban areas. Graph 2 shows trends in deposits by deposit amount. Deposits of 'less than ¥3 million', mainly by individuals, have hardly increased at all, from ¥140 trillion in 2001 to ¥148 trillion in 2022. Deposits of 'between ¥3 million and ¥10 million', also mainly by individuals, almost doubled from ¥88 trillion in 2001 to ¥189 trillion in 2022. The 'between ¥10 million and ¥100 million' category, which is also dominated by individuals, increased from ¥125 trillion to ¥264 trillion over the same period. The "between ¥100 million and ¥300 million" and "between ¥300 million and ¥1 billion" categories, both of which are dominated by corporations, both increased only slightly, as Graph 2 shows. However, deposits of 'over ¥1 billion', which are mainly corporations, have increased rapidly, from ¥54.6 trillion in 2001 to ¥208 trillion in 2022, an increase of almost four times. This deposit tier is corporate, and is believed to be the result of deposits of retained earnings by large companies in urban areas. Thus, the increase is notable for high value deposits of around ¥10 million by individuals and deposits of more than ¥1 billion by corporations. These factors appear to be responsible for the increase in the share of city banks in deposits.

In the past, the maldistribution of funds was mainly due to the concentration of funds in regional banks. Today, there is a significant concentration of deposits in city banks,

7) According to *Nikken Report*, 2 November 2020, 'Balance and composition of time deposits by remaining term'. This data has been compiled from individual bank disclosure magazines. Unfortunately, shinkin banks are not included.

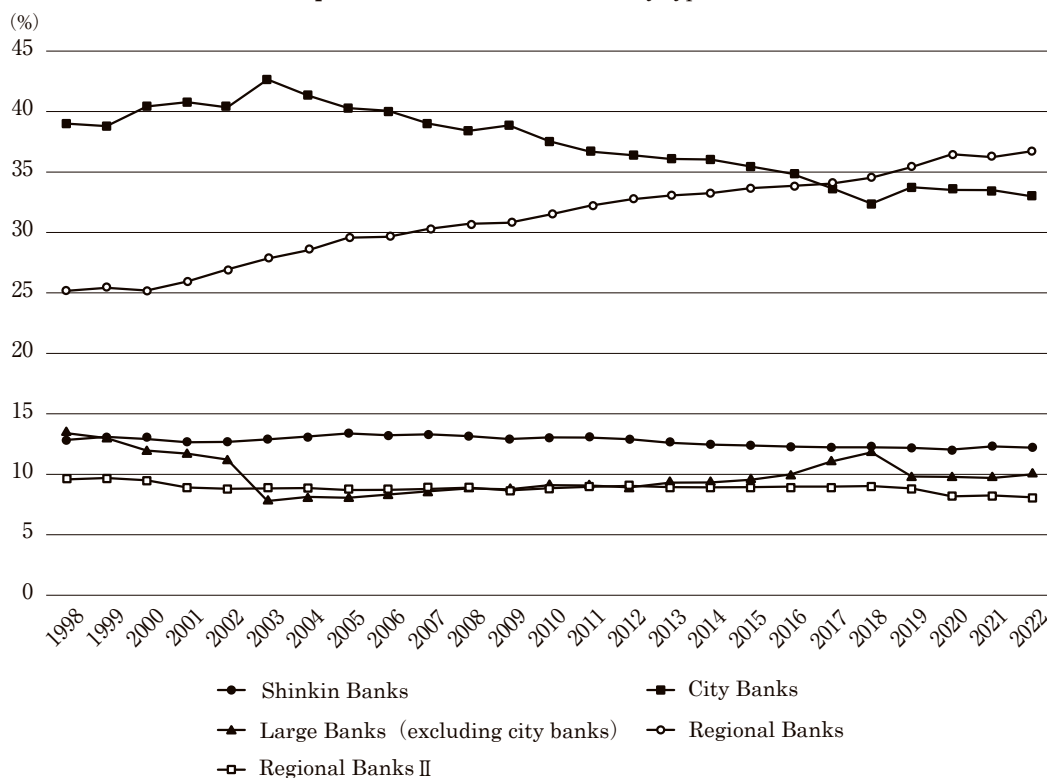
resulting in a funding maldistribution towards them. Although the nature of the funding maldistribution has changed, the framework is still important.

3. The declining share of city banks and the rising share of regional banks in loan

Next, looking at the share of loan by type of banks in Graph 3, the first trend is a trend decline in the share of city banks. The share of city banks in loan fell from 39% in 1998 to 33% in 2022. The share of large banks (trust banks, etc.) excluding the city banks also fell from 13.4% to 10% over the same period. Second, the share of regional banks increased by more than 10 percentage points from 25.2% to 36.7% over the same period. Third, the shares of regional banks II and shinkin banks have not changed much, with regional bank II's share hovering around 8–9% and shinkin banks' around 12%. Thus, the decline in the market share of city banks and large banks has shifted almost entirely to an increase in the market share of regional banks.⁸⁾

It is difficult to analyse the factors behind the decline in the share of city banks and the

Graph 3 The share of bank loan by type of bank



Source: <https://www.scbrj.jp/publication/toukei/>

increase in the share of regional banks in lending. However, as a clue, looking at outstanding loans by company size, the share of ‘small and medium-sized enterprises’ in loans to all sized enterprise was 58.6% in 2000, rose to the 64% level in 2006–2007, then declined slightly to 61.3% in 2021.⁹⁾ On the other hand, the share of ‘for large enterprises’ was 20.9% in 2000, fell to the 19% level in 2006–2007, but has remained in the 24% level since 2013. The share of loans to small and medium-sized enterprises and large enterprises increased, while the share of loans to medium-sized enterprises fell from 8.1% in 2000 to 1.9% in 2021. One factor contributing to the decline in the share of city banks in loan is that, while city banks have traditionally been strong in loan to medium-sized companies, the decline in loan to medium-sized companies may have led to a decline in their share. Outstanding loans to medium-sized enterprises fell from ¥44,870.3 billion in 2000 to ¥11,898.1 billion in 2021.

With regard to loan by size of enterprise, the number of loans is published and the amount of loan can be calculated by size of enterprise. Firstly, with regard to bank loan, for small and medium-sized enterprises, the number of loans is 22.37 million and the balance is ¥365 trillion, so the loan amount per loan is ¥16.3 million. On the other hand, for large companies, the number of loans is 32,582 and the balance is ¥141 trillion, so the loan amount per loan is ¥4,344.34 million. Shinkin banks have 4.34 million loans with a balance of ¥72,675 billion, or ¥16.75 million per loan. This is almost the same amount as loan by banks to small and medium-sized enterprises (SMEs). There is a 267-fold disparity in size between loan to SMEs and loan to large companies, and the small size of SME finance does not appear to have changed even today.

In terms of the share of loan by type of bank in Graph 3, the share of shinkin banks has remained stable at 12–13% since 1998 until 2021. The loan balance per staff member of city banks and shinkin banks is calculated as ¥2.18 billion for city banks and ¥710 million for shinkin banks, a difference of three times the amount. In terms of loan balances per branch, the same order of magnitude is applied: ¥77.69 billion and ¥10.04 billion, a difference of almost eight times. A considerable productivity gap can be seen

8) Looking at lending trends over the last year, shinkin banks have shown a high rate of growth, with year-on-year growth rates in the 8% range from October 2020 until April 2021. This is likely to be due to an increase in lending due to COVID-19. However, although the lending growth rate of the food and beverage industry is around 40%, the food and beverage industry originally accounted for a small proportion of shinkin banks’ lending in the industry breakdown. Shinkin banks have ¥72,675 billion in outstanding loans (end-March 2020), of which ¥18,749.2 billion is for individuals and the real estate industry is the largest for businesses, at ¥17,709.9 billion (23.5% of the total). According to the Bank of Japan’s preliminary report on lending and deposit trends.

9) The BOJ defines small and medium-sized enterprises as those with capital of ¥300 million or less or fewer than 300 regular employees, large enterprises as those with capital of ¥1 billion or more and more than 300 regular employees, and medium-sized enterprises as others.

between city banks and shinkin banks. This appears to basically reflect differences in computer-systemisation.

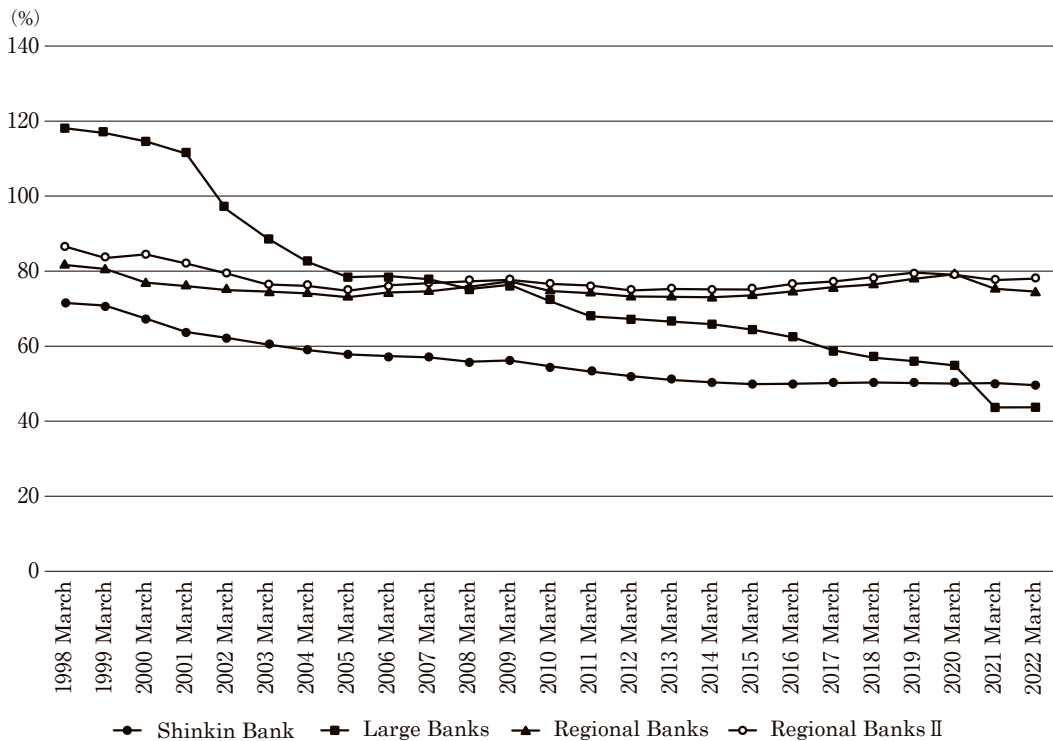
The composition of loans by remaining maturity shows that regional banks tend to have a higher proportion of long-term loans. On average, 29.2% of loans are for ‘one year or less’, but there are differences even among the city banks. Sumitomo Mitsui has a low proportion of loans of ‘one year or less’ at 19.8%, while Mizuho has a high proportion at 40.5% and Mitsubishi UFJ has 33.8%. On the other hand, on average, 23.3% at the city banks have been in the “over 7 years” category, while the percentage at Mizuho is low at 14%. In contrast, only 17.4% of regional banks and 13% of regional banks II have “less than one year”. Conversely, 42.1% of regional banks and 49.6% of regional banks II have lent for more than seven years.¹⁰⁾ Briefly, the majority of loans at city banks are short-term, while the proportion of long-term loans is higher at regional and regional banks II. This is presumably a reflection of the proportion of mortgages to individuals, with long-term loan rates usually higher than short-term loan rates. This is seen as one reason why loan yields are higher at regional and regional banks II than at city banks. As Graph 8 below shows, loan yields have fallen almost in parallel, with city banks having the lowest loan yields and shinkin banks the highest.

While deposits are concentrated in city banks, the share of city banks in loan has been declining, resulting in considerable differences between types of banks in terms of loan-to-deposit ratios. Graph 4 shows the loan-to-deposit ratio by types of banks. First, the loan-to-deposit ratio of large banks, mainly city banks, has fallen significantly, from 118% in 1998 to 54.9% in 2020. The loan-to-deposit ratio of major banks, including city banks, has halved in the last 20 years. Second, the loan-to-deposit ratio of regional banks was 81.6% in 1998 and 79.2% in 2020, remaining broadly unchanged; it fell to the 73% level between 2013 and 2015, but had risen by 6 percentage points by 2020. Third, for regional banks II and shinkin banks, the loan-to-deposit ratio has declined. The loan-to-deposit ratio for regional banks II fell from 86.6% to 79% over the same period, while for shinkin banks it fell from 71.5% to 50%. For regional banks II, the decline was only 7 percentage points, while for shinkin banks the decline was almost 20 percentage points.

As the loan-to-deposit ratio has fallen, the deposit-to-securities ratio has also fallen, if not increased. The deposit-to-securities ratio of city banks was 33% in 2007, peaked in 2012, rising to 48.6%, and then declined to 21.9% in 2019. This roughly corresponds to the percentage of government bonds in city banks’ securities holdings, which reached 67.8% in 2011 but fell to 35.7% in 2019.¹¹⁾

10) *Nikkin Report*, 15 March 2021, ‘Loans outstanding and composition by remaining maturity’.

11) Japanese Bankers Association, *Financial Statement of All Banks*, various issues. The deposit-securities ratio fell from 29.2% (2007) to 22.5% (2019) for regional banks and from 24.1% to 19.8% for regional banks II. However, among shinkin banks, the rate rose from 28.5% to 29.4%. In the securities

Graph 4 Deposit · loan ratio by type of banks

Source: <https://www.scbri.jp/publication/toukei/>

In FY 2000, deposits (BOJ current accounts) amounted to ¥20,242 billion, or 4.7% of total assets of ¥427,162.1 billion, in the total balance sheet of the city banks. However, in FY 2019, deposits amounted to ¥170,028.5 billion, 25.4% of total assets of ¥670,139.8 billion, and rising. The Bank's monetary policy has changed from a zero-interest-rate policy to a quantitative easing policy and then to a negative interest-rate policy, which has resulted in the accumulation of BOJ current accounts, mainly at city banks. Just as private banks have no control over deposit inflows, the central bank has no control over deposit inflows from private banks. The banking system is defined by the real economy, not the other way round.

held by shinkin banks, corporate bonds account for a high proportion of their holdings, with 41.7% in 2013, and although this has fallen, it is still 35.9% in 2019. The breakdown of these corporate bonds is 13.8% public corporation bonds, 1.5% financial bonds and 20.5% others. Guarantees by credit guarantee associations also cover corporate bonds (private placement bonds). Shinkin Central Bank, *Japanese Shinkin Bank Overview and Statistics*, FY 2019, p. 41.

4. SME loan by city banks and the concentration in urban areas

In city banks, while deposits have concentrated, loan has declined and the loan-to-deposit ratio has fallen markedly. Amid this decline in loan, the proportion of SMEs and individuals has increased in loan, including at city banks. Table 2 shows SME loan (loans to SMEs and individuals) by type of banks. The total balance of loans to SMEs, etc. of the five city banks (as at end-September 2022, up 3.1% year-on-year) amounted to ¥130,439 billion, 61.0% of the total outstanding loans of ¥213,829 billion (up 3.7% year-on-year). Of these, the three city banks are in the 57–58% range, while at Resona Bank the figure is 79.9%. Resona Bank appears to have a high proportion of loans to individuals. Apart from regular mortgages, flat loans for inheritance tax avoidance purposes are also likely to have contributed. Excluding individuals, the total outstanding loans to SMEs of city banks amounted to ¥82,882 billion (+5.4% year-on-year), accounting for 38.7% of total

Table 2 Bank loan to SME

(million yen, %)

	Loan to SMC etc. (a)	Loan to SMC (b)	Total loan (c)	Ratio of SMC etc. (a/c)	Ratio of SMC (b/c)
Mizuho	33,361,300 (2.7)	25,131,800 (5)	56,848,500 (1)	58.6 (0.9)	44.2 (1.6)
Mitsubishi UFJ	38,730,792 (3.6)	23,937,125 (5.1)	67,162,656 (4.8)	57.6 (-0.6)	35.6 (0)
Sumitomo Mitsui	34,323,577 (4.6)	22,632,662 (7.9)	59,170,472 (4.9)	58.0 (-0.1)	38.2 (1.0)
Resona	17,614,523 (1.4)	9,283,108 (2.6)	22,041,200 (3.6)	79.9 (-1.6)	42.1 (-0.4)
City Banks total	130,439,208 (3.1)	82,882,020 (5.4)	213,828,828 (3.7)	61.0 (-0.3)	38.7 (0.6)
Mitsubishi UFJ Trust	1,219,718 (-10.4)	462,254 (-10.3)	3,233,826 (17.3)	37.7 (-11.7)	14.2 (-4.4)
Mizuho Trust	2,094,700 (10.6)	2,045,800 (11.5)	3,685,900 (-0.1)	56.8 (5.5)	55.5 (5.7)
Sumitomo Mitsui Trust	17,971,193 (2.3)	6,787,199 (4.4)	27,140,722 (2)	66.2 (0.2)	25.0 (0.5)
Trust banks total	21,285,611 (2.2)	9,295,253 (5.0)	34,060,448 (3)	62.4 (-0.4)	27.2 (0.5)
Regional banks total	174,208,715 (3.7)	96,805,724 (4.6)	242,220,692 (3.7)	71.9 (0)	39.9 (0.3)
Regional banks II total	40,961,788 (3.3)	25,139,121 (2.8)	53,505,169 (3.4)	76.5 (0)	46.9 (-0.2)
Banks total	373,464,085 (3.6)	219,407,981 (5.2)	553,008,676 (3.9)	67.5 (-0.1)	39.6 (0.4)

Note: 1. The number in the bracket shows the year-on-year rate of change. 2. As on 2022 September.

Source: Nikkin Report, 13-Mar-2023.

outstanding loans. The ratio of SME etc to total loans is also high for trust banks, at 62.4%. In the past, city banks and trust banks were said to concentrate their loan on large corporations, but today, more than 60% of their loan is to SMEs and individuals, and in this respect the financial dual structure has changed.

Loan to SMEs is often guaranteed by credit guarantee associations. Credit guarantees have increased, particularly from 2020 onwards, due to an increase in loan related to the Covid-19. The number of acceptances by credit guarantee associations was approximately 690,000 in FY 2015 and again in FY 2019, but this number jumped to approximately 1.95 million in FY 2020. The amount of acceptances also jumped from ¥8,939 billion in FY 2019 to ¥35,123.4 billion in FY 2020.¹²⁾ Covid-19 has initiated interest-free and unsecured lending, known as ‘zero/zero lending’, which in many cases is said to be backed by credit guarantees.¹³⁾ From the bank’s point of view, although interest-free and unsecured, the credit guarantees were seen as a positive response, as it meant that there was no risk of bad debts and banks could increase their loan.

Looking at credit guarantee balances by bank, the three city banks are still the largest in terms of value. Mizuho with ¥548.6bn (+10.6% y/y, as at end-Sep 2020), Mitsubishi UFJ with ¥556.7bn (+4.1% y/y) and Sumitomo Mitsui with ¥947.4bn (−0.1% y/y).¹⁴⁾

The ratio of guaranteed liabilities to outstanding loans is around 1%, as the three city banks have loan balances of between 53 and 58 trillion yen. In addition, among the three city banks, the ratio of increased guaranteed liabilities to increased loans is low, at 0.47% for Mitsubishi UFJ and 1.29% for Mizuho. In other words, the three mega banks are seen to be using credit guarantees relatively little, even though loan has increased due to Covid-19.

On the other hand, regional banks and regional banks II, particularly regional banks II, have a high weighting of credit guarantees. First, on average, regional banks have a credit guarantee liability ratio of 4.65%, up 1.29 percentage points year-on-year. In total, the regional banks have credit guarantee liabilities of ¥10,171.3 billion, an increase of 45.1% year-on-year, and the ratio of increased guarantee liabilities to increased loans (in the period April-September 2020) reached 30.3%. This means that 30% of the increased loans are guaranteed over this period. Among regional banks, the ratio is higher at Hokuto Bank (10.1% of credit guarantee liabilities), Tohoku Bank (11%) and Chikuhō Bank (17.8%).

12) https://www.zenshinoren.or.jp/document/hosho_jisseki.pdf

13) However, zero/zero loans (with credit guarantees) expire in March 2021, and from April onwards, borrowing companies will have to decide whether to repay the loans or switch to regular bank loans. In line with this, there have also been calls for debt reductions and exemptions. *Nihon Keizai Shimbun*, 22 May 2021 and 9 June 2021.

14) *Nikken Report*, 26 April 2021.

The use of credit guarantees is more prominent among regional banks II. On average, regional banks II have a credit guarantee liability ratio of 8.93%, an increase of 2.65 percentage points. In total, regional banks II have credit guarantee liabilities of ¥4,320.5 billion, an increase of 50.6% year-on-year. The ratio of the increase in guaranteed liabilities to the increase in loans (Apr-Sep 2020) reached 53.61%, meaning that the majority of the increase in loans is credit-guaranteed. Among regional banks II, the ratio of increased guaranteed liabilities to increased loans (in FY2020/4-9) exceeds 100% in many banks, with Kirayaka Bank at 157.8%, East Japan Bank at 146% and Kanagawa Bank at 122.4%. This means that credit guarantees are provided not only for new loans, but also for existing loans.

Next, let us examine the financial structure of the borrowers, the companies. Table3 shows the long- and short-term borrowings and interest payments of companies (all industries). First, the size of companies in Japanese company statistics is classified according to capital, which is problematic. This is problematic because capital can be set by companies in their articles of association, and arbitrariness cannot be avoided. However, corporate financial statistics in Japan, including company sample surveys on corporate taxation, are classified by capital. Table 3 shows the number of employees and turnover by capitalisation, with those with capital of less than 10 million yen having 4.13 employees and turnover of 67.7 million yen, in the same order, and those with capital of over ¥1 billion having 1510 employees and turnover of ¥112.5 billion. Generally, the number of employees is seen to reflect the size of the company, with an average of 274 employees among those with capital of between ¥100 million or more and less than ¥1 billion. According to the BOJ's statistics, small and medium-sized enterprises (SMEs) are defined as those with capital of ¥300 million or less or fewer than 300 regular employees, while large enterprises are defined as those with capital of ¥1 billion or more and more than 300 regular employees.

First, the ratio of borrowings to total assets ($c/d \times 100$) shows that the ratio is as high as 64.76% for companies with capital of less than ¥10 million, declining with the size of the company and dropping to 21.97% for companies with capital of between ¥100 million or more and less than 1 billion. However, it rises slightly to 22.97% for those with capital of over ¥1 billion. The ratio of borrowings to total assets is rising for those with capital of at least ¥1 billion, as their outstanding borrowings are a massive ¥242.4134 trillion. In recent years, large companies have increased their acquisitions of foreign companies, probably because they are using borrowings to finance these acquisitions. However, small and medium-sized enterprises have a high borrowing ratio, and the borrowing ratio tends to decline as the size of the enterprise expands.

Second, in each of short-term and long-term borrowings, there are borrowings from financial institutions and other borrowings. This composition shows that small enterprises, such as those with capital of less than 10 million yen, tend to have more

Table 3 The borrowing of companies and payment of interest

(million yen, %)

capital	less than 10	10 or more and less than 50	50 or more and less than 100	100 or more and less than 1000	1000 or more	Total
The number of companies	1,972,504	823,149	63,711	25,885	4,807	2,890,056
The number of employee	7,475,129	13,894,665	5,652,547	7,083,282	7,467,466	41,573,089
The average number of employee	3.79	16.88	88.72	273.64	1553.46	14.38
Short term borrowing (a)	16,144,639	35,032,233	16,104,365	26,087,969	98,114,984	191,484,190
from financial institutions (a1)	6,409,403	22,301,058	10,943,481	13,684,824	55,093,782	108,432,548
from others (a2)	9,735,236	12,731,175	5,160,884	12,403,145	43,021,202	83,051,642
Long term borrowing (b)	78,830,654	108,204,125	31,145,938	32,257,332	144,298,465	394,736,514
from financial institutions (b1)	58,039,943	90,241,508	25,600,109	21,617,665	113,344,909	308,844,134
from others (b2)	20,790,711	17,962,617	5,545,829	10,639,667	30,953,556	85,892,380
Borrowing total (c)	94,975,293	143,236,358	47,250,303	58,345,301	242,413,449	586,220,704
Ratio of short term borrowing (%)	17.00	24.46	34.08	44.71	40.47	32.66
Ratio of long term borrowing (%)	83.00	75.54	65.92	55.29	59.53	67.34
Assets (d)	146,667,127	388,913,022	159,336,896	265,581,078	1,055,224,456	2,015,722,579
payment of interest (e)	774,257	1,457,478	686,839	602,171	3,402,111	6,922,856
Ratio of interest-borrowing (e/c)	0.815	1.018	1.454	1.032	1.403	1.181
Amounts of sales (f)	125,709,830	337,419,554	158,567,373	282,576,344	543,614,687	1,447,887,788
Average amounts of sales	63.73	409.91	2488.85	10916.61	113088.14	500.99
c/d*100	64.76	36.83	29.65	21.97	22.97	29.08
(a1+b1)/d*100	43.94	28.94	22.93	13.29	15.96	20.70
(a2+b2)/d*100	20.81	7.89	6.72	8.68	7.01	8.38
c/f*100	75.55	42.45	29.80	20.65	44.59	40.49
e/f*100	0.62	0.43	0.43	0.21	0.63	0.48

Source: Ministry of finance statistics monthly, October 2022.

other borrowings and less borrowings from financial institutions. However, large enterprises have a higher proportion of loans from financial institutions. It is not easy for small enterprises to borrow from banks and other financial institutions due to the need for collateral, etc., and it is likely that many small enterprises lend and borrow from each other.

The ratio of total long-term and short-term borrowings from financial institutions to total assets ($a_1+b_1/d*100$) is 43.94% for those with capital of less than ¥10 million, but falls to 15.96% for those with capital of more than ¥1 billion. On the other hand, the ratio of total loans (long-term and short-term) from other sources than financial institutions to total assets ($a_2+b_2/d*100$) is 20.81% for companies with capital of less than ¥10 million, but declines in proportion to the size of the company, falling to 7.01% for companies with capital of ¥1 billion or more.

Third, the ratio of short-term and long-term borrowing to total borrowing shows that the ratio of long-term borrowing tends to be higher in small enterprises and short-term borrowing tends to be higher in large enterprises. This has been explained as a result of the slow turnover of funds in small enterprises and the fast turnover of funds in large enterprises. For those with capital of less than ¥10 million, the long-term borrowing ratio is high at 83%, while for those with capital of between 100 million or more and less than ¥1 billion, the long-term borrowing ratio falls to 55.29%, while the short-term borrowing ratio rises to 44.71%.

Fourth, looking at the interest and borrowing ratio (interest paid divided by borrowings), the ratio is 0.815% for capital of less than ¥10 million, but 1.403% for capital of more than ¥1 billion, which remains almost unchanged. The ratio of interest expenses to sales ($e/f*100$) is also almost unchanged, ranging from 0.62% to 0.21%. In other words, the interest burden between company sizes has almost disappeared due to very low interest rates.

As can be seen from Table 3, some aspects have not changed since the 1970s, such as the ratio of borrowing in relation to the size of the company, but the burden of interest payments has been reduced for all sizes of company due to ultra-low interest rates. As can be seen in Table 2, 60% of loans to small and medium-sized enterprises (SMEs) are also made by city banks, clearly indicating a change in the dual structure of finance, whereby large banks lend intensively to large enterprises.

Today, however, a new financial dual structure appears to be forming. While it is true that large banks such as the city banks are focusing on loan to small and medium-sized enterprises (SMEs), this is exclusively to SMEs in urban areas, while loan to SMEs in rural areas is extremely restricted at the city banks. As there is no published breakdown of city banks' lending by prefecture, we will argue below from two perspectives. The first is a breakdown of city banks' branches by prefecture, and the second is a breakdown of credit guarantee association debt outstanding by prefecture. In the case of city banks, these are concentrated in urban areas.

Table 4 shows the breakdown of the three major megabanks' branches by prefecture. First, for Mizuho Bank, although the number of branches in Tokyo is high (254), its branches are located in all prefectures and there are no blank prefectures. However, due to the lottery since the former Dai-Ichi Kangyo Bank, it is said to have branches in all prefectures. Next is Mitsubishi UFJ. In addition to 289 in Tokyo, there are more in Aichi

Table 4 The breakdown of the three major megabanks' branches by prefecture

	Hokkaido	Miyagi	Tohoku 5	Saitama	Chiba	Tokyo	Kanagawa	Shinetsu 3	Hokuriku 3	Aichi
Mizuho	6	2	8	29	25	254	61	4	4	9
Mitsubishi UFJ	2	2	0	26	26	289	57	1	2	110
Sumitomo Mitsui	1	1	0	19	23	155	51	5	3	19
	Tokai 3	Kyoto	Osaka	Hyogo	Kansai 3	Chugoku 5	Shikoku 4	Fukuoka	Kyushu 7	Overseas
Mizuho	9	7	36	14	6	10	6	6	7	42
Mitsubishi UFJ	18	14	116	29	11	7	3	4	2	70
Sumitomo Mitsui	22	5	151	69	7	5	3	5	4	40
blank prefectures										
Mizuho	0									
Mitsubishi UFJ	Tohoku 5	Gunma	Tochigi	Yamanashi	Nagano	Toyama	Fukui	Tottori	Shimane	Ehime
	Kouchi	Saga	Oita	Miyazaki	Kagosima	Okinawa				
Sumitomo Mitsui	Tohoku 5	Mie	Shiga	Tottori	Shimane	Tokushima	Kouchi	Nagasaki	Miyazaki	Okinawa

Note: Bold mean that Mitsubishi and Sumitomo Mitsui are blank.

Source: Nikkin Kinyu Nenpo 2019.

110 (influenced by the former Tokai Bank, which was UFJ's parent bank) and Osaka 116 (also influenced by Sanwa Bank, which was UFJ's parent bank). However, Mitsubishi UFJ has no branches in 15 prefectures besides the five Tohoku prefectures. Sumitomo Mitsui also has no branches in nine prefectures in addition to the five Tohoku prefectures. Moreover, Mitsubishi and Mitsui share the same lack of branches in the bolded prefectures in Table 4. These are 10 prefectures, including five in the Tohoku region, Tottori, Shimane, Kochi, Miyazaki and Okinawa.

For these 10 prefectures, there are considerable similarities.¹⁵⁾ First, as prefectures, they have low loan-to-deposit ratios. The Bank of Japan publishes loan and deposits by prefecture, and the loan-to-deposit ratio can be calculated for each prefecture. The national average is 63.85%, while Akita is lower at 54.63%, Shimane at 53.52% and Kochi at 57.69%.

Second, the ratio of outstanding loans to gross prefectural product is low. Loan balances are published by the Bank of Japan and gross prefectural product is published by the Cabinet Office and can be calculated. The national average is 92.2%, but Akita is lower at 60.5%, Yamagata at 62.2%, Shimane at 51.4% and Kochi at 65%.

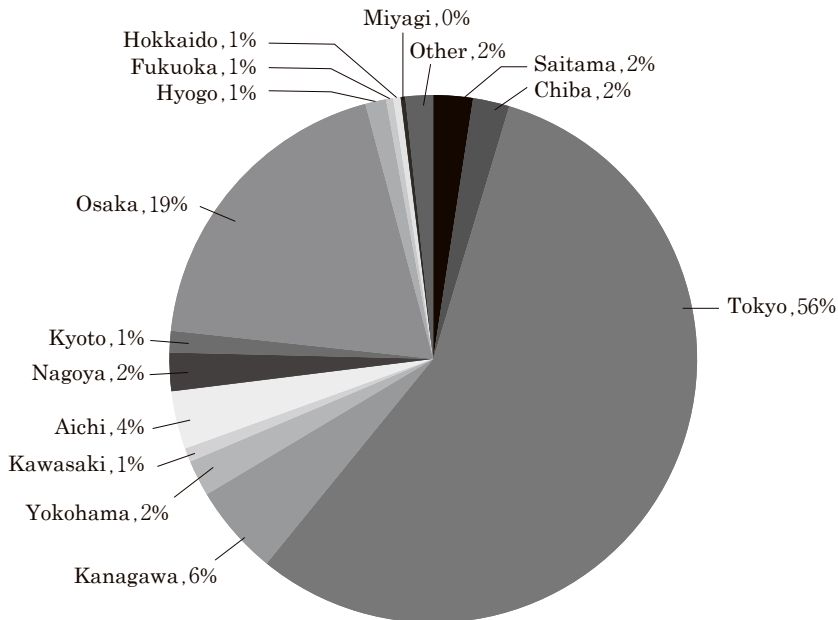
Thirdly, the number of branches relative to the population is high: the national average number of branches per 10,000 people is 3.953. However, Akita has 6.493, Yamagata 6.716, Tottori 6.804, Shimane 7.853 and Kochi 7.139.¹⁶⁾ Conversely, Tokyo has 2.817 and Fukuoka 3.358.

Fourth, the ratio of agricultural cooperatives to the number of branches is high. The national average ratio of agricultural cooperatives to the number of branches per prefecture is 15.66%, but in Akita, Tottori, Shimane and Kochi the ratios are higher at 18.52%, 21.52%, 22.66% and 19.84% respectively. In the agricultural prefectures, there are many agricultural cooperative branches, which serve as receptacles for deposits and savings, but loan demand is sluggish, it appears. In the 10 prefectures with these characteristics, Mitsubishi UFJ and Sumitomo Mitsui do not have branches; the three mega banks are seen as focusing on urban areas.

Next, to show that the three mega banks (Mitsubishi UFJ, Sumitomo Mitsui and Mizuho) are concentrated in urban areas, we look at the breakdown of outstanding credit guarantee obligations by prefecture. Graph 5 shows the breakdown by prefecture of the

15) Jun Shirota, "Overbanking? -A Comparison of Japan and Europe," *The Review of Economics*, Vol. 51, No. 1, December 2019.

16) An international comparison (according to BIS statistics) of the number of branches per 10,000 people in Japan as a whole is 4.17 (2019, same below), which is lower than the 5.33 in France. However, it is much higher than the Netherlands' 0.89 and Sweden's 1.29. Therefore, the number of branches relative to the population in Japan belongs to a large number group. However, there are considerable differences between prefectures.

Graph 5 3 megabanks credit guarantee by prefecture and city

Source: https://www.chusho.meti.go.jp/sme_english/index.html

outstanding credit guarantee obligations of the three megas. As already noted, the outstanding credit guarantee obligations of the three mega players themselves are large—¥548.6 billion for Mizuho, ¥556.7 billion for Mitsubishi UFJ and ¥947.4 billion for Sumitomo Mitsui—far exceeding the size of the regional and regional banks II. However, there is a marked bias in their breakdown by prefecture. As Graph 5 shows, Tokyo has the largest balance of credit guarantee liabilities for the three mega banks at ¥1,086 billion, accounting for 56% of the total. This is followed by Osaka Prefecture with ¥370 billion, accounting for 19%. Kanagawa Prefecture (excluding Yokohama and Kawasaki) accounted for 6% at ¥107 billion, Yokohama for 2% at ¥42.9 billion, Kawasaki for 1% at ¥16.3 billion, Aichi Prefecture (excluding Nagoya) for 4% at ¥68.6 billion and Nagoya for 2% at ¥45.4 billion. Thus, even excluding Hokkaido (including Sapporo City) at 2% and Miyagi Prefecture (including Sendai City) at 2%, the urban area comprises 96% of the total.

On the other hand, in 26 prefectures—Aomori, Iwate, Akita, Yamagata, Fukushima, Gunma, Toyama, Ishikawa, Fukui, Shiga, Tottori, Shimane, Okayama, Hiroshima, Yamaguchi, Kagawa, Tokushima, Kochi, Ehime, Saga, Nagasaki, Kumamoto, Oita, Miyazaki, Kagoshima and Okinawa—the 3 mega banks have no credit guarantee obligations outstanding. This appears to be broadly in line with the 3 mega's branch locations as seen in Table 4.

The two business styles of banks to corporate finance are considered to be transaction banking and relationship banking. Transaction banking is a method of automatically determining the availability of loans, loan amounts, interest rates and other conditions for each individual transaction based on a quantitative credit risk assessment objectively calculated from a company's financial information. In this case, mainly for SMEs, a method using a database based on information technology, known as credit scoring, is used. Such methods are believed to reduce the high screening costs inherent in SME finance. These transaction banking techniques have been used by city banks to expand their loan to SMEs in urban areas. Relationship banking, on the other hand, refers to banks establishing close relationships with companies and loan to them based on information derived from these relationships. While city banks retain relationship banking for large companies, it is seen as extremely limited for small and medium-sized enterprises (SMEs).

Although city banks have increased their loan to small and medium-sized enterprises (SMEs), this appears to be limited to urban areas and mainly based on transaction banking. Although the content of the financial dual structure has changed, a new dual structure appears to be emerging, with city banks = urban areas and regional banks and others = regional areas.

5. Interest rate distortions

In the past, in the 1960s and 1970s, an artificially low interest rate policy was adopted, official interest rates were kept low, lending rates of city banks were linked and lending to large corporations was expanded. On the other hand, call rates remained high and higher than the official interest rate. The central bank's policy rate is the 'lender of last resort' rate, which is supposed to be higher than the market rate, and in this sense there was distortion.

From the 1990s onwards, the official interest rate became the basic loan rate and its role was to be the upper limit of market interest rate guidance. On the other hand, the interest rate attached under the complementary deposit facility ($-0.1\sim 0.1\%$) was expected to play the role of the lower limit of market interest rate inducement. The original intention of the BOJ was to guide the call rate in the corridor between the upper and lower limits.¹⁷⁾ However, in January 2016, the Quantitative and Qualitative Monetary

17) https://www.boj.or.jp/announcements/release_2008/mok0810f.pdf

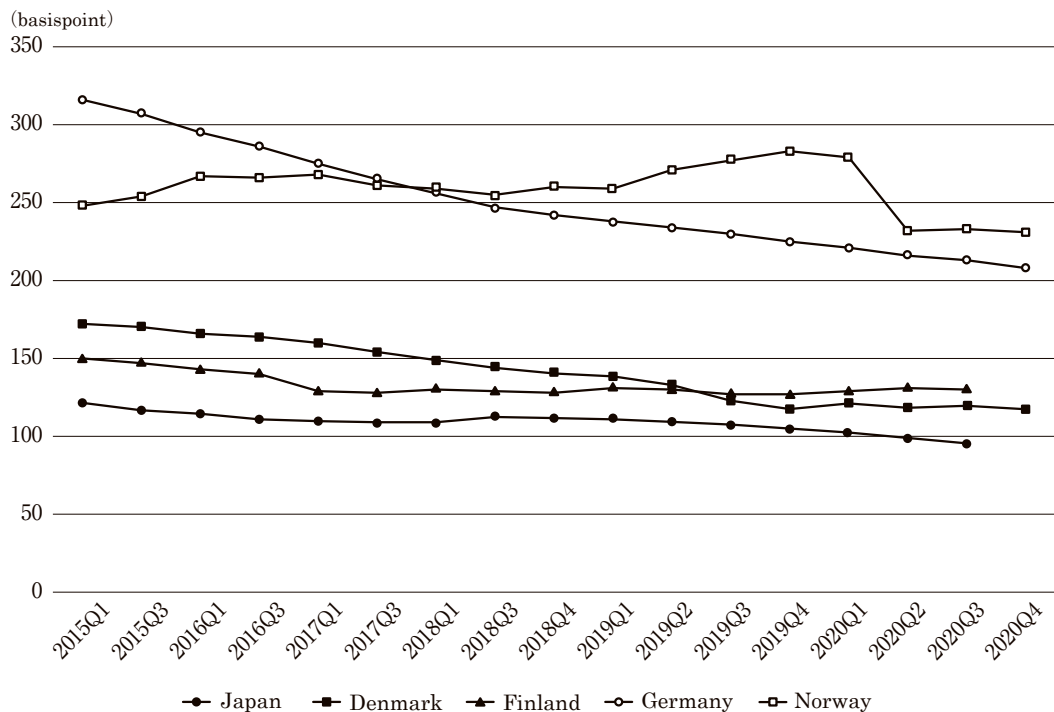
The complementary lending facility system was introduced in October 2008; the interest rate attached by the complementary lending facility of 0.1% was expected to act as a lower limit on the call rate, but since 2009 the call rate has remained below 0.1%. This is partly due to the fact that securities firms and others have current accounts with the BOJ, but investment trust companies and

Easing with Negative Interest Rates was introduced and a three-tier structure of positive, zero and negative interest rates was introduced for current deposits. It is not clear how the traditional role of a lower limit on market interest rates has changed.¹⁸⁾

Alongside the BOJ's policy, it is not clear how the loan rates of private banks are set. The short-term prime rate (hereafter referred to as the 'short-prime rate') is the reference rate for loan by private banks, and since 2009 the short-prime rate has remained unchanged at 1.475%. On the other hand, the real effective interest rate on loans has continued to decline. Commercial banks have also kept the short-prime rate unchanged as a 'pretext' and have lent out loans in campaigns at reduced interest rates. The short-prime rate have become a mere formality and margins are thinning.

Japanese bank loan margins are extremely low by international standards. Graph 6 shows the bank spread (the spread between the reference loan rate and the deposit rate) for major countries, based on IMF data. This data is only available for a limited number of countries, e.g. not for the US.¹⁹⁾ Of the comparable countries, Norway has the highest,

Graph 6 The spread between reference loan rate and deposit rate



Source: <http://data.imf.org>

others do not, and therefore have no choice but to release funds into the call market.

18) <https://www.boj.or.jp/announcements/education/oshiete/seisaku/b37.htm/>

No reference is made to the relationship with traditional positioning.

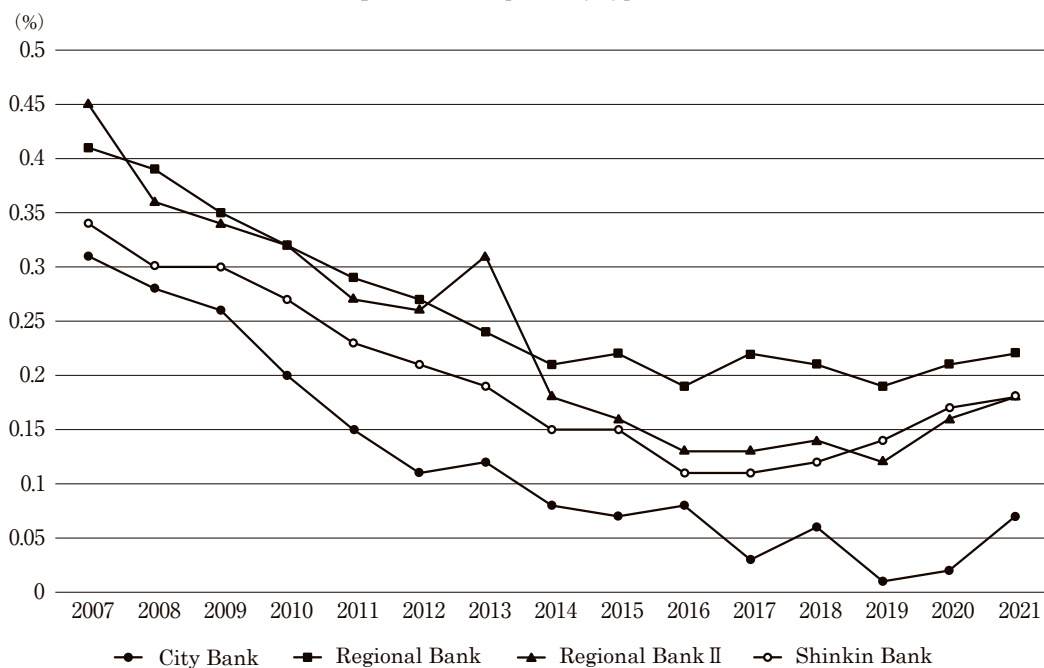
19) However, OECD banking statistics, published until 2009, allow a comparison of interest margins

from 248 basis points (bp) in the first quarter of 2015 to 279 bp in the first quarter of 2020, and has since fallen slightly to 231 bp. Germany also had 316 bp in the first quarter of 2015 and has 208 bp, although it has declined. Japan, however, has the lowest, with 121.5 bp in Q1 2015, falling to 95.5 bp in Q3 2020. Japanese banks' loan margins are among the lowest in international comparisons.

Graph 7 shows the gross interest margin (yield on funds - cost of funds) by type of banks in Japan. City banks had a margin of 0.31% in 2007, which declined almost continuously to reach 0.01% in 2019. Regional banks had a margin of 0.41% in 2007, with regional banks II having the highest margin at 0.45%, which fell to 0.19% and 0.12% in 2019 in the same order. The decline in margins was more rapid for regional banks II, which were lower than regional banks in 2019. Shinkin bank were at 0.34% in 2007, which fell to 0.14% in 2019.

The yield on fund management consists of the yield on loans, the yield on securities and

Graph 7 Total spread by type of banks



Source: <https://www.zenginkyo.or.jp/en/> <https://www.scbrj.jp/publication/toukei/>

between US and Japanese banks. Calculated as net interest income divided by loans outstanding, the US interest margin fell from 5.33% in 1999 to 4.67% in 2008, while in Japan it fell from 2.05% to 1.87% over the same period. As expected, bank margins are low in Japan and high in the US. This may be partly due to the fact that lending criteria are relatively less stringent in the US, and therefore credit costs are high. As of 2000, there were 2,093,973 bank employees in the US and 352,000 in Japan.

the yield on call and other loans. On the other hand, the cost of funds financing is the cost of financing (deposits, bonds, call money, etc.) plus expenses (staff costs, equipment costs, taxes) divided by the average balance of the funding account. The cost of funds financing was 1.21% for city banks in 2007, but fell to 0.57% in 2019. Similarly, for regional banks, it fell from 1.44% to 0.75%, for regional banks II from 1.67% to 0.94%, and for shinkin banks from 1.61% to 0.92%. The ranking among bank types in 2007 remained unchanged and almost parallel to that in 2021. The yield on deposit and bonds etc. of all banks in 2019 fell to 0.01%, and most of the cost of fund financing appears to be expenses; in FY 2019, on all bank basis, the expense ratio was 0.74%, comprising 0.32% for personnel costs, 0.37% for equipment costs and 0.05% for the tax.²⁰⁾

In the case of Japan, the ratio of labour costs is seen as basically high: according to IMF data, the ratio of labour costs in non-interest expenses in Japanese banks was 60.2 % in 2016 and fell to 43 % in 2020. In this case, the labour cost ratio fell not because labour costs themselves fell, but because the denominator—non-interest expenses—increased. On the other hand, in Finland, the ratio was also 35.4% in 2016 and 42.9% in 2019. (In Japan, the labour cost ratio has also decreased in recent years, but it is still high to begin with.²¹⁾

When it comes to high labour cost ratios, there are issues such as whether the labour cost per person is high or whether the number of staff is high. It is not easy to make an international comparison of this. As an example, in Germany, as of 2019, there were 568,895 bank employees, of which 153,250 were in commercial banks, 205,000 in savings banks, 140,650 in credit cooperatives, etc. In contrast, the total personnel costs are EUR 44.4 billion, or EUR 77,335 per employee. In the case of Germany, this includes the universal bank and the investment banking sector. Personnel costs may also include social insurance contributions.²²⁾

In contrast, in Japan, as of FY 2019, there were 92,826 staff at city banks, 128,977 at regional banks and 37,682 at regional banks II, for a total of 259,485 (all banks). In addition, there are 101,932 shinkin banks. On the other hand, in the income statement of all bank, total personnel costs are ¥2,831.1 billion, which means that personnel costs per employee are ¥10.91 million. In the income statement of shinkin banks, the total personnel cost is ¥776.1 billion, which means that the personnel cost per employee is

20) Some computer system-related expenses are included in this expense, particularly property expenses, but others are not. If they are depreciated, they are included here, as depreciation is recorded. Often they are amortised under intangible assets, etc. Also, if it is a fee payable to an external system vendor, it is not included here. It is difficult to get a complete picture of computer system-related costs.

21) <https://data.imf.org/regular.aspx?key=61404590>

22) <https://www.bundesbank.de/resource/blob/844606/89d87d200832e0bfd535acc84c612899/mL/2020-09-einfluss-geldpolitik-data.pdf>

¥7.61 million.²³⁾

These personnel costs are likely to include the personnel costs of so-called temporary staff, and the ratio of temporary staff in Japanese banks is generally around 30%.²⁴⁾ Many operations in Japanese banks are likely to have traditionally been handled by manpower, as systematisation has lagged behind. One recent example is the issue of tax and public money collection. Sixty regional banks have been nominated by 970 local governments as designated financial institutions and are responsible for public money collection and disbursement. Although Pay-easy (Payment taxes and public money by online banking and bank ATMs) and credit card are available for tax and public money payment, this has not progressed in the municipalities and also varies by tax category. For example, the payment of car tax and property tax (these are local taxes) shows that around 40% of payments are made over the counter at financial institutions. The number of payment forms processed by regional banks is approximately 130 million per year. The QR codes for payment forms have not been standardised and have been processed manually by regional banks, etc. Assuming a processing cost of ¥300 per form, the annual cost amounts to approximately ¥40 billion. In addition, local authorities do not pay fees for bank over-the-counter payment.²⁵⁾

As discussed above, labour costs have been a major cost factor in Japanese banks. In addition to this, property costs include the costs of branches and ATMs, which have also traditionally been a major cost factor. These and other costs have led to a decline in the cost of funds financing, but as of FY 2019, the cost of funds financing was 0.57% for city banks and 0.92% for shinkin banks. The differences in cost of funds financing between bank types are seen to reflect differences in deposit composition and deposit rates, as already noted.

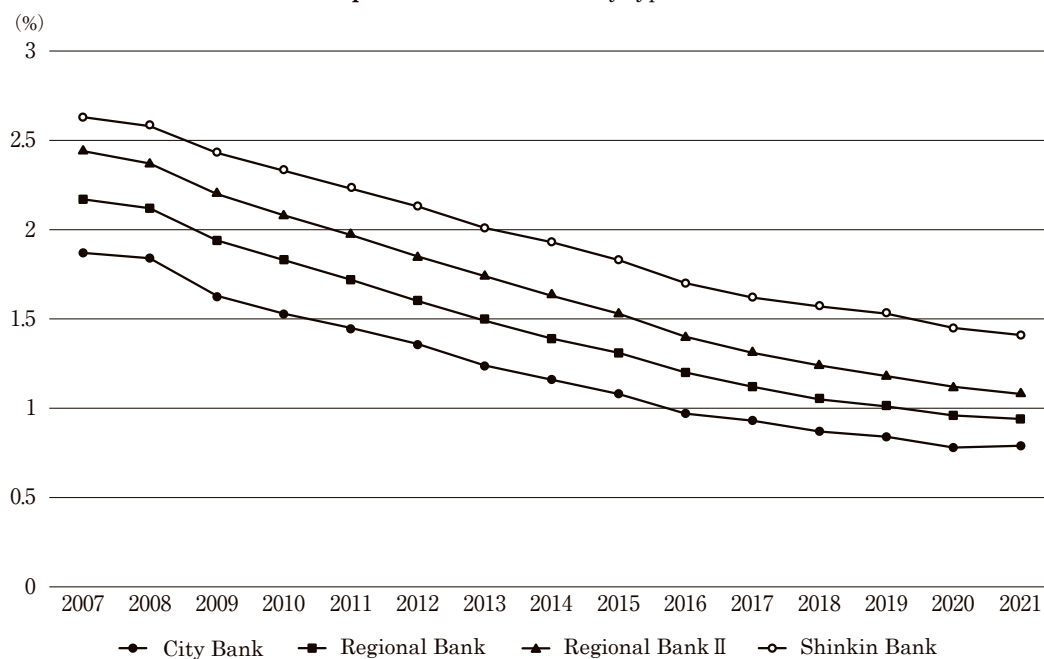
On the other hand, Graph 8 shows the loan yield on funds management. The lowest, at city banks, was 1.87% in 2007, but fell to 0.79% in 2021. The highest, at shinkin banks, also fell from 2.63% to 1.41%. As already noted, firstly, the composition of deposits in funding differs, with city banks having a higher proportion of ordinary deposits and regional banks, regional banks II and shinkin banks having a higher proportion of time deposits. This leads to differences in funding costs, which are reflected in loan yields. Second, the term structure of loans differs, with city banks lending more short-term

23) Calculated from *Financial Statements of All Banks and Overview of Shinkin Banks*.

24) Jun Shiota, "Profit and Expense Structure of Japanese Banks", Komazawa University, *Journal of Economics*, Vol. 52, No. 3 and 4, 2021.

25) 'Towards more efficient and electronic tax and public money collection', *Regional Banks Association Report*, No. 1, 2021.

Japan Bankers Association, 'Report on the results of a survey on costs and fees related to tax and public money collection operations', 16 March 2021.

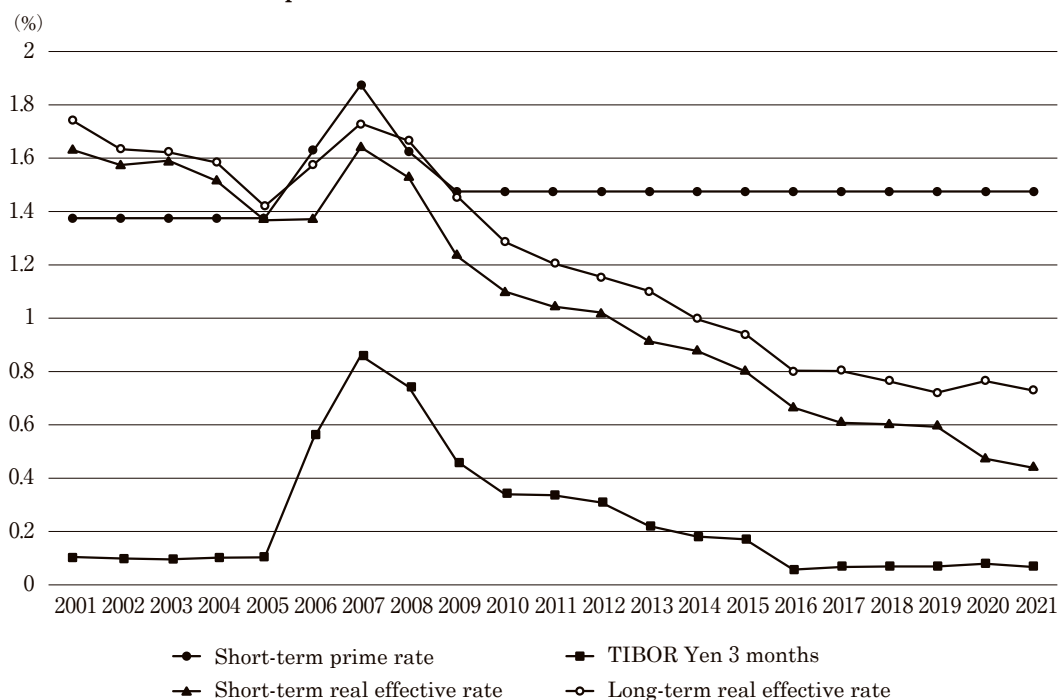
Graph 8 The rate of loan by type of bank

Source: <https://www.zenginkyo.or.jp/en/> <https://www.scbri.jp/publication/toukei/>

loans, while regional banks, regional banks II and shinkin banks are more likely to lend for longer periods, and a higher proportion of long-term loans will result in higher loan yields. In the past, shinkin banks and other financial institutions were responsible for small and medium-sized enterprise (SME) finance, and the emphasis was on the small size of SME finance and the high costs associated with it. These factors are partly responsible for the differences in loan yields, which appear to be due to the composition of deposits and the term structure of loans.

Although there are differences in loan yields between bank types, as can be seen in Graph 7 and 8, bank loan margins in Japan are extremely thin. In principle, loan rates are determined on the basis of reference rates. Reference interest rates in Japan include the short-term prime rate and TIBOR. The Bank of Japan's basic loan rate (0.3%) serves as the upper limit of market interest rates, while the complementary deposit facility rate (-0.1-0.1%) serves as the lower limit of market interest rates. Graph 9 shows the reference interest rates, such as the short-term prime rate and TIBOR, and the real effective average interest rates on loan commitments (short term, long term and new). The CD issuance yield has been below 0.1% since 2013 and stands at 0.001% as of 2020. However, the short-term prime rate has remained unchanged at 1.475% since 2009 until 2021. TIBOR, which is operated by the Japanese Bankers Association (JBA), is an interest rate index for the yen that indicates the actual level of transactions in the

Graph 9 The reference rate and the real effective rate



Source: Bank of Japan, *Financial and Economic Statistics Monthly*, various issue.

interbank market.²⁶⁾ Of these, the Japanese Yen TIBOR is said to reflect the actual level of transactions in the Japanese unsecured call market, while the Euroyen TIBOR reflects the actual level in the offshore market. In Graph 9, the three-month Japanese Yen TIBOR is shown, which rose to 0.86% in 2007 but fell to 0.067% in 2021. However, the three-month unsecured call rate is often negative, in 2021. In addition, as market interest rates for three-month bills, the Tokyo Repo Rate has been negative since 2016 and the yield on three-month Treasury bills has been negative in both cases since 2015. The Japanese Yen TIBOR, however, has never been in negative territory and its indexation has been questioned.

While both short-term prime rate and TIBOR have become a formalized interest rate, the real effective interest rate of bank loans, has continued to decline, as shown in Graph 9. The real effective interest rate on loans (short-term) fell from 1.641% in 2007 to 0.439% in 2021. The real effective interest rate on loans (long-term) also fell from 1.73% to 0.729%. From the banks' point of view, a further fall in lending rates would make them unprofitable or already unprofitable. The fact that the short-term prime rate have remained at 1.475% since 2009 and that TIBOR has not turned negative is also seen as

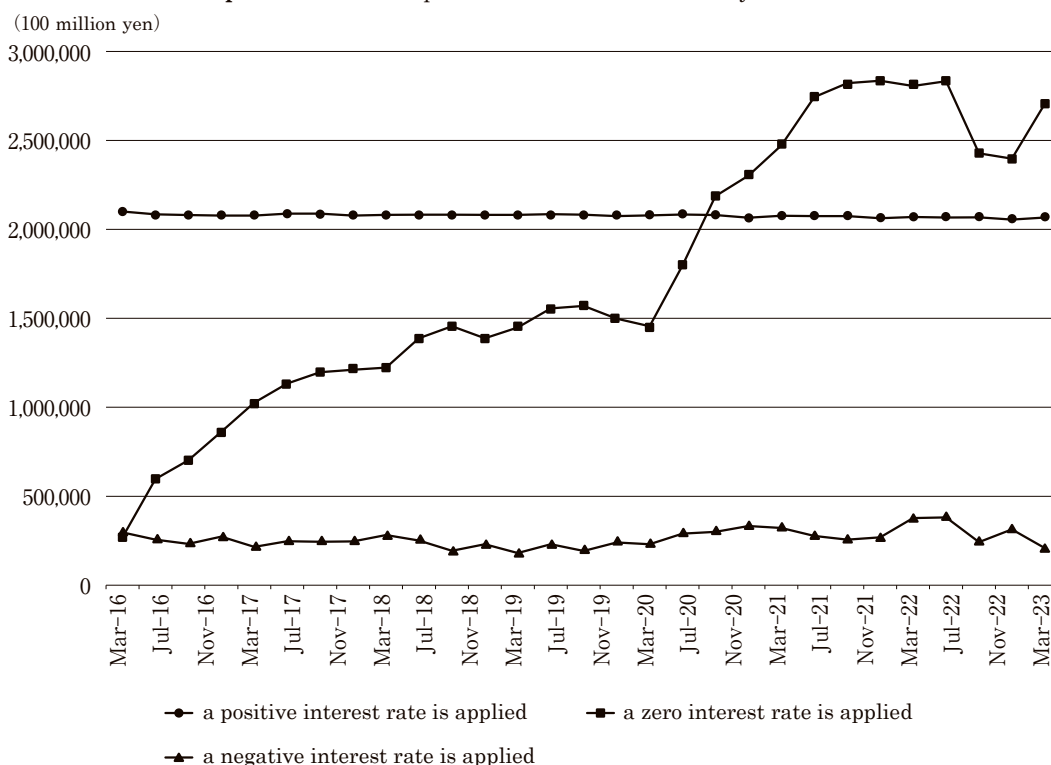
26) <https://www.jbatibor.or.jp/>

resistance by the banks.

The main cause of this resistance by banks, or the deviation of short-term prime rate and TIBOR from market rates, appears to be Bank of Japan's prolonged zero interest rate regime and the introduction of negative interest rates. Graph 10 shows the breakdown of BOJ current accounts by type of interest rate. The BOJ's current account balances amounted to over ¥498 trillion at March of 2023, of which over ¥207 trillion had a positive interest rate (0.1%), approximately ¥271 trillion had a zero interest rate and approximately ¥21 trillion had a negative interest rate (-0.1%). By type of banks, the bank type with the largest balance of negative interest rates applied is "other institutions subject to the reserve requirement", with approximately ¥9.7 trillion.²⁷⁾ A large part of this is seen to be Japan Post Bank, which has a negative interest rate (-0.1%) on its balance sheet. As there is no other place to manage the money, Japan Post Bank may have no choice but to deposit it onto current accounts at negative interest rates.

To begin with, current accounts are deposits for settlement purposes only and do not bear interest if they are at a commercial bank. The BOJ only started to pay interest on

Graph 10 Bank of Japan current account balance by interest rate



Source: <https://www.boj.or.jp/en/>

27) <https://www.boj.or.jp/statistics/boj/other/cabs/index.htm/>

current accounts from 2008 onwards. Initially, it was 0.1% on excess reserve balances. There were seen to be problems with interest being paid on the central bank's current account.

Even though the original policy intention was to set a lower limit on market interest rates with an interest rate of 0.1%, the policy intention has not succeeded as market interest rates have fallen below 0.1%. BOJ's three-tiered interest rate system on current accounts has caused confusion and distortions in interest rate formation. As a result, private banks appear to have been forced to make the short-term prime rate and TIBOR a formality.

6. Conclusion

The financial dual structure persists today in a different form. Today, city banks have made inroads into SME and personal finance, but only in urban areas. On the other hand, city banks tend to be less involved in SME and personal finance in regional areas. Regional finance is still carried out by regional banks, regional banks II and shinkin banks, which have a shared role with city banks.

The uneven distribution of funds was based on the fact that regional banks used to be providers of funds in the call market. Today, with regard to deposits, there is a marked concentration in city banks, with an excess of deposits and a decline in the loan-to-deposit ratio in city banks. The securities-to-deposit ratio has also declined at the city banks, resulting in a rapid increase in the size of BOJ current account balances.

Interest rate distortions used to be driven by the Bank of Japan's artificially low interest rate policy, which kept official interest rates low and allowed city banks to lend at low rates to large corporations. On the other hand, call rates soared and short-term government bond yields were also high. Today, three layers of interest rates are attached to the BOJ's current account, most notably negative interest rates, which affect market interest rates and make reference rates such as the short-term prime rate and TIBOR a mere skeleton. Commercial banks have kept the short-term prime rate at 1.475% for a long period of time, while the real effective lending rate has been reduced. TIBOR has also diverged from market rates and remained in positive territory. After all, even today, interest rate formation is distorted.

Central bank monetary policy is essentially based on guiding market interest rates. It makes sense to work on the call rate through operations. However, the mistake was in overcoming the interest rate function and arriving at quantitative easing. Another error is the basic stance that monetary easing is necessary for prices to rise, with an obsession with the 2% price inflation rate.

The adherence to a 2% price inflation rate is based on the understanding that the Phillips curve shows a trade-off between the price inflation rate and the unemployment

rate, and that economic growth (lower unemployment, full employment) is accompanied by a moderate rise in prices. Today, however, temporary (non-permanent) employment is increasing and a fall in the unemployment rate does not necessarily mean economic growth (boom) or an increase in national income. Therefore, the Phillips curve itself has become obsolete. The logic that monetary easing is necessary for prices to rise is also a misunderstanding that has existed since the monetary school of the 19th century.

(Professor, Faculty of Economics, Komazawa University, Dr. of Commercial Science)