IFC Satellite meeting at the ISI Regional Statistics Conference on *"Is the household sector in Asia overleveraged: what do the data say?"*

Kuala Lumpur, Malaysia, 15 November 2014

How to quantitatively capture the state of the household sector in Asia?[1]

Sayako Konno and Masahiro Higo, Bank of Japan

---

[1]   This presentation was prepared for the meeting. The views expressed are those of the authors and do not necessarily reflect the views of the BIS or the central banks and other institutions represented at the meeting.

"How to quantitatively capture the state of the household sector in Asia?"

Sayako Konno

Masahiro Higo

Research and Statistics Department
Bank of Japan

Outline of Presentation

1. Growing Importance of the Household Sector in Asia

   1.1 Role of Households in Asia

   1.2 Issues of Households Debt

   1.3 Important Role of Statistics

2. Current Development of Statistics in Asia

   2.1 What kind of statistics are needed?

   2.2 Financial Accounts in Asia

   2.3 Residential Property Prices

   2.4 Distributional Information on Households

   2.5 Summary

3. Needs to Develop the Financial Accounts

   3.1 The Importance of FFA to Compile the HHs Balance Sheet

   3.2 What is J-FFA?

   3.3 Analyses of J-FFA

   3.4 The Future Revision of J-FFA

1. Growing Importance of the Household Sector in Asia
1.1 Role of Households in Asia

- In Asian countries (presumed East and Southeast Asia),the role of the household sector is gaining importance in both financial and economic aspects.

   (1) High economic growth and saving rate give rise to a build-up of the households' financial assets.

   (2) Rapid urbanization causes an increase of both real assets and indebtedness of households with the continuous rise of house prices.

   (3) Aging society also contributes to the rise of the financial assets. As the social security system is not sufficiently developed, dependence on the households savings is high.

   (4) Financial liberalization leads to an increase in housing loans and an increase in investment into more varieties of financial assets as well.

1.2 Issues of Household Debt

- As the house prices increased rapidly in some Asian countries, household indebtedness especially in cities became big issues. There is a concern about the question of whether the household sector is overleveraged or not.

- A sharp decline in house prices would damage the household balance sheet.

"Regional Economic Outlook," April 2014 by the IMF, introduced analyses of rising household debt and house prices in Asia.
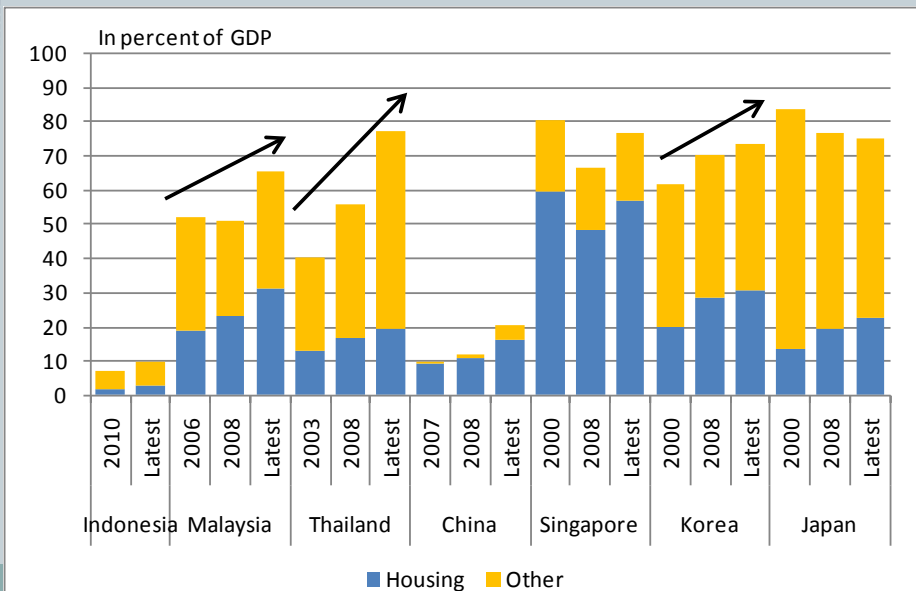
Household Debt in Asia

IMF *Regional Economic Outlook*;

- How "indebted" are households in Asia?

✓ "Rapid credit growth has also fueled growing household indebtedness across parts of Asia."

✓ " Mortgage credit accounts for a significant share of total credit to households in many Asian economies."

Households debt

Total credit to households

3
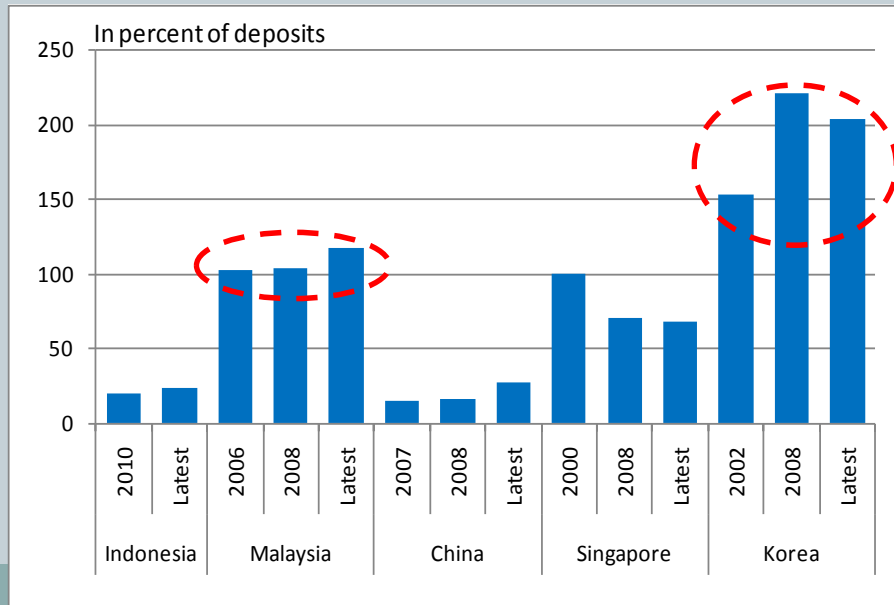
House Prices in Asia

IMF *Regional Economic Outlook* (Cont.);

- House prices rose rapidly across most of Asia during the last decade.

  ➤ "Given that rapidly rising credit has often been associated with an upward cycle in house prices, there is a potential for the housing-credit cycle to unwind in some countries."

  ➤ "A decline in housing prices would lower the value of collateral and tighten credit availability, creating an adverse financial accelerator effect."

House Prices

Legend: ■ Change from 2000Q1 to 2007Q1   ■ Change since 2008
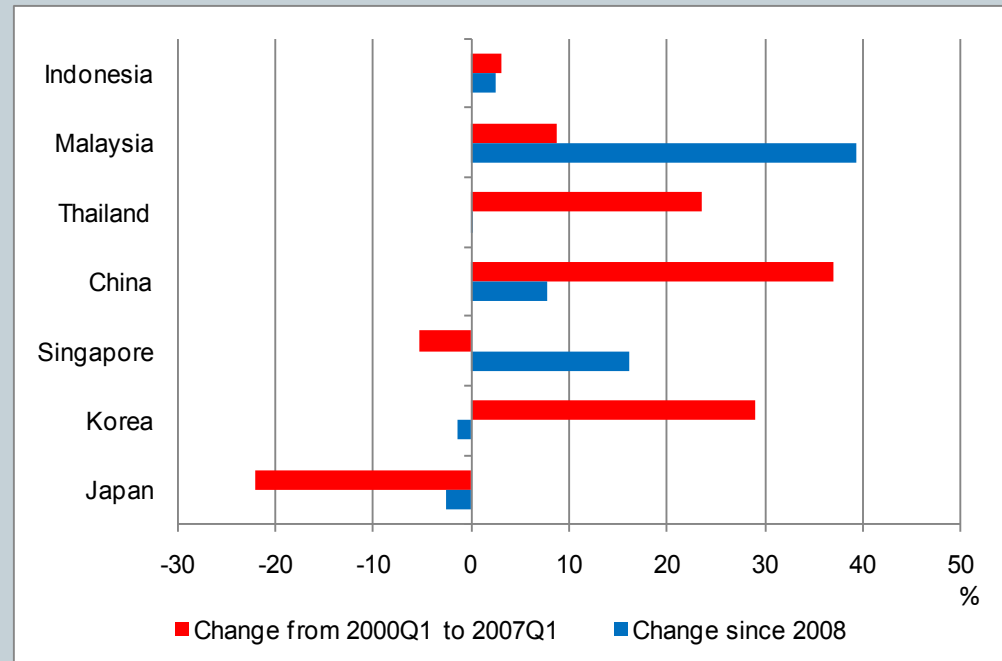
Measures on Household Debt

- Financial authorities in Asia responded to household debt problems with a series of prudential policy measures, such as strengthening loan regulations, as follows.

Country	Measures
Korea	• "Comprehensive Measures on Household Debt" in June 2011 　A. For the banking sector: ➢ Application of higher BIS risk weights to high-risk mortgage loans, etc. ➢ Shortening of a deadline for banks to meet the 100% cap of loan-to-deposit ratio. B. For the non-banking sector: ➢ Introduction of leverage regulations for credit business companies. ➢ Gradual strengthening of the loan-loss reserve requirements for card loans and other credit loans extended by. •"Measures on non-banking sector's household lending" in Feb. 2012

Measures on Household Debt

Country	Measures
Malaysia	• Increasing the RPGT rate from 5% to 10% for properties held and disposed within 2 years. (Jan. 2011) • Initiation of new regulation on credit cards. (Mar. 2011) • Increasing the minimum values of properties that foreigners are allowed to buy. (Apr. 2014) • Limit the repayment period for the purchase of properties to 35 years and personal financing to 10 years. (July 2013) • Increasing the RPGT rate to further curb speculative activities (Oct. 2013).
Thailand	• Tightening the rules on mortgage lending in Jan. 2011. ➢ Increasing from 35% to 75% the risk weight for banks exposure to mortgages on condominiums and detached houses.

1.3 Important Role of Statistics

- Good statistics are indispensable for effective surveillance and policy responses.

(E.g.) Evaluate the risk of a housing bubble.

- How accurately can we capture the pictures of the household balance sheet with the current financial statistics?

- What are our tasks as statistical experts of central banks?

2. Current Development of Statistics in Asia
2.1 What kind of statistics are needed?

1. It is desirable to compile financial accounts (Flow of Funds Accounts) on an SNA basis in order to capture a comprehensive picture of households' financial assets and liabilities.

2. Detailed information on house prices are important in order to determine the accurate values of real assets.

3. The distribution of households' assets and liabilities shows a dispersion. Statistics on the distributions compiled with micro data are required for a better policy.

2.2 Financial Accounts in Asia

- There are a few countries in Asia that compile quarterly financial accounts.

Availability in Credit Statistics

	Indonesia	Malaysia	Thailand	Singapore	Hong Kong	China	Korea	Japan
Bank Credit	1976〜	1964〜	1957〜	1963〜	1978〜	1985〜	1960〜	1963〜
Total Credit [Financial account: Quarterly]							1962*〜	1964〜
Credit to non-financial corporations and credit to households	2001〜		1991〜	1991〜	1990〜	2006〜	1962〜	1964〜

Note: Total credit of Korea is available only on an annual basis for the period from 1962 to 1974.

Source: BIS Documentation on Data of total credit and domestic bank credit to the private non-financial sector

Statistical Development in Central Banks

- Financial Accounts (Flow of Funds Accounts) on an SNA basis:

    Korea, Australia and Japan

- Outstanding of Households' Financial Assets and Liabilities (not on an SNA basis):

    China, Malaysia, and Singapore

- Many Asian countries do not grasp the whole pictures of households' financial assets and liabilities.

    e.g. Thailand and Indonesia conducted only irregular household surveys.

Analyses of Households under Limited Availability of Data

IMF *Regional Economic Outlook: Asia and Pacific* April 2014

- Broad coverage over countries
- Insufficient coverage over financial assets and liabilities--limited to the banking sector

BIS Credit Statistics

- BIS encourages members to provide total credit
- In reality, many members report only bank credit; some do not report credit to households.

Nomura (Japanese think-tank) Report

- Analyze the balance sheet structures in East Asian countries
- Due to a lack of data, analyses are limited to Japan, China, Korea, Singapore, and Malaysia.

Needs to Develop Broader Credit Data

BIS *Quarterly Review*, March 2013;

1. Due to a lack of time-series data for total credit, even in countries that compile financial accounts, well established statistics on bank credit are broadly used.
2. As financial liberalization advances in Asia, households invests their assets into more varieties of financial products.
3. The analyses with bank credit data may be misleading regarding the real issues on balance sheets. Therefore, we are urged to develop credit data with broader coverage.

Bank Credit to Total Credit

significant negative coefficient

financial development
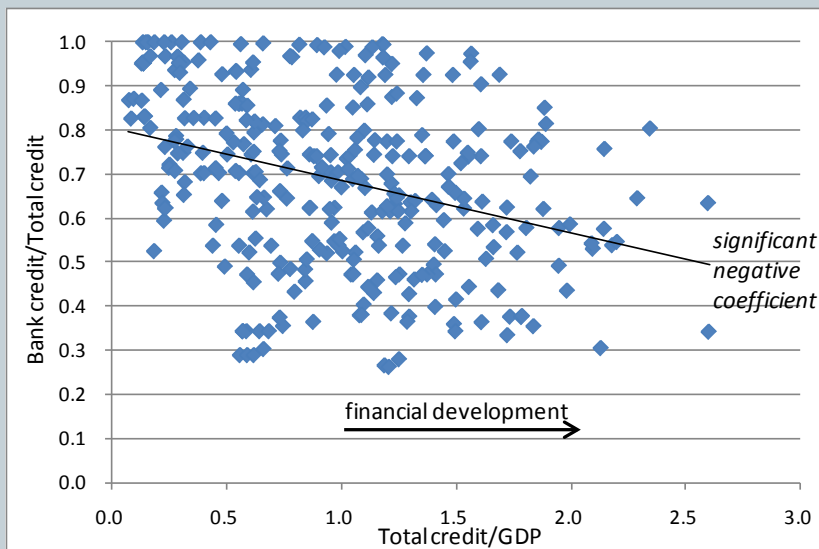
Source: BIS *Quarterly Review* March 2013
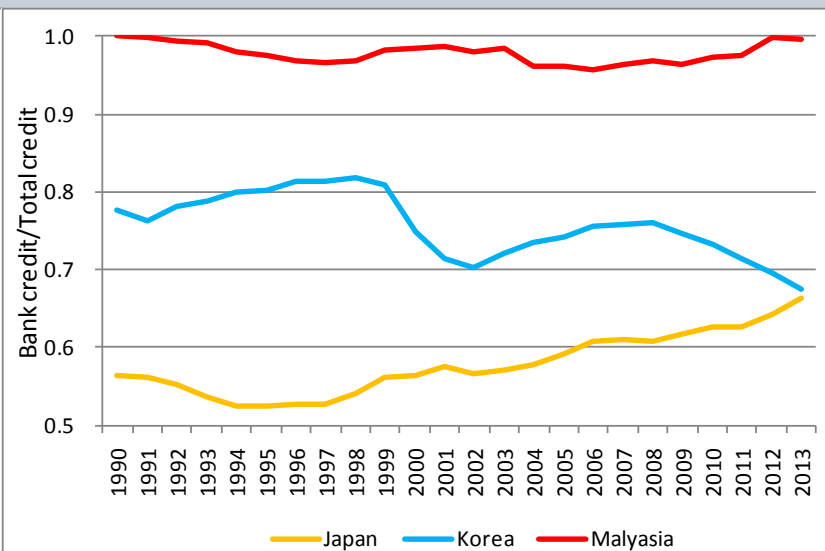
Source: BIS Total credit and bank credit to the private nonfinancial sector

2.3 Residential Property Prices

➢ The BIS has published three data sets of residential property prices, currently covering 55 countries.

    ① Detailed data: includes all the original series collected for each country
    ② Selected series: includes one representative price series per country
    ③ Long series: satisfies some minimum comparability criteria across countries.

➢The data sets are aimed at filling the data gaps and demonstrating the important role of house price statistics.

Characteristics of series included in the three data sets

	Geographical Coverage		Source of price information			Quality adjustment			Starting years	
	All	Cities	Trans-actions	Appraisal	Adver-tised	None	Size only	Sophis-ticated	Selected series	Long series
Indonesia		✓	✓	✓	✓	✓			2002	
Malaysia	✓	✓	✓			✓		✓	1999	
Thailand		✓		✓				✓	2008	
Korea	✓		✓					✓	1986	
Japan	✓	✓	✓	✓	✓		✓	✓	1955	1970

Note: Selected series data set is one representative price series per country. Long series data set is a price series with a long time span which also satisfies some minimum comparability criteria across countries.

Source: BIS *Quarterly Review* September 2014

Initiative by Overseas

✓ With the aim to present an international standard for house prices, Eurostat, in collaboration with other international organizations, released "Handbook on Residential Property Prices Indices (RPPIs)" in 2013.

➤ The handbook introduces a conceptual framework, several different methods such as hedonic regression methods and appraisal-based methods, and empirical examples, etc..

Issues concerning House Prices

➢ While the statistical developments of house prices based on a macro-level basis conducted by BIS and others are important, house prices with more detailed data are also needed in order to detect any discrepancy in trends among the regions.

Capital city v.s Whole country: Malaysian case

Source: BIS Housing Property Price Series
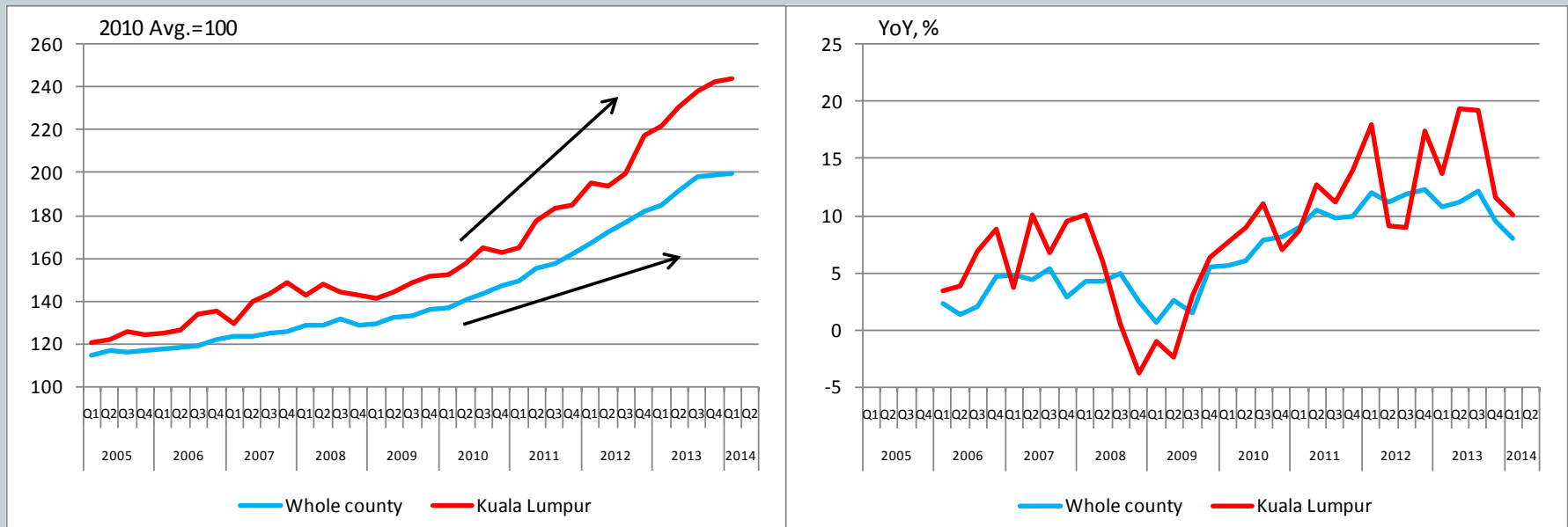
Case of Japan

- In Japan, there are several kinds of statistics on house prices.
- "Published Land Price Survey" (PLPS) contributes to estimating the residential value in the SNA.
- MLIT has been working on creating a commercial property price index.

Types and qualities of property price information

Statistics	Organization	Data	Frequency	Subject Areas/Sites	Starting date
Published Land Price Survey	MLIT	Appraisal Value	Annual	26,000 (as of 2013)	1970
Land Price Survey	Each prefecture	Appraisal Value	Annual	22,264 (as of 2012)	1975
Land Value for Inheritance Tax	National Tax Agency	Appraisal Value	Annual	Prices along selected streets across Japan	1963
Residential Property Price Index	MLIT	Hedonic Approach	Monthly	•All Japan •Regions •Metropolitan Areas	2008

2.4 Distributional Information on Households

- What is the G-20 recommendations?

☐ #16 says….

"As the recommended improvements to data sources and categories are implemented, statistical experts to seek to compile distributional information (such as ranges and quartile information) alongside aggregate figures, wherever this is relevant. The IAG is encouraged to promote production and dissemination of these data in a frequent and timely manner. The OECD is encouraged to continue in its efforts to link national accounts data with distributional information."

What statistics provide distributional information?

The Financial Crisis and Information Gaps by the IMF and FSB;

➤ National accounts data on household income, consumption, and wealth provide little if any information on how income, consumption, and wealth are distributed across sub-sectors of households.

➤ Other sources, in particular household surveys and administrative data have discrepancies and inconsistencies from SNA. Moreover, household micro statistics are less timely, less frequent and in general less internationally harmonized than SNA data.

Case of Japan

1. The family Income and Expenditure Survey (FIES)

➤ Conducted every month since 1950.

➤ Obtaining comprehensive data on income and expenditure of households.

➤ About 9,000 households are surveyed.

➤ Covers financial assets and liabilities.

2."National Survey of Family Income and Expenditure"

➤ Conducted every five years since 1959.

➤ Designed to sample about 57,000 households.

➤ Covered real asset at market values in addition to financial assets and liabilities.

❑ The two surveys are inconsistent with the financial accounts based on the SNA, often the survey is underestimated.

Case of Japan

- The Cabinet Office made a trial estimation of distribution based on the household survey and in accordance with SNA.

- While the deviation between the SNA after the conceptual adjustments and statistics based on the household survey is relatively small for the flow data, it remains large for the stock data.

Discrepancies between distributional statistics and adjusted SNA

%

Flow: Use of Disposable Income Account	Percentage of deviation	Stock: Financial Assets and Liabilities	Percentage of deviation
1. Final consumption expenditure	-1.8	1. Financial Assets	-42.6
		Deposits	-41.8
2. Saving (gross)	4.1	Securities other than shares	-54.2
3. Disposable income (gross)	-1.4	Shares	-68.1
		Insurance and pension reserves	-29.2
Saving ratio (%)	5.5	2. Financial Liabilities	-36.4
		Loans	-36.4

Initiatives by Overseas

- Some European countries have been developing micro data base with sources data such as the banking supervision's information in order to encounter the issues on the distributional statistics.

Country	Data
Portugal	CCR (The Central Credit Register) ➢ This is the data related to credit information such as loans with regard to non-financial corporations and households. CBSD (The Central Balance Sheet Database) ➢ This is the data related to financial statement information (B/S, P/L) with regard to non-financial institutions.
ECCBSO	➢ Micro-data base (BACH: Bank for Accounts Companies Harmonized) on the ECB level. Currently, 13 countries (Germany, France, Italy, Portugal, Spain, Australia) have reported the data on non-financial corporations.
Norway	➢ Tax Register includes detailed information on most financial assets held by Norwegian households, as well as total liabilities. Tax data even includes information on non-financial assets ,such as a private dwelling.

2.5 Summary

➤ Sufficient data are not available to capture the comprehensive picture of the households balance sheet in many Asian countries.

➤ The authorities need to make a further effort to develop:

1. Quarterly financial accounts

2. House prices based on the detailed source data

3. Distributional information on households

➢ It is difficult to compile the household balance sheet directly from the data sources.

➢ The most effective way to compile the household balance sheet is to estimate the figures with the data sources provided from the financial institutions. The development of the household balance sheet based on the macro data basis is the first priority, and then compilation of distributional information for the household will follow.

➢ The data sources provided by financial institutions are not often sufficient to compile the household balance sheet. Therefore, some estimations are often used to compile the transaction data, and to keep the sufficient accuracy.

3.2 What is J-FFA?

Japan's Flow of Funds Accounts…

- Records outstanding balances of financial assets and liabilities (stock), financial transactions (flow), and the difference between stock and flow (reconciliation) in each sector

- Comprises of matrices of 43 sectors and 51 transaction items

  (cf., 31 sectors for US, 8 sectors of EA)

- Is compiled in accordance with the System of National Accounts (SNA)

  (currently with SNA 1993, but will be with SNA 2008 in 2016)

- Makes data available from 1980 annually; from 1998Q1 quarterly

FFA: A Snapshot Example

- Stock table (major sectors and transaction items)

Sectors

Transaction Items

	Financial institutions		Nonfinancial corporations		General government		Households		Private nonprofit institutions serving households		Overseas		Total (trillion yen)
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	
Currency and deposits	236.8	1,396.2	235.2		46.0		848.2		29.2		6.3	5.6	1,401.7
Deposits with the Fiscal Loan Fund	5.5	45.0	0.0		39.5								45.0
Loans	1,210.6	430.8	50.0	407.0	32.8	160.5	0.0	298.7	2.0	12.5	110.5	96.5	1,405.9
Securities other than shares	1,023.2	373.2	40.3	84.3	109.3	925.0	103.4		13.1		93.1		1,382.5
Shares and other equities	144.4	139.0	181.6	510.9	99.7	15.2	124.3		3.4	13.2	124.7		678.2
Financial derivatives	66.9	71.1	2.1	4.9	0.0	0.1	0.7	0.7			46.3	39.0	115.9
Insurance and pension reserves		432.9					432.9						432.9
Insurance reserves		229.2					229.2						229.2
Pension reserves		203.7					203.7						203.7
Deposits money etc.	96.9	82.4	61.7	117.0	24.2	18.4	52.7	11.7	1.2	3.5	8.2	11.9	244.9
Trade credits and foreign trade credits	6.3		207.0	158.6	0.4	0.0		52.5			2.6	5.1	216.2
External claims and debts etc.	313.0	38.1	113.6	4.0	151.2	2.0	8.3				44.1	579.3	630.2
Difference between financial assets and liabilities		94.9		-395.1		-618.0		1,206.9		19.8		-301.7	
Total	3,103.6	3,103.6	891.4	891.4	503.2	503.2	1,570.6	1,570.6	48.9	48.9	435.7	435.7	6,553.5

Note: Japan's Nominal GDP = 473 trillion yen (2012FY)

25

Methodological Framework of FFA

	Financial institutions		Nonfinancial corporations		General government		Households		Private nonprofit institutions serving households		Overseas		Total
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities	
Currency and deposits		1,396.2	23		46.0		848.2		29.2		6.3		1,401.7
Deposits with the Fiscal Loan Fund		45.0											45.0
Loans		430.8	5	407.0	32.8	160.5	0.0	298.7	2.0	12.5	110.5		1,405.9
Securities other than shares		373.2	40.3	84.3	109.3	925.0	103.4		13.1		93.1		1,382.5
Shares and other equities		139.0	181.6	510.9	99.7	15.2	124.3		3.4	13.2	124.7		678.2
Financial derivatives		71.1	2.1	4.9	0.0	0.1	0.7	0.7			46.3	39.0	115.9
Insurance and pension reserves		432.9					432.9						432.9
Insurance reserves		229.2					229.2						229.2
Pension reserves		203.7					203.7						203.7
Deposits money etc.		82.4	61.7	117.0	24.2	18.4	52.7	11.7	1.2	3.5	8.2	11.9	244.9
Trade credits and foreign trade credits			207.0	158.6	0.4	0.0		52.5			2.6	5.1	216.2
External claims and debts etc.		38.1	113.6	4.0	151.2	2.0	8.3				44.1	579.3	630.2
Difference between financial assets and liabilities		94.9		-395.1		-618.0		1,206.9		19.8		-301.7	
Total		3,103.6	891.4	891.4	503.2	503.2	1,570.6	1,570.6	48.9	48.9	435.7	435.7	6,553.5

(trillion yen)

26

Illustration: VIA and HIA

Vertically Integrated Approach

Identifying each sector by its own financial statements

Financial Institutions	⇐	Financial Statements
Public NFCs	⇐	Financial Statements
Social Security Fund	⇐	Financial Statements

High accuracy

Complementary

Horizontally Integrated Approach

Identifying each transaction item by allocating its aggregated value through all sectors to individual sectors' holdings of assets/liabilities

Private NFCs	⇐	Statistics, Market Data
Households	⇐	– Deposits
NPISHs	⇐	– Loans

Statistics, Market Data
– Deposits
– Loans
–Securities Holding/Issue Statistics
– Market Exchange Data
…

Low accuracy

Households: Assets

Assets

Transaction Items

Aggregation

Central government securities, local government securities, public corporation securities, industrial securities, shares, insurance and pension reserves

Deposit Stats, Securities Holding Statistics, …

Estimation

Transferable deposits, time and savings deposits, foreign currency deposits, bank debentures, investment trust beneficiary certificates, trust beneficiary rights, financial derivatives, deposits

Proportional Allocation
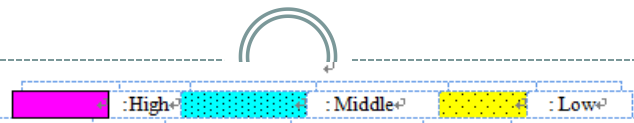
Currency, certificates of deposit, mortgage securities, outward investment in securities

Deposit Stats, BOP, IIP, …

In principle, the residual of unidentified sectors is allocated after all identified sectors are subtracted from the total of transaction items.

Households: Liabilities

Liabilities

Installment credit

Make use of financial statements of counterpart financial institutions.

Loans by private financial institutions, loans by public financial institutions, loans by the nonfinancial sector, financial derivatives

For a sole proprietor, the residual is recorded after all identified sectors are subtracted from the total of transaction items.

Trade credit

Transaction Items

Aggregation

Estimation

Residual Calculation

Estimation Accuracy of Assets/Liabilities Table

Amounts outstanding

Note: Japan's Nominal GDP = 473 trillion yen (2012FY)

3.4 The Future Revision of J-FFA

- The BOJ is planning to revise the J-FFA in the first half of 2016 with the implementation of the new statistical standard (2008SNA).

- The main financial revisions of 2008 SNA related to the household sector are:

  1. Pension benefit obligations of corporate pensions

  2. Flow data of investment funds and pension reserves

  3. Employee stock options (ESO)

  4. Provisions for calls under standardized guarantees

Preliminary Assessment of Quantitative Impact

Pension benefit obligations of corporate pensions	Amounts outstanding: 10 to 20 trillion yen.
Transactions of investment funds and pension reserves	• The transaction of investment funds by the households: ▲5 trillion yen or less for FY2012. • The transaction flow of the pension entitlements: ▲several trillion yen per year ➢ reduce financial surplus of the household sector by the same amount.
Employee stock options (ESO)	The amount outstanding: + around hundreds of billions of yen for FY2012.
Provisions for calls under standardized guarantees	Provisions for calls: + 3 to 4 trillion yen.

(Reference) Total assets of households and net surplus for FY2012 amounts to 1,579 trillion yen and +23 trillion yen respectively.

The End

Thank you for your attention.