Recent Developments in the Use of Disclosed Detailed Financial Information in the Estimation of Japan's Flow of Funds Accounts

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Abstract:
Recently, the financial information disclosed by both financial and non-financial institutions has become increasingly detailed in Japan, reflecting a growing sense of the importance of accountability in corporations. The Bank of Japan has been improving the accuracy of Japan's Flow of Funds Accounts (FFA) to reflect the changes in the financial activities by absorbing these newly disclosed materials.

The use of the disclosed financial reports is especially effective in estimating the data sets for non-banks and non-financial sectors because the Bank has relatively limited access to source data for these sectors compared to that of private banks. For example, the revised estimation method of non-bank consumer credit refers to reports disclosed by non-banks in order to adjust the available source data to meet the definition in the FFA. This revision revealed the increasing trend of non-bank consumer credit, which reflects the growing use of credit cards and other sales credits to consumers. Also, the investment portfolio by public pension funds is measured more accurately, since its new estimation method introduces the disclosed list of securities owned by the funds.

Although the disclosed materials have contributed to the improvement of the FFA as mentioned above, the newly available data does not necessarily reach a sufficient level for the full estimate of the FFA or to keep pace with the progress of global statistical standards. Thus, the Bank needs to combine the disclosed information with the data received from various institutions. The renewed estimation method of the household investment in foreign securities utilizes the data of household assets in custody obtained from securities companies in addition to their disclosed materials. This revision would even enable breaking down the household investment in foreign securities into subcategories of debt securities, equities and investment fund shares as required in the Data Gaps Initiative (DGI-2).

Consequently, the compilation method of the FFA has achieved an appropriate balance between the efficiency of data collection and accuracy of estimation. The efficiency of data collection is particularly important during the pandemic in order not to impose excessive burdens on institutions to submit all necessary information to the Bank. The Bank will continue to enhance the quality of the FFA by incorporating available source data.

Keywords:
Newly disclosed materials; Efficiency of data collection; Reflection of change in financial activities; Non-banks; Households

1. Introduction:

This paper describes recent developments in the estimation methods of Japan's Flow of Funds Accounts (FFA) where the Bank of Japan has utilized information available in newly disclosed financial reports. The developments comprise the following two parts: the revisions in the non-bank consumer credit and the investment by the public pension funds that adopted disclosed materials, as well as those in the household investment in foreign securities and the loans to solo-proprietors that combined disclosed information with submitted data.

This paper consists of four parts, starting with this introduction. Then, section 2 introduces the revisions in the non-bank consumer credit and the investment by the public pension funds, and section 3 explains the improvements in the household investment in foreign securities and the loans to solo-proprietors. Finally, the conclusion summarizes the paper.

2. Use of Disclosed Financial Reports

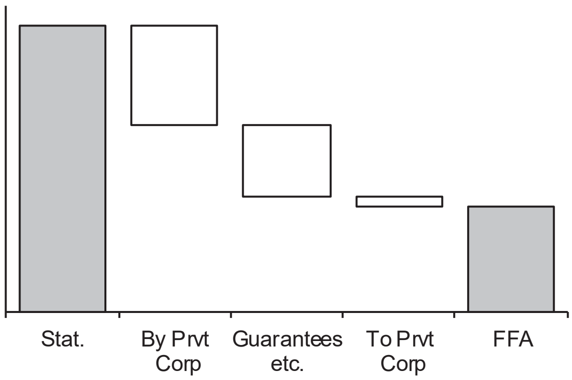
2.1 Non-Bank Consumer Credit

2.1.1 Methodology

In the FFA, non-bank[1] consumer credit consists of two elements—consumer loans and sales credit. Sales credit is credit that is related to a purchase contract and is the sum of credit card shopping and other shopping credit such as auto loans. Sales credit has grown for several years and has increased its share in consumer credit, while consumer loans have decreased their share.

Before the revision, the Bank estimated non-bank consumer credit by multiplying the amount of consumer credit from major traditional consumer credit companies by the ratio of their total lending to the total amount of non-bank lending as extracted from the statistics released by the Financial Services Agency. This original method used to be effective because the consumer loans represented a large part of the consumer credit by around 2010. However, the method has not necessarily grasped the recent increase of the sales credit.

(Chart 1) Adjustment of Shopping Credit Statistics to Definition of Non-bank Consumer Credit in FFA



The main challenge in estimating non-bank sales credit for the FFA was that, although there have been several statistics released by industrial associations, their definitions do not match the definition of the FFA (Chart 1). First, several lending companies are classified as private non-financial corporations in the FFA, and thus their amount of outstanding consumer credit needs to be eliminated from the non-bank consumer credit[2]. In addition, while the statistics include the credit, such as credit guarantees[3], that is not recorded on the balance sheets of non-banks, it should be excluded from the non-bank consumer credit in the FFA. Furthermore, consumer credit should be distinguished from non-bank lending to corporations, whereas statistics often combine both of them.

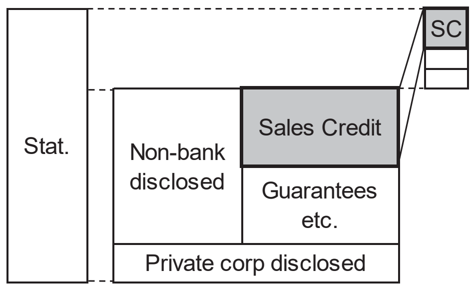
[1] In this paper, "non-bank" indicates the sector "finance companies" in the FFA.

[2] For example, car dealers belong to private non-financial corporations, as no single entity should represent more than one sector and the main business of car dealers is car sales, not lending. Therefore, their auto loans should not be included in non-bank consumer credit.

In order to both expand use of the available statistics and meet the definition of the FFA, the Bank investigated the area and found that financial reports disclosed by non-banks would help improve the accuracy of the data series[4].

In the new estimation method[5], the Bank accumulates non-bank disclosed financial reports to estimate the breakdown of the statistics and adjust the data to the definition of the FFA. The Bank divides the consumer credit into consumer loans and sales credit and estimates them separately. As for sales credit, the Bank uses disclosed data to estimate the ratio of the elements, such as credit guarantees and sales credit by and/or to private corporations, that should be eliminated from the non-bank consumer credit in the FFA in its total amount outstanding extracted from the statistics (Chart 2).

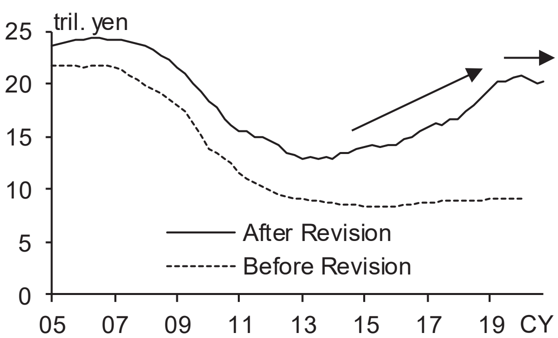
(Chart 2) Estimation of Breakdown of Statistics Using Disclosed Financial Data



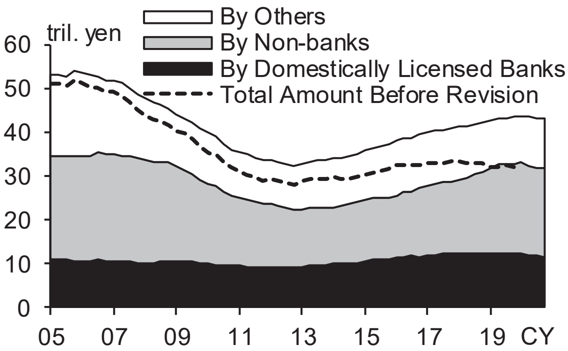
2.1.2 Results
As seen in the chart 3, the revision revealed the increasing trend of non-bank consumer credit until 2019, which was led by sales credit, and the stagnation during the pandemic in 2020. Due to the revision, its amount outstanding also doubled from 9 trillion to 21 trillion yen as of March-end 2020.

Furthermore, the revised figures enable an overview of consumer credit. This shows that non-bank consumer credit has led the increasing trend as a whole (Chart 4).

(Chart 3) The Amount Outstanding of Non-bank Consumer Credit until Dec-end 2020



(Chart 4) The Total Amount Outstanding of Consumer Credit by Sectors until Dec-end 2020



2.2. Investments by public pension funds

2.2.1 Methodology
In the FFA, the sector "public pensions" consists of institutions such as the Government Pension Investment Fund (GPIF) and Mutual Aid Associations for public workers, which mainly invest in securities through money trust. Previously, the Bank assumed that the Mutual Aid Associations had the same breakdown ratio of the investment through money trust as its average ratio of all sectors. While they changed their portfolios significantly in 2015, the Bank had difficulties in reflecting the change to the FFA because the Bank did not have access to the breakdown data of investments made by the pension funds through money trust[6].

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[4] For example, the accumulation of the disclosed financial reports turned out to be effective especially in estimating the breakdown of shopping credit. The Bank succeeded in adding disclosed data of around 10 companies to occupy most of the total amount outstanding of shopping credit.

[5] See Bank of Japan (2020, 2021b, c) for details.

[6] In the FFA, the investments made through money trusts are not stated simply as money trust, but must be divided into the actual types of securities that the money trust owns.

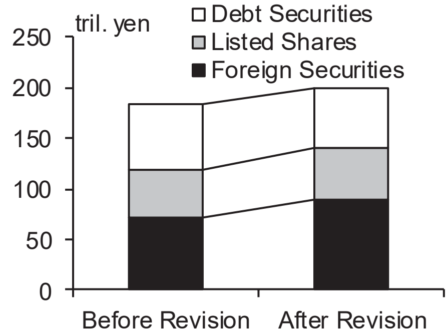
In estimating the breakdown of money trust owned by public pension funds[7], the Bank incorporated the detailed data that have been disclosed recently by each institution. More specifically, the Bank uses two types of disclosed financial materials. First, the Bank introduced annual reports that list all securities owned by the public pension funds. Second, it adopted quarterly reports that classify money trust into five types of securities invested: domestic debt securities, domestic equities, foreign debt securities, foreign equities and short term assets.

2.2.2 Results

The revision revealed the shift in public pension investments from domestic debt securities to foreign securities (Chart 5), and the increased recent amount reflecting the change in their market values. It was also revealed that the figure dropped instantly at March-end 2020 due to the decrease in stock prices at the outbreak of the Covid-19 pandemic and has recovered afterwards (Chart 6).

Consequently, the revised figures reflected the aforementioned change in the portfolio of the investment by public pension funds.

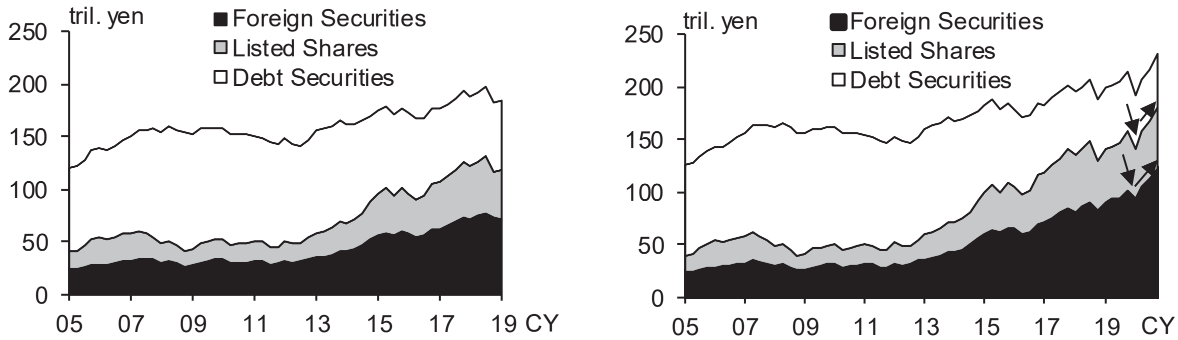
(Chart 5) Major Changes in Figures of Public Pension Fund Assets as of Mar-end 2019



(Chart 6) Figures for Public Pension Fund Assets before/after Revision

Before Revison until Mar-end 2019

After Revison until Dec-end 2020



3. Combination with Collected Data

While section 2 describes the revised methods using the disclosed reports for estimating the figures for the non-bank financial institutions in the FFA, this section explains those that combine the disclosed materials and the data submitted from financial institutions to the Bank.

3.1 Household Investment in Foreign Securities

3.1.1 Methodology

In the FFA, the transaction item "outward investment in securities" means the investment in foreign securities that are foreign debt securities, foreign equities and foreign investment fund shares.

Although the "Balance of Payment" and the "International Investment Position" released by the Bank provide the flow and amount of the investment in foreign securities by the non-financial sector, no data sets are available for investments by its subcategories such as households and private non-financial corporations. Thus, the major challenge in estimating investment in foreign securities by households is how to distinguish its amount from the investment by private non-financial corporations. Before the revision, the Bank applied the

[7] See Bank of Japan (2019, 2021b, c) for details.

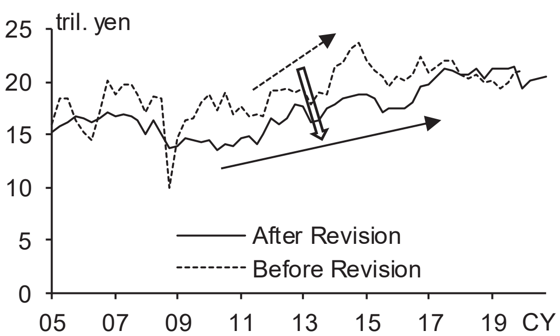
ratio of the investment in domestic securities by households and private non-financial corporations to the investment in foreign securities.

Securities companies disclose their total amounts of foreign debt securities and foreign equities in custody in their annually disclosed financial reports. In order to estimate the breakdown data for households[8], which are undisclosed, the Bank first accumulates the data for households submitted from major securities companies, and uses the aforementioned data extracted from the disclosed reports to estimate the total amount. As for the foreign investment fund shares, since the data of the respective companies are not available, the Bank combines several statistics and estimates the bond-type and the equity-type investment fund shares separately.

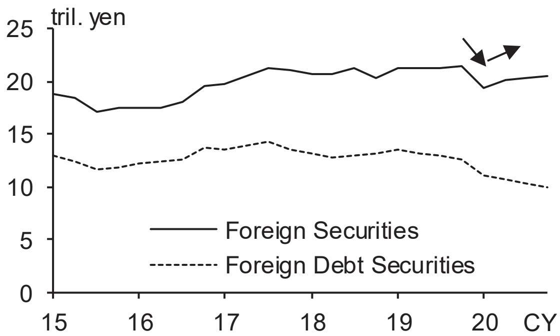
3.1.2 Results
As a result of the revision, the moderate increasing trend throughout the 2010's has become clearer than before (Chart 7). Also, in 2020, the figure fluctuated in accordance with the change in stock prices during the pandemic (Chart 8).

In addition, the revision enabled the household investment in foreign securities to be broken down into subcategories required in the Data Gaps Initiative (DGI-2): debt securities, equities and investment fund shares. Consequently, the improvement has contributed to the progress of standardized global financial statistics (Chart 8).

(Chart 7) Amount Outstanding of Household Investment in Foreign Securities until Dec-end 2020



(Chart 8) Revised Amount Outstading of Household Investment in Foreign Securities until Dec-end 2020



3.2 Private Loans to Solo-Proprietors

3.2.1 Methodology
Although the "Loans and Bills Discounted by Sector" released by the Bank reveals the amount of apartment loans by domestically licensed banks and *shinkin banks*, there is no measure to capture the amount of other sorts of loans to solo-proprietors[9] or to separate them from loans to corporations, and accordingly the Bank can only estimate their amounts. Before the revision, the Bank calculated the average amount of borrowings per small enterprise and multiplied it by the number of solo-proprietors to estimate the amount of loans to solo-proprietors.

In the planned revision[10] in June 2021, the Bank will divide the loans to solo-proprietors into apartment loans and the remaining, non-apartment loans. While using the aforementioned "Loans and Bills Discounted by Sector" to capture the apartment loans by domestically licensed banks and *shinkin banks*, the Bank will introduce various disclosed financial reports,

[8] See Bank of Japan (2020, 2021b, c) for details.
[9] In this paper, "loans to solo-proprietors" indicates the transaction item "loans to companies and governments" on the liability of the sector "households" in the FFA.
[10] See Bank of Japan (2021a) for details.

statistics and data provided from related institutions such as CRD (Credit Risk Database) Association to estimate loans to solo-proprietors.

3.2.2 Results
The revised time series data are yet to be compiled and will be released on June 25 2021. However, on May 28 2021, the Bank disclosed its plan to revise the FFA's estimation method and the provisional figures as of March-end 2020.

According to the plan, the amount outstanding of the loans to solo-proprietors will be increased from 44 trillion to 54 trillion yen, of which 27 trillion yen represents the apartment loans directly extracted from the "Loans and Bills Discounted by Sector" (Chart 9).

(Chart 9) Provisional Figure of Loans to Solo Proprietors as of March-end 2020 after Revision in June 2021

Amount Outstanding before Revision	Amount Outstanding after Revision	Change in Amount Outstanding
43.8 tril. yen	54.0 tril. yen	+10.2 tril. yen

4. Discussion and Conclusion:

In conclusion, the Bank has been revising the estimation methods of the FFA to reflect changes in the financial activities by absorbing newly disclosed financial reports and improving the quality of the FFA. The use of disclosed financial reports has turned out to be effective especially in estimating data sets for non-bank financial institutions and non-financial sectors, of which the data accuracy remains to be improved. Although there are statistics available on non-bank financial institutions, their definitions often differ from those of the FFA. Thus, the Bank incorporated disclosed data to adjust the available data to meet the definitions in the FFA. In the areas on which the data availability of disclosed materials does not reach the sufficient level to estimate the FFA thoroughly, the Bank combined the disclosed information with data submitted from financial institutions to improve the FFA's estimation methods. As a result, the figures have become more accurate especially for households in the transaction items that used to rely largely on estimations.

The new estimation methods have realized an appropriate balance between the accuracy of estimation and efficiency of data collection. This balance is particularly important during the pandemic, in order not to impose excessive burdens on institutions to submit all necessary information to the Bank. The Bank will continue to enhance the quality of the FFA by incorporating disclosed source data.

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