

# Developing a database on securities holders: the case of Japan

Yoshiko Sato and Satoru Hagino<sup>1</sup>

## 1. Introduction

Identifying the exact holder or the holding sector of securities is always one of the most challenging tasks for statistical compilers.

In macroeconomic statistics such as the flow of funds accounts, a balance sheet provides useful information on the amount of securities held, but aggregating balance sheets does not always provide a full picture of the economy. Balance sheets of non-financial corporations and some of other financial institutions, for example, are not always available, and households do not prepare balance sheets.

Under such constraints, some central banks and statistical authorities have started projects to build up securities databases to store information on securities holders. The ECB (2009) explains that its intention of establishing a single authoritative data source – the centralized securities database – is aimed at meeting the needs of the ECB itself. The BIS, ECB, and IMF (2010) are proponents of focusing on the holding side of securities statistics. This kind of movement is gaining ground especially after the recent financial crisis, in which securitized products incurred considerable financial losses to their holders, thereby transmitting risks throughout the financial system. The Financial Stability Board (2009) advocates the importance of knowing where risks actually lie across institutions.

This paper introduces the Bank of Japan's recent exploration of the Central Securities Depository (CSD) data as a statistical source of securities holders' information. This paper is organized as follows: Section 2 explains the features of the CSD in Japan. Section 3 introduces the recent achievement as a result of applying the CSD data to the flow of funds accounts statistics. Section 4 presents general challenges pertaining to CSD data as a statistical source to identify final holders of securities, sometimes referring to the results of the survey that the Bank of Japan conducted for seven OECD countries in April and May 2010. Section 5 offers concluding remarks.

## 2. Features of the CSD in Japan

CSD data in general are considered to have at least two advantages in data collection. One is the centralising of information, as detailed in this section, and the other is having a universe wider than that of administratively collected data. While the latter type of data is accurate, powerful, and quick, providing a view of the conditions of a specific sector, these data would appear to be weak in the sense that a data gap may exist outside the scope of authorities.

---

<sup>1</sup> Research and Statistics Department, Bank of Japan. The paper "Developing database on securities holders information: the case of Japan" was mainly written by Yoshiko Sato, and its annex "Securitization data and securitization ratio: some development issues" was mainly written by Satoru Hagino. The views expressed here are those of the authors and do not necessarily represent the views of the Bank of Japan. The authors are responsible for any errors and omissions.

## **2-A. The sole platform for book-entry transfers other than those involving central government bonds**

The book-entry transfer services for securities other than central government bonds are provided by one CSD in Japan, which is the Japan Securities Depository Center, Inc. (JASDEC). The book-entry transfer services of central government bonds are provided by the Bank of Japan. This paper discusses the former.

The JASDEC is a privately owned stock company licensed under the Act on Transfer of Bonds, Shares, etc. (hereafter “the Law”). It operates the book-entry transfer system for general securities such as corporate bonds, stocks, commercial paper and investment trusts. Since the JASDEC is the sole platform for book-entry transfers for those securities, the information is centralized in this system on a security-by-security basis, thus giving it the potential to collectively gather information on securities holdings.

The Law provides for the company’s book-entry transfer function but does not require it to supply data for statistics. So far there is no data exchange contract between the JASDEC and the central bank or statistical authorities.

The book-entry transfer system has been in operation since 2002. The rate of use of the system in CP transactions is almost 100%. That of other securities transactions is thought to be close to 100%.

## **2-B. Chain of accounts**

The JASDEC system uses a cascade structure of accounts. As illustrated in the attached Chart, an investor who wants to make a transaction opens a customer account at either a direct account management institution (DAMI) or an indirect account management institution (IAMI). Once a deal is reached, the transactional information is transferred from the institution at which the investor holds an account to the institution keeping an account of the investor’s transaction counterparty. If the investor indicated as “Participant (i)” in the Chart sells securities to the investor indicated as “Participant G”, the information on the deal goes through institutions E, A, the JASDEC, and finally to C, where securities sold are entered on the books under the customer account of G (Case 1). However, if “Participant (i)” sells securities to “Participant (ii)”, the transactional information is processed within E. IAMI E transfers the transactional amount from Participant (i)’s account to Participant (ii)’s account, and the transaction is completed within E (Case 2).

The DAMI or IAMI – usually banks or securities companies – can also hold its own accounts. Those accounts are called self accounts, which are separated from customer accounts in this system. As of May 2010, there are 89 DAMI and 407 IAMI in the book-entry transfer system for corporate bonds.

## **2-C. Finality of ownership (direct system vs. indirect system)**

One of the features which is different from the CSDs of some other countries is the finality of the ownership of securities. In the JASDEC system, neither DAMI nor IAMI takes over the ownership of transacted securities at customer accounts, even though the process itself occurs in chains of accounts held by such intermediate institutions. Kanda (2009) describes the system as the “direct system”. An account management institution merely keeps an investor account and provides book-entry transfer services. The legal ownership of securities remains with the investor and does not move to any other institution.

As opposed to the direct system, there are some countries in which an account management institution legally holds assets and an investor keeps an equitable interest in these assets, or a securities entitlement is moved from an investor to an account management institution. In this indirect system, it might be difficult to detect the final holder of securities.

## **2-D. Security by security**

All data are handled on an individual issue basis in the book-entry transfer system. Information available for each issue includes the name of issue, name of issuer, face value, maturity, etc. Information on the current outstanding amount is also available. For example, with regard to corporate bonds whose data are required to be open to the public, one can obtain detailed information by searching the JASDEC website, using the name of the issue or the ISIN code as an identifier. This security by security system will enable compilers to sort data in accordance with the System of National Accounts, and it also has the potential to be used for multi-purpose securities databases.

## **3. Application of CSD data to flow of funds accounts**

The Bank of Japan started discussing the possible use of data as a statistical source with the JASDEC in late 2009. This was primarily motivated by the need to secure a more accurate source of data for the flow of funds accounts statistics. In March 2010, some statistical improvements were made in handling the data, as a result of efforts by JASDEC to respond to the Bank of Japan's inquiry on data definition. Some of these improvements are summarized below.

### **3-A. ABCP**

Asset-backed commercial papers (ABCP), a part of structured-financing instruments, had no reliable data source before the revision. Figures for the ABCP used to be estimated by assuming that they were part of other structured-financing instruments (Sato [2009]). Through the aforementioned process of discussions on the data, we confirmed that some data released by the JASDEC were consistent with our ABCP definition and decided to use them as new source data. As a result, the market size of the ABCP was more accurately reflected in the flow of funds accounts statistics.

### **3-B. Local government bonds**

The information on the outstanding amount of local government bonds had not been centralized. Before the dematerialization started in 2006, the total outstanding amount had been estimated based on registered bonds. There were problems in the frequency of the data, which was annual, and in the existence of non-registered bonds (held in certificate) of which the amount had been deemed to be non-negligible.

As the dematerialization proceeded, a majority of local government bonds shifted from registered bonds to those in the book-entry transfer system. Since the system is open on the web every day and the data are stored security by security, we are able to confirm whether each issue falls within the definition of our statistics on any given date. Further, we successfully determined that non-registered bonds still exist but that their numbers are not so significant as to make estimation impossible. By conducting a series of examinations, we then concluded that the CSD's aggregate data were the most centralized and reliable primary data source at present to describe the total market size of local government bonds.

### **3-C. Privately placed asset-backed securities**

Although we have improved the quality of the ABCP, the remaining part of structured-financing instruments, such as privately placed asset-backed securities, are still under examination. Classification of these issues by type of collateral (e.g., financial assets or real

estate) is required in order to designate transaction items as either securitized products or other kinds of corporate bonds.

We expect further improvement in the flow of funds accounts statistics as a result of incorporating information about privately placed asset-backed securities from CSD as of March 2011.

## **4. Challenges for statistical development of CSD data**

While the CSD has a distinct advantage in data collection because of its electronically processed centralized system, challenges remain in developing the data as a source of information on final holders.

In this section, we examine the general challenges pertaining to CSD data as a statistical source to identify final holders of securities. We sometimes refer to the results of the survey that the Bank of Japan conducted in April and May 2010 asking central banks and statistical authorities whether they use CSD data for compiling financial statistics. Seven countries (the U.S., the U.K., Australia, Germany, Spain, Chile, and Canada) responded to the survey. The results of the survey are summarized in the Table.

### **4-A. Cascade structure of accounts**

The major difficulty in identifying final holders from CSD data is a practical one that exists in a cascade structure of accounts. The transactional information is transferred from one institution to another as explained in 2-B. However, detailed information on an investor, such as the sector in which it is statistically classified, is held only by the account management institution at which the investor holds the account. In other words, detailed information on the investors is decentralized among account management institutions in the book-entry transfer system. System participants know the name, the characteristics and the amount of individual securities in the accounts they offer, but they do not have information about the ultimate owners of securities when the account is a customer account. For instance, the CSD and DAMI, which are located upstream in the chain structure, do not know of changes in the ownership of securities when a transaction is completed within the IAMI, as seen in Case 2 in section 2-B. Therefore, for statistical purposes, compilers should adopt another measure to obtain information on the entire market.

Most countries, by accessing supplementary source data other than CSD, can overcome the cascade account structure problem. In countries that have an indirect system and where it is considered difficult to detect final holders, CSD data are either selectively used or are not used for compilation at all. In the U.S., CSD data are used along with private vendor data for bonds and stocks issued by non-financial corporate businesses. The amount of asset-backed securities issued is measured as the assets removed from the balance sheets of originators. CSD data are used selectively for ABCP because they cover 100% of the market. The amount of ABCP is then used to calculate the amount of asset-backed corporate bonds by deducting it from the total amount of asset-backed securities. In the U.K., the CSD data are used as part of a quality assurance process but not for data compilation. Instead, data collected from London-based issuing and paying agents are used for published securities issues statistics.

Even in the countries with a direct system, data given by intermediate institutions are also used for financial statistics. In Spain, for Balance of Payments and International Investment Position, the CSD data are used for debt securities issued by residents and held by non-residents. The data incorporate the country of residence of the first-known counterpart but not of the final holder. If there is a resident custodian between non-resident and CSD, it is the resident custodian that has the information, and CSD data do not cover the transaction.

Information provided by resident custodians is also used, on an aggregated basis, to identify the holdings of securities by non-financial corporations and by households. In Germany, the CSD is one of about 2,000 reporting agents.

In Chile, the Central Bank of Chile does not currently use information given by CSD for the compilation of yearly financial accounts statistics. Nevertheless, it is working on a project related to quarterly financial accounts, in which CSD data – including information on securities holders – will be used intensively.

In Japan, one of the challenges in using CSD data is to obtain supplementary information about customer accounts in the DAMI. At present, accounts of which the JASDEC manages the outstanding amount are basically limited to those set up within the JASDEC itself, illustrated in the Chart as accounts for A, B, and C. Ideally, the data should cover all participants of the book-entry transfer system, including both the DAMI and the IAMI. Most major financial institutions participate in the system as DAMIs. If the owners' information on securities in DAMIs' customer account becomes available with the cooperation of JASDEC and DAMIs, the information can be applied to the composition of customer accounts in the IAMI to estimate the amount of each type of security held by each sector. The estimation could be conducted with relative accuracy since all DAMIs and IAMIs are registered at JASDEC and since it is known that the chain structure does not extend to more than a few layers.

#### **4-B. Confidentiality of customer accounts**

The other reason for the difficulty in obtaining accurate information is the confidentiality of customer accounts. Even if the cascade account structure problem is technically solved, the confidentiality problem remains. There are self accounts and customer accounts, as explained in 2-B. We can relatively easily identify, in our direct system, whether an account held by an account management institution is a customer account or a self account. But detailed information on a customer, which is necessary for compiling statistics, is usually hard to obtain. This is partly because contracts with customers commonly require custodians or account management institutions to keep the accounts confidential, thus making them reluctant to provide customer information.

In order to overcome the confidentiality problem, central banks or statistical authorities will need a contract with CSD or with custodians stating that only aggregate data will be provided and that individual data will not be shared. In the U.S., the Federal Reserve receives data from the CSD based on a contract that contains a confidentiality clause prohibiting it from sharing data of individual firms. From a statistical point of view, compilers do not need firm-level information. They only need aggregate data classified according to institutional categories of securities holders. Such data do not need to be security by security as long as they are correctly reported.

#### **4-C. Cooperation with CSD and with securities-related industries**

The third factor is the cooperation with CSD and with securities-related industries. According to our survey, all of the three countries using CSD data (the U.S., Australia, and Chile) are confirmed to have a contract or an agreement with CSD on obtaining data. This suggests that the securities-related industries agree, in principle, to using CSD data. Germany and Spain go further; they have official central bank regulations that stipulate a mandatory data collection scheme. Therefore, it seems that there is a general understanding of the statistical value that CSD data has in the economy.

Also, in Japan it is understood that the development of financial and securities statistics is an important issue and will contribute to the growth of the securities market. Based on such an understanding, a conference was held in late 2009 – the Japan Securities Dealers

Association was the organizer – with participants such as the members of securities-related industries; the Bank of Japan also participated as an observer. Participants argued that the availability of additional CSD data could increase understanding of securities markets.

## **5. Concluding remarks**

This paper has introduced the Bank of Japan's recent exploration of the CSD data as a statistical source of information on securities holders. The CSD in Japan has several features suitable for data collection: the fact that it is the sole platform for book-entry; the finality of ownership; and its security by security nature. Through communication with the CSD, we have achieved statistical improvement in our flow of funds accounts statistics mainly for a specific market size – the ABCP and local government bonds – and we can expect further improvement by incorporating privately placed asset-backed securities in the CSD data next year.

While CSD data have a distinct advantage in data collection because of the electronically processed centralized system, there are challenges to overcome in developing the data as a source of information on final holders. General challenges are: the cascade structure of accounts; confidentiality of customer accounts; and cooperation with CSD and securities-related industries.

Approaches to data gaps being considered to address the recent financial crisis should focus on developing a wider and more reliable source of information. Although there are many challenges, CSD data will continue to be a strong candidate in shedding light on sectors such as households, non-financial corporations, and certain other financial institutions.

**Chart : Accounts structure of the JASDEC**

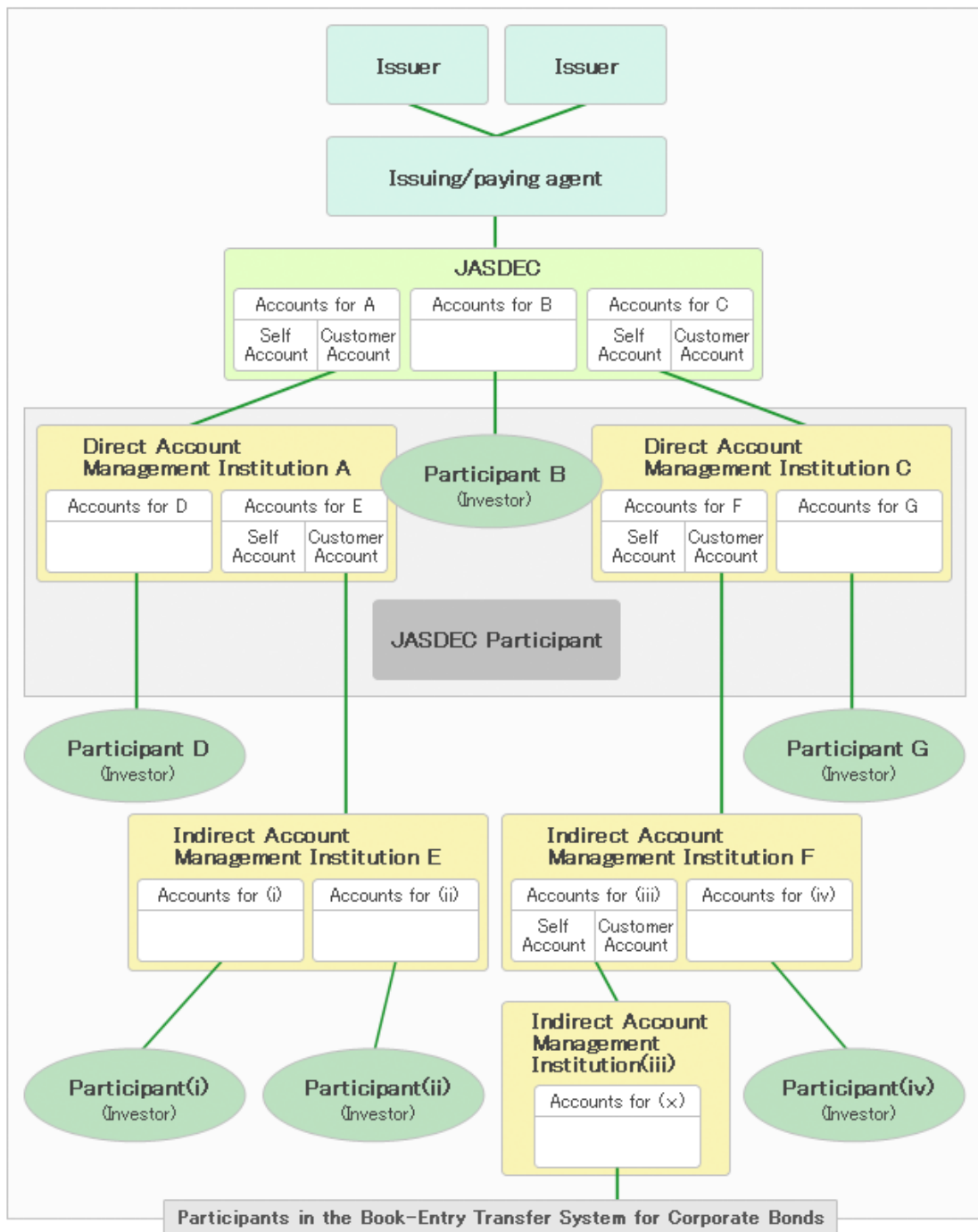


Table. CSD data usage in financial statistics

	Respondent	CSD Data usage	Holders' information			Contract/agreement	Data used other than CSD (i.e. custodians)
			Coverage				
U.S.	Federal Reserve	<input type="radio"/> 1)	<input checked="" type="checkbox"/>			<input type="radio"/>	
U.K.	Bank of England	<input checked="" type="checkbox"/>	-			-	<input type="radio"/> (London based issuing and paying agents)
Australia	Australian Bureau of Statistics	<input type="radio"/>	<input checked="" type="checkbox"/>			<input type="radio"/>	<input type="radio"/>
Canada	Statistics Canada	<input checked="" type="checkbox"/>	-			-	<input type="radio"/>
Germany	Deutsche Bundesbank	<input type="radio"/>	<input checked="" type="checkbox"/>	△ (Not in all cases final holders)		<input type="radio"/>	<input type="radio"/>
Spain	Banco de España	<input type="radio"/>	<input checked="" type="checkbox"/>	△ (debt securities issued by residents and held by non-residents)		<input type="radio"/>	<input type="radio"/> (custodians, used to identify the holdings of securities by Non-financial corporations and by Households.)
Chile	Banco Central de Chile	<input checked="" type="checkbox"/> → <input type="radio"/> 2)	-	→ <input type="radio"/>		- → <input type="radio"/>	
Japan	Bank of Japan	<input type="radio"/>	<input checked="" type="checkbox"/>	→ <input type="radio"/> (e.g. Local government bonds held by non-residents) 3)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Notes: 1) CSD data is used for bonds and stocks issued by non-financial corporate businesses along with other private vendor data. CSD data gives inadequate coverage for asset-backed bonds (probably less than 20 percent of the market), while CSD data on asset-backed CP is 100 percent of the market.

2) Currently, the Banco Central de Chile does not use the information given from the CSD for the compilation of yearly financial accounts statistics. Nevertheless, it is working in a project of quarterly financial accounts, where CSD data will be used intensively, including the securities holders' information.

3) It is identifiable by aggregating the amount of the tax exempt accounts which are specially allowed for non-residents. The figure is released by JASDEC.



## **Annex: Securitization data and securitization ratio: some development issues**

This annex discusses the source data on holdings of securitized instruments issued by foreign special purpose companies (SPCs) and domestically established SPCs. Such data are useful for a comparison with the development of global securitization data. The core of this approach concerns the securitization ratio<sup>2</sup> and the need to improve its accuracy and relevance. Needless to say, improved measurement of ABSs, as discussed above, will improve the accuracy of the securitization ratio.

### **1. Measuring Holdings of Securitized Instruments issued by foreign SPCs**

Japan's securitization ratio started to decline in 2007, while the U.S. ratio appears to have increased in 2008 (see Chart 1). Some parts of securitized instruments issued in the U.S. were purchased by Japan's financial institutions in 2008. This implies that the securitization ratio needs to be supplemented by the amount of purchases of securitized instruments issued abroad. However, measuring such purchases is no easy task.

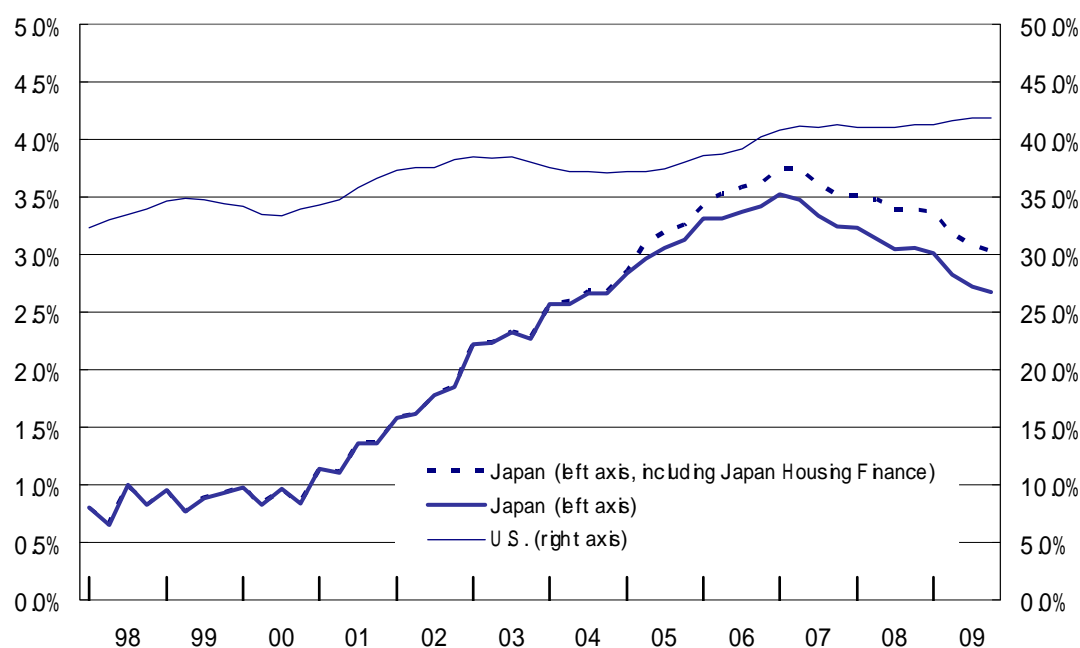
In fact, purchases of securitized instruments issued abroad are not statistically separated from other outward investments in securities, either in statistics on flow of funds accounts or in statistics on balance of payments and international investment positions.

Ideally, the amount of purchases of securitized instruments issued abroad should be identified in these statistics. If this is plausible, such amounts could be shown in a separate item within statistics on outward investments in securities. Alternatively, such amounts can be included in structured-financing instruments within securities other than shares. However, this compilation method blurs the distinction between instruments issued by foreign SPCs and those issued by domestically established SPCs and thus a part of from-whom-to-whom information on this item is lost.

---

<sup>2</sup> A securitization ratio – which is calculated by dividing the amount of securitized instruments (domestically issued) by the total amount of financial assets that can be securitized – is a typical indicator derived from the flow of funds accounts.

(Chart 1) Securitization Ratios: the U.S. and Japan



Based on the report on "Leading-Practice Disclosures for Selected Exposures," published in April 2008, the Financial Service Agency (FSA) has published data on depository corporations' holdings of securitized instruments. The data start from September 2007 for sub-prime instruments, and from March 2008 for securitized instruments other than sub-prime instruments (see Chart 2). Sub-prime instruments can be regarded as securitized instruments issued abroad. For securitized instruments other than sub-prime instruments, the FSA data separate out instruments with underlying assets originating abroad. Such instruments can be regarded as securitized instruments issued by foreign SPCs. Thus, FSA data may be used as sources for the flow of funds accounts statistics.

One shortcoming<sup>3</sup> of the FSA data is the exclusion of residential mortgage-backed securities (RMBS) issued by the U.S. government-sponsored enterprises (GSEs). This is because RMBS are not as risky as other securitized instruments such as sub-prime instruments. According to the FSA, this information gathering is aimed at determining how the magnitude of securitized instruments held affects the soundness of depository corporations. Thus, the RMBS are not necessarily the focus of the FSA.

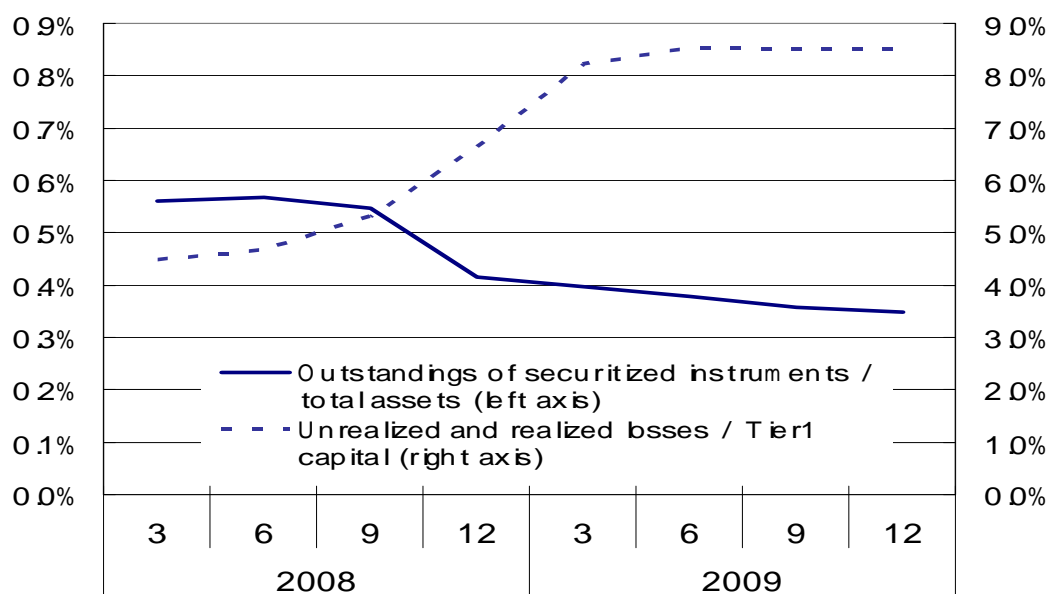
The FSA data are an example that highlights the difficulty of reconciling macro-prudential perspectives and macro-economic perspectives. Specifically, the amount of unrealized and realized losses in such securitized instruments, excluding GSEs' RMBS, exceeds 8% of Tier 1 capital. In contrast, based on the FSA data, the ratio of the outstanding of depository corporations' holdings of securitized instruments issued abroad against their total assets remains around 0.5%. Even if GSEs' RMBS are added to the outstanding of depository corporations' holdings of securitized instruments, using a research result for four large Japanese depository corporations, the ratio barely exceeds 1%. Thus, the importance of securitized instruments from a macro-prudential perspective has increased, while their

<sup>3</sup> Another shortcoming is that the FSA does not collect data on holdings of securitized instruments by institutional investors such as insurance companies and pension funds.

importance as a means of financial intermediation by depository corporations has decreased, as the maneuver of changing asset composition has been reined in.

Differences in statistical coverage need to be reconciled in converting macro-prudential data to macro-economic data. Specifically, the FSA data are compiled on a consolidated basis, i.e., holdings of securitized instruments by foreign subsidiaries and branches of depository corporations are included. For the purpose of the flow-of-funds accounts statistics, which are compiled on a residency basis, such holdings need to be separated and recorded as holdings of the rest-of-the-world sector.

**(Chart 2) Magnitude of Depository Corporations' Holdings of Securitized Instruments Issued Abroad**



## 2. Development of Statistics on domestically established SPCs

Under Japan's Act on Securitization of Assets, all SPCs established in Japan must register at the FSA and submit their annual financial reports. However, the FSA has not published an aggregate balance sheet of SPCs. In the absence of such a balance sheet, data for the financial positions of Japan's SPCs, including their liquidity and leverage ratio, have not been compiled. In compiling flow-of-funds accounts statistics, ABSs and their underlying assets are recorded using data on ABS issues and balance sheet data of banks' trust accounts. In Japan, trust accounts are generally used as the first receptor of liquidated assets, and trust beneficiary rights are held by SPCs as underlying assets of ABSs. Financial assets and liabilities of SPCs, other than structured-financing products and underlying assets, such as their deposits and shares, need to be estimated using asset/liability composition ratios.

The composition of financial assets and liabilities of SPCs can be assumed from the balance sheet of the Securitization Support Account of the Japan Housing Finance Agency, which is disclosed on an annual basis (see Table below). The amount of purchased housing loans nearly corresponds to that of RMBS issued; this accounts for about 80% of total assets/liabilities. However, the amount of holdings of securities, including the positive and negative market value of financial derivatives, cannot be ignored. Thus, the balance sheet of such accounts should be made available more frequently for the compilation of flow of funds accounts statistics.

A conceptual problem exists in the treatment of the Securitization Support Account. At present, this account is not included in the flow of funds' Structured-Financing Special Purpose Companies and Trusts sector, because it is not an independent legal entity. Rather, it is included in the Government Financial Institutions sector. However, its economic function<sup>4</sup> is similar to that of SPCs used in Japan's securitization process. In addition, analyzing this account in the Structured-Financing Special Purpose Companies and Trusts sector would be analytically useful, since the issuance of RMBS by this account represents more than half of the recent issuance of securitized instruments. Japan's securitization ratio, as shown in Chart 1, did not fall significantly even after 2007, if one includes RMBS in the calculation of the ratio.

---

<sup>4</sup> Activities of the Securitization Support Account of Japan Housing Finance Agency aim at facilitating the provision of long-term housing loans with fixed interest rates by private financial institutions. Just as SPCs are used in Japan's securitization process, the Securitization Support Account purchases and entrusts housing loans of private financial institutions and issues RMBS using the trust beneficiary rights as collateral.

**(Table) Balance Sheet of Securitization Support Account of  
Japan Housing Finance Agency**

(Unit: million yen)

item	FY 2007	FY 2008	item	FY 2007	FY 2008
(Assets)			(Liabilities)		
Cash and due from banks	13,119	18,260	Bonds	2,653,273	3,202,424
Cash	0	0	Mortgage-backed securities	2,591,147	3,071,071
Due from banks	857	761	General mortgage bonds	62,142	131,399
Agency deposits entrusted	12,262	17,499	Bond issue premiums ( )	17	46
Receivables under resale agreement	-	17,494	Reserve for insurance	-	105
Securities	219,381	293,982	Reserve for payment	-	105
Government bonds	122,302	120,782	Other liabilities	259,685	277,053
Local government bonds	2,510	6,429	Accrued expenses	3,626	4,593
Government guaranteed bonds	16,030	16,624	Financial derivative products	114,053	165,238
Corporate bonds	68,240	150,147	Financial derivative product gain carry forward	11,256	13,314
Certificates of deposit	10,300	-	Accounts payable	128,912	88,940
Purchased bans	2,781,729	3,286,301	Other liabilities	249	3,474
Other assets	130,953	181,404	Accounts payable for other accounts	1,590	1,494
Accrued revenue	4,386	5,319	Allowance for bonuses	294	300
Financial derivative products	107,992	152,317	Allowance for retirement benefits	9,427	10,169
Financial derivative products bss carry forward	17,810	22,487	Guarantee obligation	28,058	197,097
Accrued insurance premiums	14	43			
Other assets	146	193	Total liabilities	2,950,736	3,687,149
Accounts receivable for other accounts	605	1,045			
Tangible fixed assets	38,532	39,815	(Net assets)		
Buildings	16,256	16,323	Capital	271,300	357,300
Accumulated depreciation ( )	865	1,738	Government investment	271,300	357,300
Accumulated impairment losses ( )	-	514	Capital surplus	-	873
Land	22,747	22,747	Accumulated impaired bss not included in profit and bss ( )	-	873
Accumulated impairment losses ( )	-	352	Loss carry forward	16,505	19,292
Other tangible fixed assets	511	4,361	Unappropriated bss	16,505	19,292
Accumulated depreciation ( )	117	1,005	(of which, gross bss for the current fiscal year)	( 3,297)	( 2,787)
Accumulated impairment losses ( )	-	7			
Guarantee obligation reversal	28,058	197,097	Total net assets	254,795	337,136
Reserve for possible bank losses ( )	6,242	10,069			
<b>Total assets</b>	<b>3,205,530</b>	<b>4,024,284</b>	<b>Total liabilities and net assets</b>	<b>3,205,530</b>	<b>4,024,284</b>

## Reference

BIS, ECB, and IMF (2009). Handbook on Securities Statistics, Part 1: Debt securities issues. May 2009.

———— (2010). Handbook on Securities Statistics, Part 2: Debt securities holdings. Draft, February 2010.

ECB (2009). The centralised securities database in brief. February 2010.

Financial Stability Board (2009). The Financial Crisis and Information Gaps. Prepared by the IMF Staff and the FSB Secretariat.

Kanda, Hideki (2009). The Legal Environment for Holding and Transfer of Intermediated Securities: UNIDROIT Draft Convention.

Sato, Yoshiko (2009). Measuring Securitization in the Flow of Funds Accounts in Japan. COM/STD/DAF document presented at the WPFS of OECD meeting held on 2-4 November 2009.