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Recent Use Cases of Supervisory Granular Data for Financial Stability Analysis

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This article provides an overview of how supervisory granular data, particularly loan-by-loan data from banks, is used in recent analyses of the financial system at the Bank of Japan. The transaction-level granular data uncovers new facts that are difficult to identify from conventional aggregated data alone. As such, it serves as a powerful tool for detecting vulnerabilities within the financial system and evaluating potential risks. It is important to keep advancing analytical methods for utilizing granular data, thereby contributing to the enhancement of financial stability assessment and the improvement of banks' risk management.

Introduction

Advances in technology and digitalization in recent years have led to a dramatic expansion in the types and the volumes of data that can be collected and used. Historically, researchers have mainly relied on statistical data published by governments and industrial organizations, as well as price data from various markets, to analyze financial and economic conditions and conduct academic research. More recently, however, there has been a growing use of transaction-level granular data, second-by-second high-frequency data, and novel types of information such as text and locational data.[1]

Financial authorities in various countries face the same research environment. However, a distinctive feature of their data usage is that, in addition to external data, they have long been using supervisory data directly collected from their supervised banks. Recently, for both external and supervisory data, authorities have increasingly used granular data, such as transaction-level detailed data on loans and securities investment, instead of relying solely on aggregated data at the level of banks or firms, resulting in rapid advances in financial system research.[2] Specifically, at the Bank of Japan (BOJ), in addition to analyses using external data on the creditworthiness of individual borrowers and the asset management status of various investment funds, efforts have been made to utilize supervisory granular data for bank lending, which has only recently become available.

This article outlines the characteristics of loan-by-loan data, a typical example of supervisory granular data, and highlights recent use cases of such data in the analysis of the financial system at the BOJ.

Loan-by-loan Data Collected by Various Financial Authorities

Foreign financial authorities have been advancing the collection of granular data on loans and securities in order to better understand the credit conditions of banks. For example, in the United States, the Federal Reserve introduced the FR Y-14 reporting form to conduct stress testing under the Dodd-Frank Act, which was enacted following the global financial crisis in the late 2000s. Through this reporting form, the Federal Reserve collects various types of supervisory data from banks, including granular data on corporate loans and commercial real estate loans. Similarly, the European Central Bank (ECB) and other financial authorities in the euro area have established the AnaCredit framework, a data collection system for granular loan data, which draws on credit register systems that some countries had independently developed before the global financial crisis. The collected data is primarily used for supervisory purposes such as monitoring banks. It will also contribute to compiling loan statistics under the Integrated Reporting Framework (IReF). Furthermore, as data accumulates, these datasets are increasingly used for academic research in addition to financial stability analysis.[3]

Supervisory loan-by-loan data, which is collected directly from banks by financial authorities, provides the following characteristics and analytical advantages

when compared to other datasets, including borrower-by-borrower data (e.g., firm-level financial position data).

First, the breadth of coverage can be highlighted. Since financial authorities comprehensively collect loan data from supervised banks, this enables them to seamlessly transition between micro-level monitoring for individual bank loans and macro-level analyses of the overall financial system, which was previously challenging to achieve with conventional data.

Second, supervisory loan data makes it possible to identify precise relationships between banks and individual firms. While some existing firm-level databases provide information about firms' transactions with banks and have been used in a number of analyses, supervisory loan data offers greater precision in understanding these linkages. Moreover, by matching the loan data with external firm-level databases, more accurate and varied analyses become possible.

Third, supervisory loan data is collected together with various related information that banks hold. This includes detailed information on individual loans, such as lending rates and collateral information, as well as corresponding borrower-level information, including credit ratings. The availability of such data, previously inaccessible through conventional borrower-level databases, creates opportunities to discover new facts and carry out analyses that were not feasible before.

Analysis Using Japan's Detailed Loan Data

In Japan as well, recognizing the importance of higher-quality monitoring and reducing banks' burden in supervisory data collection through data integration, the Financial Services Agency (FSA) and the Bank of Japan (BOJ) have strengthened their collaboration in various areas since establishing the Task Force to Strengthen Coordination between the FSA's Inspections Function and the BOJ's On-site Examination Function in 2020. As part of these efforts, the Common Data Platform was developed, and full-scale collection of supervisory loan-by-loan data (Detailed Loan Data) began in fiscal 2025.[4] The collected data is now beginning to be used, under rigorous information management, to monitor banks and analyze the financial system, and some of the results are published in the BOJ's *Financial System Report* and other publications.[5]

This section introduces examples of the use of the Detailed Loan Data, collected via the Common Data Platform, in conducting in-depth analysis of the financial system.

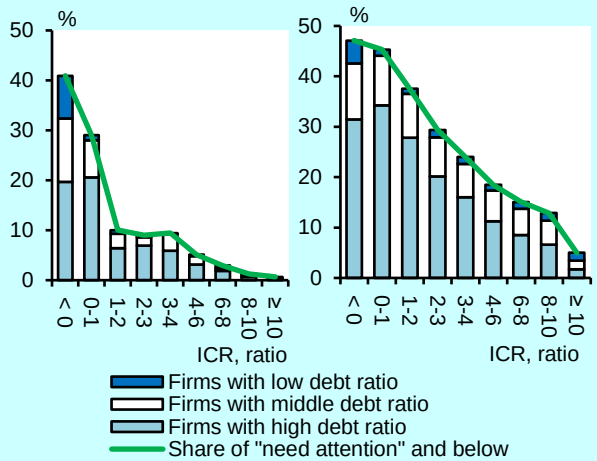
Credit Risk Analysis of Borrowers

Granular data enables flexible aggregation focusing on various attributes at the transaction level. In assessing the credit risk of banks' borrowers, the use of supervisory loan data allows for detailed examination from various perspectives.

Chart 1 shows the relationship between the borrower classification assigned by banks and the interest coverage ratio (ICR) -- the ratio of the sum of operating profits and interest income to interest payments -- which represents borrowers' interest payment capacity based on financial information of banks' borrowers. Financial information for large firms is obtained by matching their corporate numbers with external databases, while financial information for small and medium-sized enterprises (SMEs) is collected from regional banks that are member banks of the Regional Banks Association of Japan (*regional banks I*) along with the Detailed Loan Data.[6]

The same chart shows that, for large firms, the proportion of loans for low credit ratings ("need attention" and below) remains low in the loan portfolio as long as the ICR is around 1 or below. However, when the ICR falls below 1, the proportion of loans for low credit ratings rises in a nonlinear fashion, particularly among firms with relatively high debt ratios. This trend is more pronounced in large firms compared to SMEs.

[Chart 1] Relationship between Firms' Financial Conditions and Credit Ratings



Note: Data as of end-March 2025. Shows the share of loans for low credit ratings ("need attention excluding special attention" and below) at each ICR level. Firms are classified into three equally weighted groups based on the ratio of total borrowings to total assets. "Large firms" refers to listed firms among borrowers from major banks and *regional banks I*, while "SMEs" refers to unlisted firms with capital from 10 million to 100 million yen among borrowers from *regional banks I*. See section A of Chapter IV in the October 2025 issue of the *Financial System Report*.

Source: Nikkei Inc., "NEEDS-Financial QUEST"; BOJ.

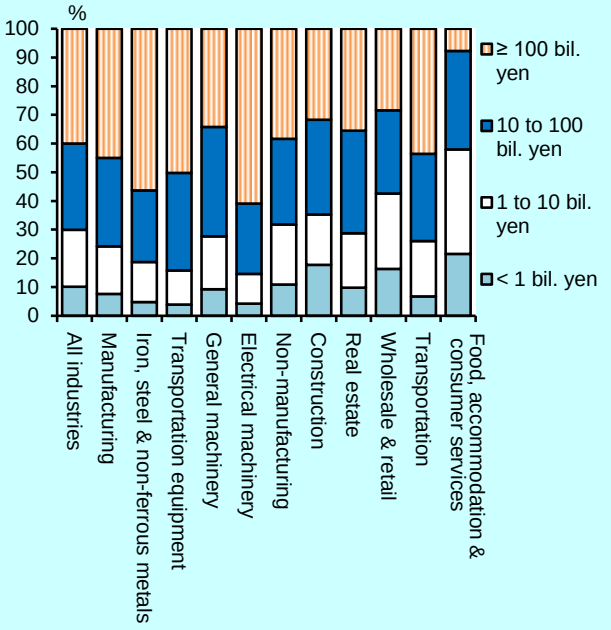
Utilizing insights gained from such granular data allows for analysis of how credit costs, driven by downgrades in borrower classification, might emerge in the event of stress caused by changes in financial and economic conditions.

Chart 2 shows a cross-tabulation of the outstanding loans of major banks by industry and by the size of loans per borrower. Given that major banks have a large share of loans extended to large firms, in industries such as the transportation equipment industry and the iron, steel, and non-ferrous metals industry, the proportion of large borrowers with outstanding loans of 100 billion yen or more per borrower is high. This suggests that, even in a situation where the overall probability of corporate defaults is low, if a credit rating downgrade were to occur for individual firms whose financial positions are relatively vulnerable, the credit cost could become considerable depending on the amount of loans extended to the firms in question.

Focusing on the borrower classification assigned to firms that receive loans from multiple banks, chart 3 examines whether there are differences among banks in credit risk management of cross-prefectural loans by *regional banks I* (i.e., loans from branches located outside the prefecture where the head office of the bank is situated).[7] The borrower classifications assigned by non-main banks to borrowers are compared with those assigned by the main banks. The results indicate that discrepancies in borrower classifications are relatively small in the case of loans to large and medium-sized firms, whereas such discrepancies are more pronounced in the case of loans to SMEs. Borrower classifications are determined comprehensively, taking into account not only financial information but also qualitative information such as prospects for business continuity based on the characteristics of the industry and the validity of business improvement plans. As such, discrepancies between banks can arise even for the same borrower. However, for SMEs, there is a tendency for borrower classifications assigned by non-main banks to be relatively higher (i.e., giving higher credit ratings) than those assigned by main banks, which may be attributed to information gaps between the main and non-main banks.

For many years, the BOJ has utilized existing private sector granular data to conduct analyses by grouping firms based on certain attributes. The use of supervisory granular data, in particular the Detailed Loan Data from the Common Data Platform, enables cross-tabulation of various loan and borrower information, as well as examination of data at the individual firm level. This will contribute to advancing credit risk analysis of banks' loan portfolios.

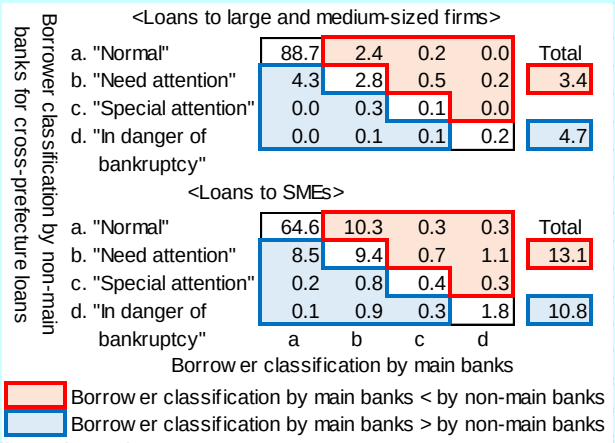
[Chart 2] Composition of Loans Outstanding by Size of Loan Amount



Note: Covers loans by major banks (as of end-March 2025). Size of the loan amount is based on the loan outstanding per borrower. See section A of Chapter IV in the October 2025 issue of the *Financial System Report*.

Source: BOJ.

[Chart 3] Borrower Classification of Cross-Prefecture Loans



Note: Figures are for loans identified as cross-prefecture loans by non-main bank among loans by *regional banks I* during 2024. Figures are based on the proportion of the number of loans for each category to the total number of loans. "Large and medium-sized firms" refers to firms with capital of 100 million yen or more, while "SMEs" refers to firms with capital of less than 100 million yen.

Source: BOJ.

Identification of Firms Using Effectively Interest-Free and Unsecured Loans

Even for information not directly collected in granular data, researchers can sometimes analyze it by devising a combination of multiple data elements within the dataset. This section introduces an analysis of effectively interest-free and unsecured loans (so-called

zero-zero loans) using the Detailed Loan Data from the Common Data Platform.

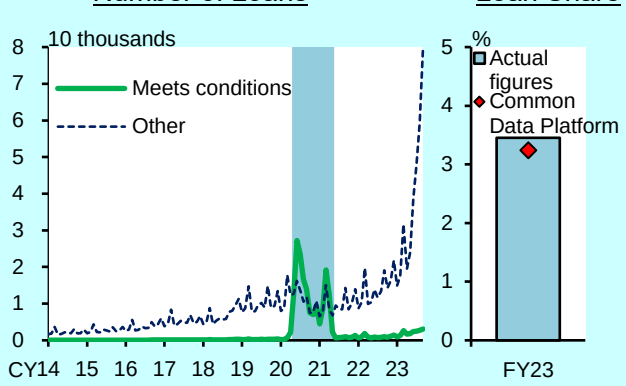
Zero-zero loans provided by privately-owned banks refer to loans guaranteed by credit guarantee corporations to SMEs that experienced a significant decline in sales during the pandemic. These loans were made from 2020 to 2021 under conditions such as a loan term of up to 10 years (with a five-year grace period for principal repayment), an effective interest-free period during the initial three years due to interest subsidies (and full exemption of credit guarantee for the entire loan period), and an initial maximum guarantee amount of 30 million yen (later raised to 60 million yen). Zero-zero loans continued to remain on the balance sheets of banks and borrower firms even after the start of the repayment phase. Therefore, even after a reasonable period had passed since the pandemic, it was important in monitoring individual banks and the banking sector as a whole to meticulously assess the debt repayment status and financial information of firms that received zero-zero loans.

In the Common Data Platform, there are no flags to identify whether a loan is a zero-zero loan. Therefore, taking advantage of the fact that interest rates on zero-zero loans are the same for credit guarantee corporations in each prefecture, of loans that were extended during the period between May 2020 and May 2021, when zero-zero loans were provided, those that meet the following conditions are extracted as zero-zero loans: (1) loans were extended at a fixed rate that corresponds to the interest rate offered by individual credit guarantee corporations, (2) the principal was within the maximum guaranteed amount, and (3) the loan period was within the maximum guarantee period of 10 years.

The results of the extraction in Chart 4 confirm that loans meeting the aforementioned conditions (1) to (3), which do not impose any requirements on start date, are concentrated during the period when zero-zero loans were extended by banks. Furthermore, these loans are generally consistent with the aggregated actual figures of outstanding amounts of zero-zero loans separately reported by banks. Additionally, the distribution of the starting periods for the principal repayment of zero-zero loans (Chart 5) is consistent with the reported peak in the start of repayment occurring between July 2023 and April 2024, during which the interest subsidy periods ended.[8] These findings suggest that the aforementioned extraction method is effective in accurately identifying zero-zero loans.

Chart 6 examines subsequent developments for firms

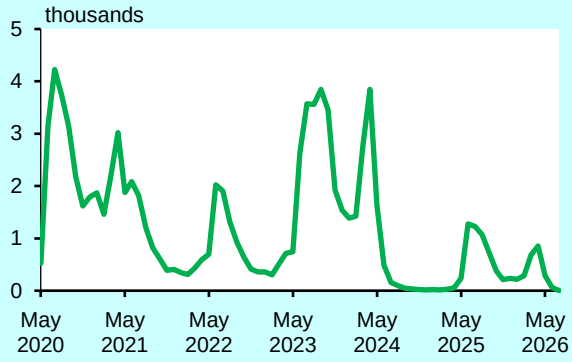
[Chart 4] Identification of Zero-Zero Loans



Note: Covers loans by *regional banks I* (same applies to the following charts). "Meets conditions" in the left-hand chart refers to the loans that meet all the conditions (1) to (3) in the main text. (These conditions are not relevant to their start date.) "Other" refers to the loans that do not meet one or more of the conditions. The shaded area indicates the period when zero-zero loans were provided (between May 2020 and May 2021). "Loan share" shows the share of zero-zero loans among corporate loans. See Box 4 in the October 2024 issue of the *Financial System Report*.

Source: BOJ.

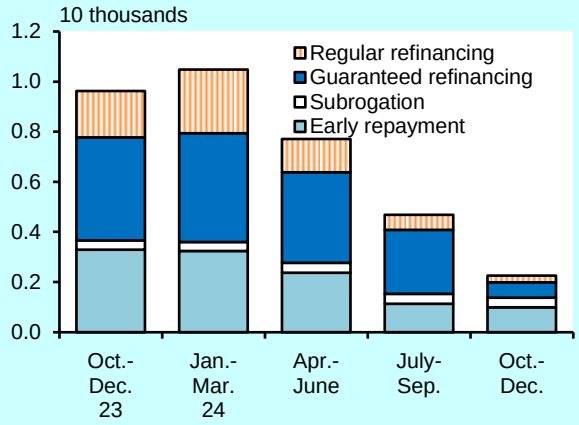
[Chart 5] Repayment Starts of Zero-Zero Loans



Note: Figures are as of end-September 2023. Figures for start dates of repayment are calculated as the final repayment date minus a ratio of principal amount to scheduled daily principal repayment amount using the corresponding reported data.

Source: BOJ.

[Chart 6] Decreased Amount of Zero-Zero Loans by Reasons



Note: Loans that experience both guaranteed and regular refinancing are classified into guaranteed refinancing. See Box 1 in the April 2025 issue of the *Financial System Report*.

Source: BOJ.

identified as zero-zero loan recipients. In this chart, for loans that were previously identified as zero-zero loans but whose information subsequently became missing, even though they had not yet reached maturity, were classified for each quarter in the following manner: (1) if the recipient firm was subject to subrogation, the loan was regarded as being subject to subrogation; (2) if the firm took out a new loan in that quarter, the loan was classified as having been refinanced with another guaranteed loan or refinanced with a regular loan, depending on whether the new loan was guaranteed or not; and (3) in all other cases, the loan was regarded as having been repaid early. The analyses confirm that the decline in the outstanding balance of zero-zero loans since fiscal 2023 is attributable to the fact that nearly half of the loans were prepaid, while the majority were refinanced into other loans. Furthermore, categorizing the recipient firms by identified status in Chart 7 reveals that firms opting for early repayment or refinancing to regular loans were more likely to have relatively favorable financial conditions compared to firms that continued to borrow zero-zero loans or refinanced to guaranteed loans.

Furthermore, many firms that refinanced to guaranteed loans appear to have utilized the COVID-refinancing guarantees. These guarantees were established to address the concentration of repayments of zero-zero loans provided by privately-owned banks and to reduce debt burden through refinancing, as well as to accommodate new funding needs. In many cases, the maturity has been extended by 10 years, which is the maximum guarantee period. In such cases, the additional deferral until the final repayment is expected to significantly reduce the monthly repayment burden (Chart 8). In fact, the estimated subrogation rate for firms that refinanced to guaranteed loans is lower at the start of refinancing compared to that of firms continuing to use zero-zero loans.

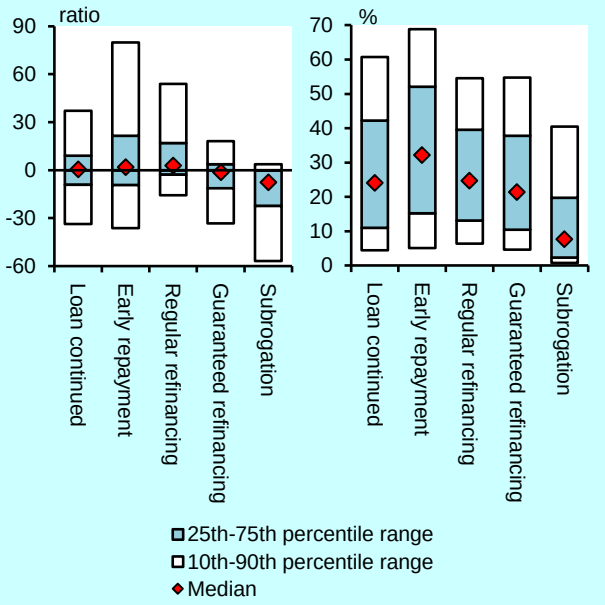
As demonstrated, supervisory loan data, depending on how it is processed and utilized, allows researchers to identify specific borrowers, such as those using zero-zero loans, and monitor their financial positions in detail. In particular, when data coverage is extensive, such as that for the Detailed Loan Data, a significant advantage is the ability to verify the accuracy of the filtering process by comparing the results with other aggregated data obtained separately.

Identification of Climate-related Loans Using External Data

Granular data can enable analysis by integrating multiple databases to utilize their information. Specifically, data can be matched using identifiers of the relevant banks, firms, or securities.

To analyze climate-related loans, the names of lenders and borrowers of green loans and sustainability-linked loans, published by the Ministry of the Environment (MOE), can be utilized. According to data from the MOE, the number of climate-related loans in Japan has been increasing. By matching this data with granular data such as the Detailed Loan Data

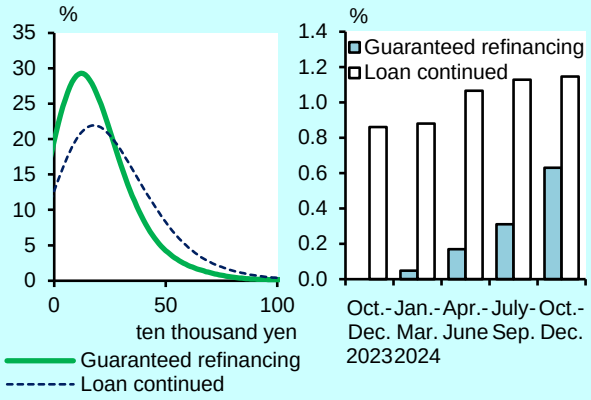
[Chart 7] Financial Conditions of Firms by Zero-Zero Loan Lending Status



Note: Shows financial conditions at the end of December 2024 for firms that borrowed zero-zero loans at September 2023. See Box 1 in the April 2025 issue of the *Financial System Report*.

Source: BOJ.

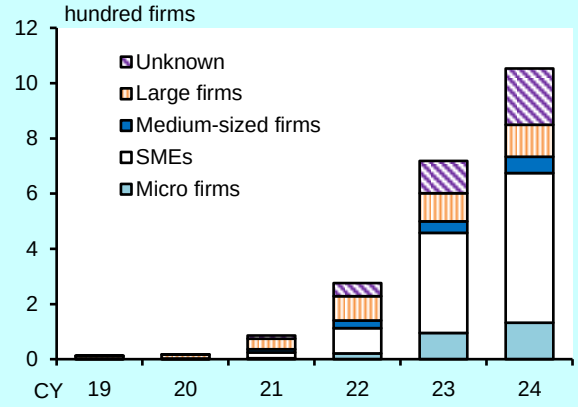
[Chart 8] Characteristics of Loans Refinanced with Credit Guarantee



Note: The left-hand chart shows the scheduled monthly repayment amounts after refinancing (for loans that experienced guaranteed refinancing) and prior to refinancing (for loans that are assumed to be continued) for apples-to-apples comparison.

Source: BOJ.

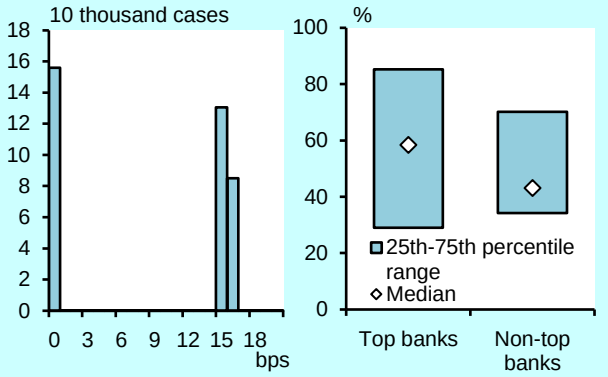
[Chart 9] Borrowers of Climate-Related Loans



Note: Covers borrowers of green loans and sustainability-linked loans. "Large firms" are firms with capital of more than 1 billion yen; "Medium-sized firms" from 100 million to 1 billion yen; "SMEs" from 10 million to 100 million yen; and "Micro firms" less than 10 million yen. See section C of Chapter V in the April 2025 issue of the *Financial System Report*.

Source: MOE; BOJ.

[Chart 10] Changes in Interest Rates of Short-Term Prime Rate-Linked Loans



Note: Covers *regional banks I* that raised their short-term prime rates from end-June 2024 to end-September 2024. The left-hand chart shows the changes in applied interest rates of loans identified as short-term prime rate-linked over the same period. The right-hand chart shows the number of loans whose applied interest rates were raised. See section A of Chapter VI in the April 2025 issue of the *Financial System Report*.

Source: Published accounts of individual banks; BOJ.

from the Common Data Platform, the attributes and risk profiles of borrower firms can be analyzed. Examining the trends by identified firm size for borrowers of climate-related loans in Chart 9 reveals that, in addition to large firms, which were at the forefront of decarbonization efforts, the number of SMEs receiving these loans has also been increasing, indicating a broadening base of borrowers.

As financial and economic conditions, as well as risk profiles of banks, continuously evolve over time, factors warranting attention to ensure financial stability vary significantly. Recently, in addition to climate-related financial risks, attention has been drawn to risk-taking related to the growing presence of investment funds and the rapid advancement of AI technologies. Similar to the identification of climate-related loans, these emerging areas of focus could be analyzed in a timely manner by matching data obtained from external databases with the Detailed Loan Data.

Lending Rate Hikes

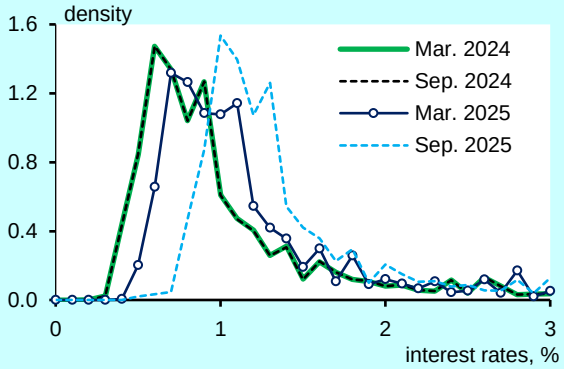
Granular data provides a detailed understanding not only of aggregate figures, such as totals and averages for specific attributes, but also of their heterogeneity and changes in their distribution over time. This section presents analyses using interest rate data on individual loans.

In understanding developments in lending rates, using aggregated data at the bank level disclosed in financial statements, disclosure materials, and other sources presents challenges for identifying the factors behind variations in lending rates in relation to individual borrowers' lending conditions and risk profiles. In this regard, the Detailed Loan Data from the Common Data Platform includes the applied interest rates and lending conditions (such as fixed or floating interest rates) of each loan, enabling more detailed analysis of lending rates. For instance, following the BOJ's policy rate hike, subsequent changes in lending rates can be directly observed by continuously monitoring interest rate changes for the same loans.

Chart 10 illustrates how the applied interest rates of short-term prime rate-linked loans changed by the end of September 2024, following the policy rate hike in July 2024 (from 0.1 percent to 0.25 percent).[9] Specifically, the left panel of the chart confirms that, by the end of September, among *regional banks I* that raised their short-term prime rate, the applied interest rates on more than half of short-term prime rate-linked loans had been increased. The magnitude of these increases was approximately 0.15 percentage points (15 basis points) for nearly all loans, which corresponds closely to the rise in the policy rate.[10] Furthermore, the right panel of the chart shows that the top banks in terms of lending volume in each prefecture generally exhibited relatively higher shares of applied interest rate hikes. These observations suggest that reflecting an increased base rate in lending rates is not automatic, and that the pace of such reflection may be influenced by factors such as bank competitiveness. This is consistent with the common practice of banks negotiating interest rates with borrowers at the time of rate revision.

In addition to firm lending, the Detailed Loan Data can also be used to analyze housing loan rates.[11] At

[Chart 11] Distribution of Applied Interest Rates for Floating-Rate Housing Loans



Note: Figures are for floating-rate housing loans by *regional banks I* that remained on the books of the sample banks from March 2024 to September 2025. See Box 1 in the October 2025 issue of the *Financial System Report*.

Source: BOJ.

many banks, the base rates for floating-rate housing loans, which account for the majority of housing loans, increased by 0.15 percentage points in October 2024 following the policy rate hike in July 2024, and by 0.25 percentage points in April 2025 after the policy rate hike in January 2025. Chart 11 shows the changes in the distribution of interest rates applied to floating-rate housing loans at *regional banks I*. The distribution shifted to the right during the periods from the end of September to the end of December 2024 and from the end of March to the end of June 2025, indicating that, for the majority of loans, the applied interest rates rose by 0.15 percentage points in the earlier period and by 0.25 percentage points in the latter period.

Concluding Remarks

This article explains the features and analytical advantages of supervisory loan-by-loan data of banks collected by financial authorities in various countries. It also introduces examples of analyses conducted using Japan's Detailed Loan Data that have recently become available. Granular data, including loan-by-loan data, which is now more widely accessible, enables us to find new stylized facts that were previously difficult to identify from conventional aggregated data alone. As shown in these examples, supervisory granular data serves as a powerful tool for detecting vulnerabilities within the financial system and evaluating potential risks. Finally, the last section discusses the key strategies for effectively leveraging granular data in financial system research.

First, although granular data is abundant in cross-sectional information, many of these datasets have only recently begun to be collected, making it challenging to conduct time-series analysis in many cases at this stage. For instance, if data lacks adequate information on past recessionary phases or periods of rising interest rates, it can be challenging to capture differences in the behavior of banks and firms in response to changes in the macroeconomic environment. Analytical results derived from cross-sectional data need to be interpreted with these limitations in mind. To address data gaps, it is essential to compare or combine such granular data with various available data, including longstanding statistical data, and incorporate qualitative insights from bank monitoring.

Second, even with granular data, a single database inherently has limitations on the information it can handle. Given the ongoing evolution of banks' lending practices and the growing diversity of risk metrics for loan management, analyses based solely on existing supervisory data are often insufficient. For example, in areas like fund financing, which has gained prominence recently, the credit risk of certain loan types -- such as non-recourse loans and subscription finance -- may depend on factors beyond borrowers' financial conditions due to the unique nature of these loans. In such cases, integrating and leveraging information from external data sources is crucial.

Third, detailed and large-scale data such as granular data entail significant costs in their management and pre-processing for analyses. In general, collecting and analyzing large-scale data requires processes to ensure the stored data is accurate without any errors. While some errors can be detected during data collection through automatic checks based on pre-defined parameters (e.g., number of digits or whether figures are positive or negative), others may be revealed through detailed analysis, such as comparisons with aggregated data or historical records. Furthermore, differences are often observed among reporters regarding the items they are able to report, and inconsistencies in the definitions of reported data sometimes exist. It is necessary to continue enhancing knowledge of data processing through ongoing analysis. Additionally, when interpreting analytical results obtained from granular data, it is critical to be aware that the results may change depending on the methods used for data processing.

Some of the challenges mentioned above are expected to be resolved over time as experience in granular data analysis grows. Continuous efforts to improve data analysis methods for leveraging granular data are essential for evaluating the stability and resilience of the financial system and for contributing to enhancing banks' risk management.

* Currently in the Personnel and Corporate Affairs Department.

[1] For use cases of alternative data, including granular data, at the Bank of Japan, see Kameda, S., "Use of Alternative Data in the Bank of Japan's Research Activities," *Bank of Japan Review Series*, no. 2022-E-1, January 2022.

[2] For efforts by authorities in various countries to use granular supervisory and private sector data, see, for example, BIS Innovation Hub, "Project Ellipse: An Integrated Regulatory Data and Analytics Platform," March 2022.

[3] For instance, the Federal Reserve's *Financial Stability Report* regularly presents charts of aggregated data on banks' lending to the non-bank financial institutions, collected via FR Y-14Q. Similarly, in the ECB's *Financial Stability Review*, granular data on loans is used for various analyses. Furthermore, for academic studies using such supervisory granular data see, for example: Greenwald, L., Krainer, J., and Paul, P., "The Credit Line Channel," *Journal of Finance*, vol.80(6), pages 3137-3183, 2025; and Altavilla, C., Ellul, A., Pagano, M., Polo, A., and Vlassopoulos, T., "Loan Guarantees, Bank Lending and Credit Risk Reallocation," *Journal of Financial Economics*, vol.172, 104137, 2025.

[4] The BOJ and the FSA have been working to strengthen their cooperation in monitoring activities, such as coordination in FSA's inspections and BOJ's on-site examinations, as well as in efforts toward data integration, including the integration and discontinuation of data templates. Regarding the Common Data Platform, an overseas case study was conducted in fiscal 2021, which was followed by a joint experiment in fiscal 2022. In fiscal 2023, the quarterly collection of data started in a phased manner, targeting *regional banks I* (member banks of the Regional Banks Association of Japan). Subsequently, after adjustments and integration of submission formats and definitions, full-scale data collection was implemented starting in fiscal 2025 for *major banks* and *regional banks II* (member banks of the Second Association of Regional Banks). For details, see the following released by the FSA and the BOJ: "Progress in Data Integration and Next Steps" (June 2023), "Progress in Common Data Platform and Next Steps" (July 2024), and "Commencement of Full-Scale Data Collection Using the Common Data Platform" (August 2025).

[5] For analytical initiatives undertaken by the FSA, see, for example, reports in the series of the *FSA Analytical Notes* and an article by T. Miyamoto and H. Ito, regarding full-scale operation of the Common Data Platform and recent developments in data utilization at the FSA, released on July 15, 2025 in *Shukan Kin'yu Zaisei Jijyo*.

[6] Member banks of the Regional Banks Association of Japan (*regional banks I*) have a history of managing various granular data through their participation in the "Credit Risk Information Total Service (CRITS)" administered by the Association. These banks are therefore highly capable of collecting a wide range of granular data, including financial indicators related to their borrowers.

[7] For recent trends in cross-prefectural lending and common exposures across banks, see section A of Chapter IV in the April 2024 issue of the *Financial System Report*.

[8] For instance, see data presented in the presentation slides (available only in Japanese) provided by the Small and Medium Enterprise Agency, which serves as the secretariat for the Subcommittee on Finance, Small and Medium Enterprise Policy Council, presented in June 2023.

[9] Focusing on the fact that, during the period from the end of December 2023 to the end of June 2024, TIBOR rose following the policy rate change in March 2024, while no instances of increases in the short-term prime rate were observed, floating-rate loans in the Detailed Loan Data that did not see changes in lending rates during this period were regarded as short-term prime rate-linked loans.

[10] Thereafter, by the end of December 2024, the short-term prime rate rose at almost all banks, and the rise was applied to lending rates.

[11] In the Detailed Loan Data, although there is a flag that directly identifies housing loans, the responses to this flag vary among banks. For those banks that have not provided responses to this flag, loans that meet the following criteria are considered housing loans: (1) they are flagged as intended for individuals; (2) they are flagged as non-business loans; and (3) their initial principal amount is 5 million yen or more. Comparing the total amount of housing loans identified through this method for *regional banks I* with the housing loan amounts obtained from conventional data reported by banks, the totals are generally consistent. This suggests that housing loans have been identified with a high degree of accuracy.

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