

Guide to Japan's Money Stock Statistics

October 2025

Research and Statistics Department

Bank of Japan

Preface

The Research and Statistics Department of the Bank of Japan has been disseminating the *Money Stock Statistics* (MSS) since 1955 to provide one of the indicators to judge the condition of the economy and the price movements. The range of indices and that of money holders were revised in June 2008 and the current data series have since been released.

"The Guide to Japan's Money Stock Statistics" explains the definitions, compilation methods, and additional notes of the MSS to provide increased accessibility and transparency for users. In chapter one, an overview of the MSS is described. Chapter two explains the compilation methods in detail. In chapters three and four, notes on the use of the MSS and the relations between the MSS and the other financial statistics are explained.

The scope of money varies over time and country. In this sense, the statistics are not characterized by a set of definite standards. We have made, and will continue to make, efforts to improve the quality of statistics to better reflect the constant changes of our economic and financial environments.

Contact Address:

Economic Statistics Division

Research and Statistics Department

Bank of Japan (post.rsd5@boj.or.jp)

Table of Contents

	Page
Chapter 1 Overview of the Money Stock Statistics	1- 1
1. Definition of the Money Stock Indices	1- 1
2. Money Holders	1- 3
3. History of the Money Statistics in Japan	1- 4
(1) History of the Money Statistics in Japan	1- 4
(2) Release of the ongoing Money Stock Statistics	1- 7
Reference : Definition of the Money Stock Statistics in Other Countries	1-11
Appendix 1 : Components of the Money Stock Statistics	
Appendix 2 : Definition of the Money Stock Statistics in Other Countries	
 Chapter 2 Compilation Methods of the Money Stock Statistics	 2- 1
1. Compilation Method of M1	2- 1
(1) Currency in Circulation	2- 2
(2) Deposit Money	2- 4
2. Compilation Method of M2	2- 5
3. Compilation Method of M3	2- 6
(1) Quasi-money	2- 6
(2) CDs (Certificates of Deposit)	2- 7
4. Compilation Method of L	2- 8
(1) Pecuniary Trusts	2- 8
(2) Investment Trusts	2-10
(3) Bank Debentures	2-12
(4) Straight Bonds Issued by Banks	2-13
(5) CP (Commercial Paper) Issued by Financial Institutions	2-14
(6) Government Securities	2-15
(7) Foreign Bonds	2-19
5. Calculation Methods of Seasonal Adjustment	2-22
6. Entry Forms of the Data Source in the Money Stock Statistics	2-22
Appendix 3 : Compilation Methods for Components of the Money Stock Statistics	
Appendix 4 : Entry Forms of Deposits, Vault Cash, and Loans and Bills Discounted and the Money Stock Preliminary Data Inquiry Table	
Appendix 5 : Classifications and Contents of Major Trust Instruments	
 Chapter 3 Notes on the Use of the Money Stock Statistics	 3- 1
1. Release Schedules and Access to Data	3- 1

(1) Regular Revision	3- 2
(2) Ad Hoc Revision (for the reporting of mistaken data by financial institutions)	3- 2
(3) Revision of L	3- 2
2. Accuracy of Indices	3- 3
(1) Final Figures	3- 3
(2) Preliminary Figures	3- 3
3. Discontinuity of Series of the Money Stock Statistics	3- 6
4. Percentage Changes in the Original Figures and the Seasonally Adjusted Figures	3- 9
5. "Repercussions" from the Previous Year	3-10
6. Effects of Fluctuations in Exchange Rates on the Year-to-Year Changes in Foreign Bonds	3-12
7. A Case of the Change in the Organization of Money Holders	3-13
8. Analytical Methods to Investigate Fluctuations within the Money Stock Statistics	3-14
(1) Balance Sheet Approach for Money Holders	3-14
(2) Balance Sheet Approach for Money Issuers	3-16
 Chapter 4 Money Stock Statistics and Other Financial Statistics	 4- 1
1. Relations to Monetary Base Statistics	4- 2
2. Relations to Deposits, Vault Cash, and Loans and Bills Discounted	4- 2
3. Relations to Amounts Outstanding of Deposits by Depositor	4- 4
4. Relations to Principal Figures of Financial Institutions	4- 5
5. Relations to Financial Institutions Accounts	4- 5
6. Relations to Flow of Funds Accounts	4- 6

Chapter 1 Overview of the Money Stock Statistics

Chapter 1

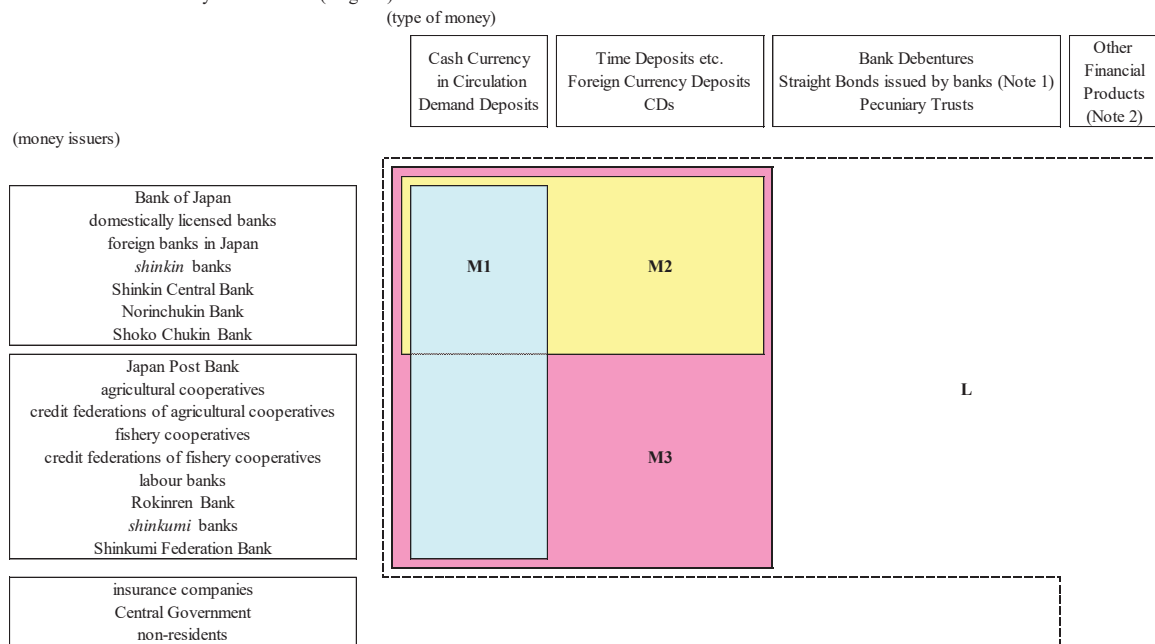
OVERVIEW OF THE MONEY STOCK STATISTICS

1. Definition of the Money Stock Indices

The *Money Stock Statistics* (MSS) records the aggregate amount of *money*, including currency in circulation and deposit money, held by money holders such as non-financial corporations, individuals, and local governments.

The definition of the MSS varies according to time and country. In Japan, four indices — M1, M2, M3, and L — are compiled and released. The definition of each index is as follows (see Appendix 1 for details).

< Definition of the Money Stock Indices (diagram) >



Note 1: Includes the portion issued by bank holding companies.

Note 2: Commercial Paper issued by Financial Institutions, Investment Trusts (Publicly Offered and Privately Placed), Government Bonds, Foreign Bonds

M1 = currency in circulation + deposit money deposited at depository institutions

M2 = currency in circulation + deposits deposited at domestically licensed banks, etc.

M3 = currency in circulation + deposits deposited at depository institutions

L = M3 + pecuniary trusts + investment trusts + bank debentures + straight bonds issued by banks + commercial paper issued by financial institutions + government securities + foreign bonds

Currency in circulation = banknotes in circulation + coins in circulation

Deposit money = demand deposits (current deposits, ordinary deposits, savings deposits, deposits at notice, special deposits, and deposits for tax payments) – checks and notes held by financial institutions

Deposits = deposit money, quasi-money (time deposits, fixed savings, installment savings, and foreign currency deposits), and CDs (certificates of deposit)

Domestically licensed banks, etc.: Domestically licensed banks, foreign banks in Japan, *shinkin* banks, Shinkin Central Bank, the Norinchukin Bank, and the Shoko Chukin Bank

Depository institutions: "Domestically licensed banks, etc." and all other depository institutions including the Japan Post Bank, *shinkumi* banks, the Shinkumi Federation Bank, labor banks, the Rokinren Bank, agricultural cooperatives, prefectural credit federations of agricultural cooperatives, fishery coops, and prefectural credit federations of fishery cooperatives

*1 "Money holders" are non-financial corporations, households, and local governments (including municipal enterprises). (See "2. Money Holders" for details.)

*2 The Japan Post Bank is not included in domestically licensed banks.

M1 includes "currency in circulation" and "deposit money," both of which are most easily used as means of settlement. The total of banknotes and coins excluding those held by financial institutions make up "currency in circulation." The purpose of the exclusion is to specify cash solely held by money holders. "Deposit money" is the total of demand deposits deposited at depository institutions.

M3 includes M1, "quasi-money," and "CDs" issued by depository institutions.

Financial instruments such as time deposits are classified as "quasi-money" since they have, in principle, a function close to that of deposit money. They are convertible into currencies or deposit money when they are terminated, and used as means of settlement.

M2 covers the same range of financial products as those of M3, but the range of financial institutions surveyed is limited to domestically licensed banks, etc.

L includes M3 plus various components that are considered to have some degree of liquidity. Those include: "pecuniary trusts," "investment trusts," "straight bonds issued by banks," "bank debentures," "commercial paper issued by financial institutions," "government securities," and "foreign bonds." L is a large-scaled index that has a tendency toward stable transition even in the case of capital inflow or outflow between various financial instruments (e.g., cancellation of investment trusts to create deposits).

The financial institutions that offer financial instruments are called "money issuers" in the MSS. In Japan, money issuers include the Bank of Japan and depository institutions.¹

2. Money Holders

The range of money holders varies among countries. In Japan, it has been defined as "non-financial corporations, individuals, and local governments including municipal enterprises."

In other words, entities such as the central government, central bank, depository institutions, insurance companies, bank holding companies, insurance holding companies, government-affiliated financial institutions, securities companies, and *tanshi* companies (call loan dealers) are excluded from money holders. Nonresidents are also excluded from money holders.

Deposit holdings of the central government are usually excluded from the monetary

¹ Depository institutions are as follows: Domestically licensed banks (city banks, regional banks, regional banks II, trust banks, and other banks), the Japan Post Bank, foreign banks in Japan, *shinkin* banks, Shinkin Central Bank, the Norinchukin Bank, the Shoko Chukin Bank, *shinkumi* banks, the Shinkumi Federation Bank, labor banks, the Rokinren Bank, agricultural cooperatives, prefectural credit federations of agricultural cooperatives, fishery coops, and prefectural credit federations of fishery cooperatives.

As regards components of "L" other than M3, money issuers also include the central government and foreign-bond-issuing organizations, etc.

aggregates in most countries. The justification for such exclusion is often empirically based. It is argued, at least for some countries, that central government deposit holdings do not respond to macroeconomic influences (i.e. changes in economic activities, interest rates, exchange rates, etc.) in the same way, or to the same degree, as do deposits of the money holding sectors because of the unique nature of the central government's financing constraints, spending decisions, and cash management techniques.

Although all financial institutions are conceptually excluded from money holders, in practice financial institutions that are excluded from money holders because of data limitations are: depository institutions, insurance companies, bank holding companies, insurance holding companies, government-affiliated financial institutions, securities companies, and *tanshi* companies (call loan dealers).

3. History of the Money Statistics in Japan

(1) History of the Money Statistics in Japan

Until the late 1940s, Japan's money statistics had mainly dealt with the amount of cash, including coins in circulation.

The range of statistics expanded moderately in 1949, when the compilation of *the Cash and Deposit Currency* began. The statistics, however, had a narrower range of money than today's MSS. For example, the "deposit money" was comprised only of current deposits back then.

The prototype of today's MSS was completed in 1955, when the release of *The Factor for Money Supply* began. The statistics included the entire demand deposits in "deposit money."

The background of these revisions was as follows:

1. The number of transactions conducted by means of "deposit money" increased significantly in this period as the economy expanded.
2. The notion of "demand deposits that have a certain degree of liquidity should be included in money," gained a dominant position in monetary theory.

Since then, the IMF strove to include time and savings deposits in money by calling them "substitutes of money" or "quasi-money," as a measure to standardize the money statistics. These developments were based on the following idea: "Time and savings deposits should not

be placed out of money because they may be liquidized anytime the depositors terminate the deposits, even though the main reasons for holding them are precautionary motives or asset motives rather than transaction motives as in the case of currency in circulation or deposit money."

It also became necessary in Japan to include time and savings deposits in money because of the growing shifts of money from demand deposits to time and savings deposits encouraged by the improvement of liquidity position of corporations and by the accumulation of financial assets by individuals.

In due course, *the Money Supply and Related Data*, which includes time and savings deposits, was published in 1967. Subsequently, the sum of "currency in circulation" and "deposit money" was called M1, and M1 plus "quasi-money" as M2.

In major advanced countries, various money stock indices were compiled and released one after another as money stock statistics became more important in studies on the relationship between money, real economic activities, and price. In Japan, M3 was compiled and released from the data of August 1977 that includes M2, deposits of post offices, deposits of agricultural cooperatives, trust principals, and other factors.

"CDs (certificates of deposit)," established in May 1979, were treated as time and savings deposits viewed from the aspect of liquidity, and M2+CDs have been introduced accordingly.

Meanwhile, average amounts outstanding of M1 and M2 have been compiled since 1971 to properly grasp the monthly development of these indices (average amounts outstanding reduces the fluctuation of the amounts outstanding at the end of period caused by the composition of days at the end of month). Since then, average amounts outstanding of M2 (M2+CDs after the introduction of CD) gradually became the main index in the MSS because of its connection with price and its stability as an index.

In the late 1980s, however, average amounts outstanding of M2+CDs frequently fluctuated by the shift of funds between the M2+CDs and unsurveyed financial assets, which was caused by the progress in financial liberalization. To cope with this situation, "broadly defined liquidity" was first introduced in 1989 with the aim to capture developments of money by excluding such shift of funds. Consequently, the MSS was established and comprised of four types of indices — M1, M2+CDs, M3+CDs, and "broadly defined liquidity."

After the late 1990s, under the principle that "statistics are a public good," the Research and Statistics Department of the Bank of Japan strove to further improve the quality of statistics

from the following aspects: provision of accurate statistics (reflections of the changes in financial and economic structure, improvements of statistics by applying more elaborated statistical approaches, among others), benefit of data users (earlier releases, provisions of the statistics through various media such as the Internet), and transparency of statistics (release of all compiled figures, provisions of user guides, etc.).²

Regarding the MSS, the following measures were taken to enhance the quality of statistics: expansion of the range of surveyed financial institutions and instruments, release of related statistics, and release of the component figures of "broadly defined liquidity."

In 1998, the range of the surveyed institutions was extended.³ Newly included are: foreign banks in Japan, foreign trust banks, Shinkin Central Bank, the Shinkumi Federation Bank, the Rokinren Bank, prefectural credit federations of agricultural cooperatives, and prefectural credit federations of fishery cooperatives. Consequently, the MSS covered all depository institutions in Japan.

In response to the deregulation of CP issue by financial institutions in May 1999, "commercial paper issued by financial institutions" was added to the component of "broadly defined liquidity."⁴

Related statistics such as *Deposits by Depositor* (monthly) (April 1999)⁵ and *the Deposits, Vault Cash, and Loans* (July 1999) were released to facilitate detailed analysis of the components of MSS, followed by the release of the components of "broadly defined liquidity" and revision of compilation method, considering the convenience of users (June 2000).⁶

The release schedule for the statistics has been advanced from the 13th business day of the following month in 1997 to the current 7th business day (the 9th in April and October) of the

² Refer to Research and Statistics Department, "Enhancement of Statistics Provided by the Research and Statistics Department," July 1999.

³ Refer to Research and Statistics Department, "Revision and Release of the Money Stock Related Statistics," April 1998.

⁴ Refer to Research and Statistics Department, "Revision of the Definitions of Money Stock Components," April 1999.

⁵ In July 2012, this statics was integrated into *the Deposits, Vault Cash, and Loans and Bills Discounted*.

⁶ Refer to Research and Statistics Department, "Release of Components of Broadly-defined Liquidity," June 2000.

following month.

(2) Release of the ongoing Money Stock Statistics

In June 2008, in response to the recent changes such as the privatization of the Japan Post (October 2007) and the diversification of financial products, the range of indices and the range of money holders were revised.

• Background⁷:

The aim of the revision of the MSS was to reflect the recent changes in Japan's economic environment, especially the privatization of the Japan Post and the diversification of financial products.

First, the Japan Post Bank started its business in October 2007, after which it became necessary to reexamine its statistical treatment and other matters.

Second, it became more and more necessary to reexamine the components of "broadly defined liquidity" (currently "L") in response to the diversification of financial products in recent years.

Last but not least, a reexamination of the range of money holders became crucial. For example, because active trading of "government securities" and of "repurchase agreements and securities lending with cash collateral" by securities firms and by *tanshi* companies has been noise in assessing the conditions of "broadly defined liquidity," it was desirable to narrow the range of money holders to eliminate such problems.

⁷ Refer to Research and Statistics Department, "*Money Stock Statistics Revision Policy – Request for Opinions*," June 2007 (in Japanese), and Research and Statistics Department, "*Final Draft on the Revision of the Money Stock Statistics – Opinions on the June 2007 Revision Proposal and BOJ Responses –*," January 2008.

- Changes from the Former Statistics:

(Range of Money Holders)

This revision removed securities companies, *tanshi* companies, and nonresidents from the range of money holders.

Revision of Money Holders

	Entities excluded from Money holders
	Entities <i>newly excluded</i> from money holders
	Money holders after the revision

Entities \ Residence	Residents	Non-residents
Central Government		
Central Bank		
Depository Institutions		
Insurance Corporations		
Government-affiliated Financial Institutions		
Securities Companies and <i>Tanshi</i> Companies		
Non-financial Corporations		
Individuals		
Local Governments (including Municipal Enterprises)		

Note: Money holders differ from the above categories in case of data constraints.

(Ranges of the Indices)

"M1"

While the former M1 only covers demand deposits at M2+CDs depository institutions, the revised M1 covers demand deposits at all depository institutions, including the Japan Post Bank, agricultural cooperatives, *shinkumi* banks, etc.

"M2"

The revised M2 excludes deposits by nonresidents in line with the changes in the range of money holders. All other financial products are the same as those of the former series' M2+CDs.

"M3"

The revised M3 excludes deposits by nonresidents in line with the changes in the range of money holders. All other financial products are the same as the former series' M3+CDs after excluding "money trusts."

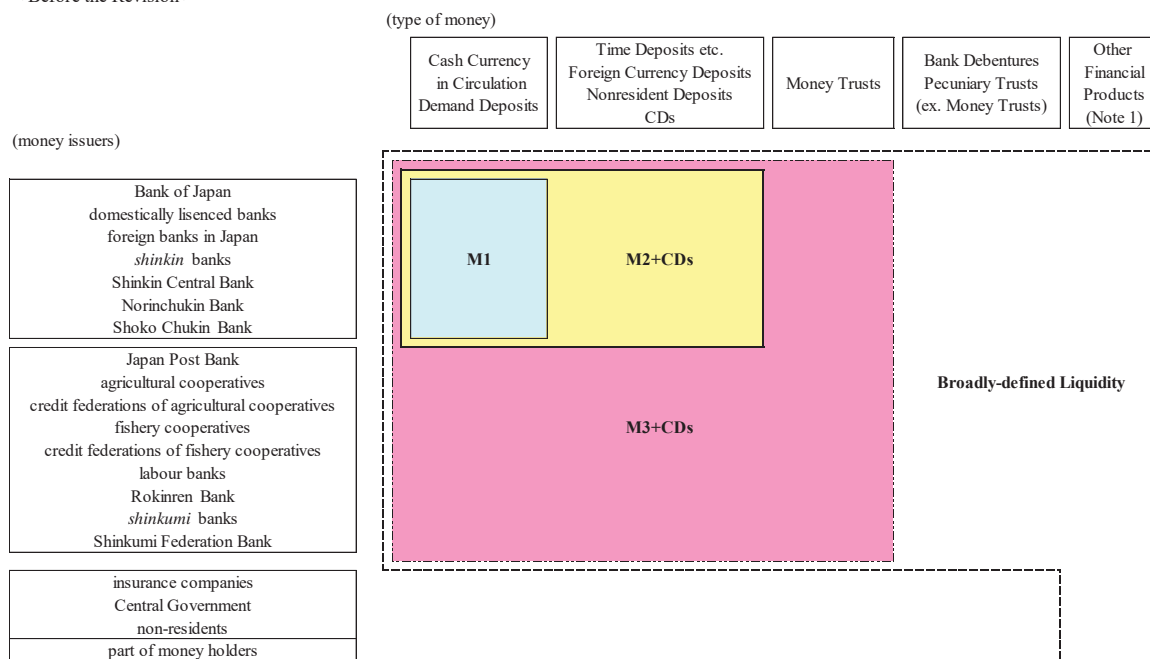
"L"

The L adds privately placed investment trusts to "investment trusts," adds "straight bonds issued by banks," and removes "repurchase agreements and securities lending with cash collateral" from the former series' "broadly defined liquidity."

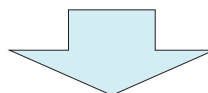
(Modification of Statistics)

This revision modifies figures by excluding the cash holdings of the Japan Post Bank as well as the unpaid interest for the deposits at the Japan Post Bank, both of which were formerly included in the statistics.

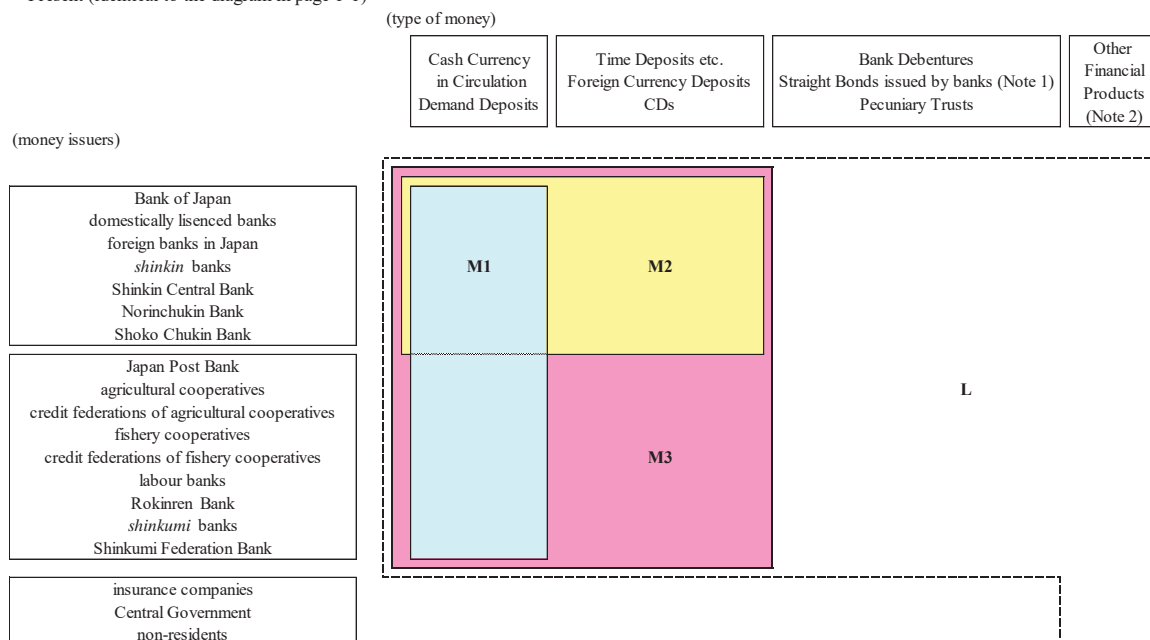
< Before the Revision >



Note 1: Commercial Paper issued by Financial Institutions, Investment Trusts (Publicly Offered), Repurchase Agreements and Securities Lendings with Cash Collateral, Government Bonds, Foreign Bonds



< Present (identical to the diagram in page 1-1) >



Note 1: Includes the portion issued by bank holding companies.

Note 2: Commercial Paper issued by Financial Institutions, Investment Trusts (Publicly Offered and Privately Placed), Government Bonds, Foreign Bonds

Reference: Definition of the Money Stock Statistics in Other Countries

The definition of money stock statistics varies among countries because of the different structures of financial markets, financial instruments, and various concepts of money. This section provides an overview of the definition of money stock indices in the United States, the Euro Area, and the United Kingdom (see also Appendix 2).

(1) United States

The Federal Reserve Board (FRB) compiles two money stock indices — M1, and M2.⁸

M1 consists of similar items to Japan's M1: "currency" and "demand deposits." M2 also consists of similar items to Japan's M2: "time and saving deposits." However, M2 in the United States includes Money Market Mutual Funds (MMMFs) that are used for transaction purposes, just like deposits.

For MMMFs,⁹ retail money funds (i.e. the portion mostly held by households) are posted in M2.

For time deposits (including retail Repos), small-denomination deposits (amounts less than \$100,000) are posted in M2.¹⁰

⁸ M3 (M2 plus MMMFs held by institutional investors, large-denomination time deposits <including Repos, amounts of \$100,000 or more>, Eurodollars) had also been published until March 2006.

⁹ In the U.S., checks are a general means of payment, and hence the U.S. MSS includes MMMFs because most of them have an automatic function to draw checks against the funds. They are, however, not included in M1 due to the limit on the number of drawings. Money Market Mutual Funds (MMMFs) are a sort of investment trust, but MMMFs in the U.S. are different from Japan's Money Management Funds (MMFs) in the sense that the former possess clearing functions.

¹⁰ In the U.S., the items in M2 are distinguished by types of holders, amounts of face value, types of instrument, and so on. Japan's MSS does not employ these distinctive criteria. On the other hand, Japan's MSS publishes the breakdowns of M1 (excluding "currency in circulation") and M3 by non-financial corporations and individuals.

(2) Euro Area

In the Euro Area, the European Central Bank (ECB) compiles three types of monetary aggregates — M1, M2, and M3.

M1 consists of "currency in circulation" and "overnight deposits," which is similar to Japan's M1. M2 includes M1 plus time deposits (with agreed maturity up to two years) and deposits at notice (redeemable at notice up to three months). M3 includes M2 plus repurchase agreements, money market fund (MMF) shares/units and money market paper, and debt securities up to two years.¹¹ The deposits excluded in M3, such as those with maturities longer than two years, are released separately as reference values.

(3) United Kingdom

In the UK, the Bank of England (BOE) compiles M4 and its components.

BOE also compiles other indices such as M3, "Divisia money," and "amounts outstanding of liquid assets outside M4."

M3 is an estimate of Euro-area M3 for the UK. This measure provides an estimate of the ECB's broad money aggregate M3 for the UK.

"Divisia money" is an index based on the components of M4, weighted according to their liquidity.

¹¹ In Japan, MMFs and bank debentures are included not in M3 but in "L."

(Appendix 1)

Components of the Money Stock Statistics

				Range of Financial Assets	Range of Money Issuers
	M2			currency in circulation + deposit money + quasi-money + CDs	Bank of Japan, domestically licensed banks, foreign banks in Japan, <i>shinkin</i> banks, Shinkin Central Bank, the Norinchukin Bank, and the Shoko Chukin Bank
L	M3	M1	currency in circulation	banknotes in circulation + coins in circulation	Bank of Japan ^(note)
			deposit money	demand deposits (current deposits, ordinary deposits, saving deposits, deposits at notice, special deposits, and deposits for tax payments) – checks and notes held by financial institutions	Money issuers of M2, the Japan Post Bank, <i>shinkumi</i> banks, the Shinkumi Federation Bank, labor banks, the Rokinren Bank, agricultural cooperatives, prefectural credit federations of agricultural cooperatives, fishery coops, and prefectural credit federations of fishery cooperatives
		quasi-money		time deposits + fixed savings + installment savings + foreign currency deposits	
		CDs		CDs (certificates of deposit)	
	pecuniary trusts			pecuniary trusts (excluding investment trusts and pension trusts, etc.)	trust accounts of domestically licensed banks
	investment trusts			bond investment trusts, stock investment trusts, and real estate investment trusts<J-REIT>	trust accounts of domestically licensed banks and real estate investment funds
	bank debentures			bank debentures	financial institutions that issue bank debentures
	straight bonds issued by banks			straight bonds issued by banks	domestically licensed banks, etc. and bank holding companies
	commercial paper issued by financial institutions			commercial paper issued by financial institutions	financial institutions (domestically licensed banks, etc., insurance companies, bank holding companies, and insurance holding companies)
	government securities			government securities (including treasury discount bills, treasury bills, financing bills, and FILP bonds)	central government
	foreign bonds			bonds issued by nonresidents (both yen- denominated and foreign currency- denominated)	foreign bond issuing organizations

* Money held by non-financial corporations, individuals, and local governments (including municipal enterprises).

Note: The MSS categorizes coins as being issued by the Bank of Japan. In practice, the central government issues them.

(Appendix 2)

Definition of the Money Stock Statistics in Other Countries

	Japan	United States ¹	Euro Area ⁶	United Kingdom
Indices	<p>M1</p> <ul style="list-style-type: none"> - Currency in circulation - Deposit money <p>M3</p> <ul style="list-style-type: none"> - M1 - Quasi-money (including foreign currency deposits) - Certificates of deposit <p>M2</p> <ul style="list-style-type: none"> - Currency in circulation - Deposits (deposit money, quasi-money and CDs) deposited at domestically licensed banks, etc. <p>L</p> <ul style="list-style-type: none"> - M3 - Pecuniary trusts - Investment trusts - Bank debentures - Straight bonds issued by banks - Commercial paper issued by financial institutions - government securities - foreign bonds 	<p>M1</p> <ul style="list-style-type: none"> - Currency - Demand deposits - Other checkable deposit ², Saving deposits ³ <ul style="list-style-type: none"> Of which, commercial banks and US branches and agencies of foreign banks Of which, thrift institutions ⁴ <p>M2</p> <ul style="list-style-type: none"> - M1 - Small-denomination time deposit ⁵ <ul style="list-style-type: none"> Of which, commercial banks and US branches and agencies of foreign banks Of which, other financial institutions - MMMFs held by non-institutional investors 	<p>M1</p> <ul style="list-style-type: none"> - Currency in circulation - Overnight deposits <p>M2</p> <ul style="list-style-type: none"> - M1 - Deposits with agreed maturity up to 2 years - Deposits redeemable at notice up to 3 months <p>M3</p> <ul style="list-style-type: none"> - M2 - Repurchase agreements - MMF shares / units - Debt securities up to 2 years <p>Deposits etc. outside M3</p> <ul style="list-style-type: none"> - Debt securities longer than 2 years - Deposits redeemable at notice longer than 3 months - Deposit with agreed maturity longer than 2 years (- Capital and fund reserves) 	<p>M4</p> <ul style="list-style-type: none"> - Sterling notes and coin - Sterling deposits, including certificates of deposit - Commercial paper, bonds, FRNs (Floating Rate Notes) and other instruments of up to 5 years' original maturity issued by UK MFIs - Claims on UK MFIs arising from repos - estimated holdings of sterling bank bills - 35% of the domestic inter-MFI difference <p>Divisia money</p> <p>M3 (Estimate of EMU aggregate for the UK)</p> <p>Liquid assets outside M4</p> <ul style="list-style-type: none"> - Deposits in the Channel Islands and Isle of Man - Deposits at banks in BIS area - Foreign currency deposits - Non- residents' sterling deposits - Sterling treasury bills with original maturity of 6 months or less - Local government temporary debt with original maturity of up to one year - Certificates of tax deposit - Gilts - National savings - Sterling commercial paper issued by non- MFI with maturities of up to and including one year - Sterling other debt securities issued by non- MFI with original maturity over one year and up to 5 years. - Sterling bonds issued by the UK private sector and the non-resident sector with original maturity of more than 5 years, which are due to mature within one year - Sterling unused credit facilities
Range of Money Holders	<p>Excluding:</p> <ul style="list-style-type: none"> - central government - central bank - depository institutions - insurance companies - government financial institutions - securities companies - <i>tanshi</i> companies - bank holding companies - insurance holding companies 	<p>Excluding:</p> <ul style="list-style-type: none"> - US government - Federal Reserve Bank - US and foreign depository institutions - foreign official institutions - MMMF 	<p>Excluding:</p> <ul style="list-style-type: none"> - central government - central bank - MFIs ⁶ 	<p>Excluding:</p> <ul style="list-style-type: none"> - central government - central bank - MFIs - public corporations - local government
Non-residents	Excluded from money holders	Included in money holders	Excluded from money holders	Excluded from money holders

Notes:

1 M3 (M2 plus MMMFs held by institutional investors, Large-denomination time deposit <including Repos, amounts of \$100,000 or more>, Eurodollars) had also been published until March 2006.

2 Includes Negotiable Order of Withdrawal (NOW) Account and Automatic Transfer Services balances.

3 Includes Money Market Deposit (MMD) Accounts. The interest rate of the deposit synchronizes with that of MMF. The MMD account is used for transaction purposes as in the case of the NOW account.

4 Includes Share Draft Balance in credit unions that provide interest commonly used for transaction purposes.

5 Indicates a deposit of less than \$100,000. Also included are retail pepos held by non-institutional investors.

6 Category indicates liabilities of the money-issuing sector and central government liabilities with a money character held by the money holding sector. Each category includes foreign currency deposits.

Chapter 2 Compilation Methods of the Money Stock Statistics

Chapter 2

COMPILATION METHODS OF THE MONEY STOCK STATISTICS

Figures of M1, M2, and M3 are comprehensive and precise, since almost all necessary data sources are available. The compilation employs "banknotes in circulation," "coins in circulation," and the *Deposits, Vault Cash, and Loans and Bills Discounted* as well as other data sources such as various money stock related inquiries (these inquiries are organized directly by the Bank of Japan to collect financial information from individual financial institutions) and balance sheets of other depository institutions.

On the other hand, figures for broadly-defined liquidity (L) rely more on estimations than do M1, M2, and M3 due to the limitations in data availability (e.g., a lack of data sources containing the average amounts outstanding and breakdowns of each money holder).

This chapter explains the compilation and estimation methods for all components of the average amounts outstanding in the MSS (the estimation methods for the amount outstanding at the end of each period are similar. When the average amount outstanding cannot be estimated directly from the data sources, it is obtained from the amount outstanding at the end of each period).

An outline of compilation methods for both preliminary figures and final figures is provided in Appendix 3.

1. Compilation Method of M1

M1 (currency in circulation and deposit money) is compiled as follows.

(1) Currency in Circulation

(a) Definition

Banknotes and coins held by money holders.

(b) Primary Data Sources¹

"Banknotes in circulation," "Coins in circulation"²

*Deposits, Vault Cash, and Loans and Bills Discounted*³

BOJ Current Account Balances by Sector

Balance sheets of some financial institutions

(c) Compilation Method

Figures are calculated by deducting the amount outstanding of banknotes and coins held by financial institutions from the total of banknotes and coins issued.⁴

¹ The data sources with no indication of the source are from the Bank of Japan. Data sources in italics indicate published statistics. Note that the compilation in each category may be based on sources other than those listed.

² "Banknotes in circulation" and "coins in circulation" are the data series in *Currency in Circulation*.

³ Preliminary figures of average amounts outstanding of money stock are based on the *Principal Figures of Financial Institutions* and Money Stock Preliminary Data Inquiry Table, not the *Deposits, Vault Cash, and Loans and Bills Discounted*.

⁴ Because "currency in circulation" is defined as cash held by money holders, figures are obtained by deducting cash held by domestic and foreign financial institutions, and by Japanese and foreign central governments from the total amount of cash issued. In practice, however, cash held by the central government, nonresidents, and some financial institutions (i.e., insurance companies, government financial institutions, bank holding companies, and insurance holding companies) is not deducted due to the limitations in data availability.

Data on the total of banknotes and coins issued are based on "banknotes in circulation" and "coins in circulation" released by the Bank of Japan. Regarding the data on banknotes and coins held by financial institutions, figures are based on the *Deposits, Vault Cash, and Loans and Bills Discounted* for the portion held by domestically licensed banks, etc. (i.e., domestically licensed banks, foreign banks in Japan, *shinkin* banks, Shinkin Central Bank, the Norinchukin Bank, and the Shoko Chukin Bank; the same shall apply hereinafter), the Japan Post Bank, the Shinkumi Federation Bank, the Rokinren Bank, and prefectural credit federations of agricultural cooperatives. Figures are based on balance sheets for the portion held by other financial institutions.⁵ Of the other financial institutions, for the portion held by agricultural cooperatives, fishery cooperatives, and prefectural credit federations of fishery cooperatives, figures of cash (including checks and bills) are used (instead of cash excluding checks and bills) due to the limitations in data availability. For the portion held by securities companies, an amount equivalent to current account deposits at the Bank of Japan, calculated from *BOJ Current Account Balances by Sector*, is deducted from the aggregated amount of cash and deposits.⁶ The amount is then multiplied by the cash ratio calculated from annual securities reports of major companies.

Figures for the total of banknotes and coins issued are set as final figures at the preliminary stage. However, figures for banknotes and coins held by financial institutions are compiled by using different materials from the above-mentioned data sources due to the delay in the availability. Namely, figures for "domestically licensed banks, etc.," the Japan Post Bank, the Shinkumi Federation Bank, the Rokinren Bank, and prefectural credit federations of agricultural cooperatives are calculated by using preliminary figures collected and aggregated by the Bank of Japan (e.g., the *Principal Figures of Financial Institutions* and money stock related inquiries [preliminary figures]). The portion held by other depository institutions are estimated by applying the equation

⁵ Other financial institutions here refers to agricultural cooperatives, fishery cooperatives, *shinkumi* banks, labor banks, prefectural credit federations of fishery cooperatives, securities companies, and *tanshi* companies. The average amounts outstanding are calculated by taking the average of the amounts outstanding at the end of the period of the current month and the previous month (current-previous month average) because the amounts outstanding at the end of each period are the only source available for these institutions (except labor banks). This calculation method is also applied to "deposit money," "quasi-money," and "certificates of deposit (CDs)."

⁶ In the case of cash and deposits held by securities companies, the outstanding amounts of deposit money and quasi-money as part of M3, which will be mentioned later, are estimated using a similar method.

$X_{t-1} + \Delta X_{t-12}$ [the amounts outstanding at the end of the period in the previous month + the change in the month of the previous year],⁷ since preliminary figures for these institutions are unavailable.

(2) Deposit Money

(a) Definition

Demand deposits (i.e., current deposits, ordinary deposits, savings deposits, deposits at notice, special deposits, and deposits for tax payments) held by money holders at depository institutions.

(b) Primary Data Source

Deposits, Vault Cash, and Loans and Bills Discounted

BOJ Current Account Balances by Sector

Balance sheets of some financial institutions

(c) Compilation Method

Demand deposits held by money holders are compiled by using data from the *Deposits, Vault Cash, and Loans and Bills Discounted* for the deposits at domestically licensed banks, etc., the Japan Post Bank, the Shinkumi Federation Bank, the Rokinren Bank, and prefectural credit federations of agricultural cooperatives, and by using balance sheets

⁷ This is an estimation method designed to deal with the seasonality. For instance, amounts outstanding at the end of the period in May 2008 would be calculated as $X_{April\ 2008} + (X_{May2007} - X_{April2007})$ [amounts outstanding at end of period in April 2008 + (amounts outstanding at end of period in May 2007 – amounts outstanding at end of period in April 2007)].

for those at some other depository institutions. The amount of checks and notes held by financial institutions are then deducted from the above total.⁸

Because the above-estimated figures include demand deposits held by securities companies and *tanshi* companies, they must be deducted from the MSS by definition. Figures of *tanshi* companies are available from balance sheets, and figures of securities companies are estimated by using the aggregated amount of cash and deposits. The demand deposits ratio is calculated from annual securities reports of major companies.⁹

Preliminary figures are compiled by using other preliminary statistics (e.g., the *Principal Figures of Financial Institutions* and money stock related inquiries [preliminary figures]), collected from domestically licensed banks, etc., the Japan Post Bank, the Shinkumi Federation Bank, the Rokinren bank, and prefectural credit federations of agricultural cooperatives. For other financial institutions, preliminary figures are estimated due to the limitations in data availability by applying the equation, $X_{t-1} + \Delta X_{t-12}$ [amounts outstanding at end of period in the previous month + change in the month of the previous year].

2. Compilation Method of M2

M2 consists of "currency in circulation" and deposits ("deposit money," "quasi-money," and "CDs") deposited at domestically licensed banks, etc. For the compilation method of "deposit money," please refer to Section 1, "Compilation Methods of M1." For the compilation method of "quasi-money" and "CDs," please refer to Section 3, "Compilation Methods of M3." All deposits held by securities companies and *tanshi* companies are deducted from M2, on the assumption that all of these deposits are deposited at domestically licensed banks, etc.

⁸ When checks and notes are issued against demand deposits, the transaction is recorded on the accounts of both issuers and receivers. To avoid possible double counting of deposits, the MSS deducts the amount of checks and notes from the total of demand deposits.

⁹ The breakdown of deposit money by depositor (corporations and individuals) is also released. Figures of domestically licensed banks, etc., the Shinkumi Federation Bank, and the Rokinren Bank are available from the *Deposits, Vault Cash, and Loans and Bills Discounted*. Figures of other money issuers are estimated by using monthly (or annual, if not available) share of depositors in total deposit. This estimation method is also applied for the breakdown by depositor for "quasi-money" and "CDs."

3. Compilation Method of M3

(1) Quasi-money

(a) Definition

Time and savings deposits (i.e., "time deposits," "fixed savings," and "installment savings") and "foreign currency deposits" held by money holders at depository institutions.

(b) Primary Data Source

Deposits, Vault Cash, and Loans and Bills Discounted

BOJ Current Account Balances by Sector

Balance sheets of some financial institutions

(c) Compilation Method

Time and savings deposits and "foreign currency deposits" held by money holders are compiled by using data from the *Deposits, Vault Cash, and Loans and Bills Discounted* for the deposits at domestically licensed banks, etc., the Japan Post Bank, the Shinkumi Federation Bank, the Rokinren Bank, and prefectural credit federations of agricultural cooperatives, and by using balance sheets for those at other depository institutions.

Because the above-estimated figures include deposits held by securities companies, they must be deducted from the MSS by definition. They are estimated by using the aggregated amount of cash and deposits and the time and savings deposits ratio calculated from annual securities reports of major companies.¹⁰

¹⁰ The MSS assumes that *tanshi* companies do not have time and savings deposits (they have only demand deposits and CDs).

Preliminary figures are compiled by using other preliminary statistics (e.g., the *Principal Figures of Financial Institutions* and money stock related inquiries [preliminary figures]), collected from domestically licensed banks, etc., the Japan Post Bank, the Shinkumi Federation Bank, the Rokinren bank, and prefectural credit federations of agricultural cooperatives. For other financial institutions, preliminary figures are estimated due to the limitations in data availability by applying the equation, $X_{t-1} + \Delta X_{t-12}$ [amounts outstanding at end of period in the previous month + change in the month of the previous year].

(2) CDs

(a) Definition

CDs issued by depository institutions and held by money holders.

(b) Primary Data Source

Deposits, Vault Cash, and Loans and Bills Discounted

Balance sheets of some financial institutions

(c) Compilation Method

CDs held by money holders are compiled by using data from the *Deposits, Vault Cash, and Loans and Bills Discounted* for the CDs issued by domestically licensed banks, etc., the Japan Post Bank, the Shinkumi Federation Bank, the Rokinren Bank, and prefectural credit federations of agricultural cooperatives, and by using balance sheets for those issued by other depository institutions.¹¹

¹¹ Money holders in this category are the purchasers of CDs at the time of issue. Transactions after the issue are not considered in the statistics.

Because the above-estimated figures include CDs held by *tanshi* companies, they must be deducted from the MSS by definition. They are available from the balance sheets of each *tanshi* company.¹²

Preliminary figures are compiled by using other preliminary statistics (e.g., the *Principal Figures of Financial Institutions* and money stock related inquiries [preliminary figures]), collected from domestically licensed banks, etc., the Japan Post Bank, the Shinkumi Federation Bank, the Rokinren bank, and prefectural credit federations of agricultural cooperatives. For other financial institutions, preliminary figures are estimated due to the limitations in data availability by applying the equation, $X_{t-1} + \Delta X_{t-12}$ [amounts outstanding at end of period in the previous month + change in the month of the previous year].

4. Compilation Method of L

L contains "M3," "pecuniary trusts," "investment trusts," "bank debentures," "straight bonds issued by banks," "CP issued by financial institutions," "government securities," and "foreign bonds."

Compilation methods for each component other than "M3" are as follows.

(1) Pecuniary Trusts

(a) Definition

Trust principals of the following types of trusts held by money holders: (1) "jointly operated designated money trusts"; (2) "loan trusts"; (3) "non-collectively invested designated money trusts"; (4) "specified money trusts excluding securities investment trusts" (so-called *tokkin*); (5) "pecuniary trusts other than money trusts"; and (6) trusts that are considered virtually equivalent to either of the aforementioned five types of

¹² The MSS assumes that securities companies do not have CDs (they have only demand deposits and time and savings deposits).

trusts among "composite trusts" (trusts that hold two or more different kinds of trust property).¹³

(b) Primary Data Source

"Assets and Liabilities of Domestically Licensed Banks (Trust Accounts)" recorded in *Financial Institutions Accounts*¹⁴

(c) Compilation Method

Average amounts outstanding in this category are calculated by taking the average of the amounts outstanding at the end of the period of the current month and the previous month (hereafter, current-previous month average) for the data of "Assets and Liabilities of Domestically Licensed Banks (Trust Accounts)."

Amounts outstanding of composite trusts that are to be included in "pecuniary trusts" are calculated by excluding the estimated amounts outstanding of non-pecuniary trusts (e.g., real estate trusts or master trusts etc.) from "composite trusts."

Due to a one-month delay in obtaining data sources, preliminary figures employ the equation, $X_{t-1} \times \% \Delta X_t$ [amounts outstanding of principal held by money holders at end of period in the previous month \times month-on-month percentage change in amounts outstanding of total principal at end of period in the current month] to estimate the amounts outstanding at the end of the period of the current month. The average amounts outstanding are obtained, then, by calculating the current-previous month average. The preliminary figure of $\% \Delta X_t$ [month-on-month percentage change in amounts outstanding of total principal at end of period in the current month] is estimated from major trust banks.

¹³ See Appendix 5 for further details.

¹⁴ These statistics aggregate trusts managed by trust accounts of domestically licensed banks. Trusts managed by trust companies are not currently included in the MSS because their amounts are very small.

(2) Investment Trusts

(a) Definition

Principals of securities investment trusts (i.e., beneficiary certificates issued to the purchasers of investment trusts from investment trust management companies by splitting their trust beneficiary rights) and real estate investment trusts (J-REITs; both privately placed investment trusts and publicly offered investment trusts are included) held by money holders.^{15,16}

(b) Primary Data Source

"Assets and Liabilities of Domestically Licensed Banks (Trust Accounts)" recorded in *Financial Institutions Accounts*

"Assets and Liabilities of Domestically Licensed Banks (Banking Accounts)" recorded in *Financial Institutions Accounts*

Real Estate Investment Trusts (released by the Investment Trust Association)

ETF Beneficiary Survey (released by the Tokyo Stock Exchange, etc.)

REIT Investor Survey (released by the Tokyo Stock Exchange, etc.)

Trading by Type of Investors (released by the Tokyo Stock Exchange)

Balance sheets of financial institutions

¹⁵ Securities investment trusts consist of stock investment trusts and bond investment trusts. Stock investment trusts invest in stocks (i.e., generally, they do not invest solely in stocks, but also in bonds. Exchange-traded funds [ETFs] are also included in this category.) On the other hand, bond investment trusts do not invest in stocks at all. Bond investment trusts include money reserve funds (MRFs), money market funds (MMFs), and long-term bond trusts.

¹⁶ J-REITs invest mainly in real estate.

(c) Compilation Method

Amounts outstanding at the end of the period in this category are compiled by deducting the portion held by financial institutions¹⁷ and ETFs and public REITs held by nonresidents from the total of investment trusts issued.¹⁸ The total of investment trusts issued is compiled by using data from "Assets and Liabilities of Domestically Licensed Banks (Trust Accounts)"¹⁹ and *Real Estate Investment Trusts*. Average amounts outstanding are then calculated by taking the current-previous month average. The portion held by financial institutions is identified from "Assets and Liabilities of Domestically Licensed Banks (Banking Accounts)" and balance sheets of financial institutions.²⁰ With respect to ETFs and public REITs held by nonresidents, they are calculated by using the *ETF Beneficiary Survey* and *REIT Investor Survey*.

At the preliminary stage of compilation, the total amount of investment trusts issued is estimated by the equation [total amount issued in the current month (publicly placed investment trusts) + total amount issued in the same month of the previous year (privately placed investment trusts and REITs) × year-on-year percentage change in the most recent month for which final data are available]. Since the balance sheet of each financial institution becomes available only after two or more months following the

¹⁷ Unlike the components of M3 and pecuniary trusts, data broken down by type of holder are not available for other components of L. Thus, regarding these components, the portion held by money holders is, in principle, estimated by deducting the portion held by financial institutions (available from such information as balance sheets) from the total amount of issuance.

¹⁸ There are cases where the principal amount of investment trusts recorded in this data source fluctuates significantly due to a consolidation of trust beneficiary rights of an individual investment trust. In these cases, the effect of the consolidation is estimated and removed in calculating the total amount of investment trusts issued.

¹⁹ The principal of investment trusts excludes mother funds (set for employing together baby funds purchased by investors).

²⁰ Because of the limitations in data availability, figures for some financial institutions (banking accounts of domestically licensed banks, etc.) are estimated as follows. The figures for the investment trusts are summed and posted under the category "other securities (or beneficiary securities)" together with loan trusts. Thus, investment trusts held by the financial institutions are estimated by deducting "loan trusts" from "other securities (or beneficiary securities)." The amounts outstanding of "loan trusts" are estimated by deducting "loan trusts held by other financial institutions" from "loan trusts held by all financial institutions" (calculated from the balance sheet of trust assets).

reference period, the portion held by financial institutions is estimated by the equation [outstanding amount of holdings in the same month of the previous year \times year-on-year percentage change in the most recent month for which final data are available]. With respect to ETFs and public REITs held by nonresidents, the estimation is made using flow data in *Trading by Type of Investors*.²¹

(3) Bank Debentures

(a) Definition

Bank debentures issued by Mizuho Bank, Shinsei Bank, Aozora Bank, MUFG Bank, Shinkin Central Bank, the Shoko Chukin Bank, and the Norinchukin Bank, and held by money holders.²²

(b) Primary Data Source

"Assets and Liabilities of Domestically Licensed Banks (Banking Accounts)" recorded in *Financial Institutions Accounts*

Balance sheets of financial institutions

²¹ In June 2017, privately placed REITs were added to the scope of items covered by the estimation and the estimation method was revised, so as to exclude ETFs and public REITs held by nonresidents. In addition, the estimation method of preliminary figures was replaced by the current method, which makes it possible to reflect differences between the trends in publicly placed investment trusts and privately placed ones and more recent trends.

²² Bank debentures include interest-bearing bonds (including "WIDE") and discount bonds.

(c) Compilation Method

Bank debentures held by money holders are estimated by deducting bank debentures held by financial institutions from the total of bank debentures issued. Both are compiled using "Assets and Liabilities of Domestically Licensed Banks (Banking Accounts)" and the balance sheets of financial institutions. Average amounts outstanding are compiled by calculating the current-previous month average of the amounts outstanding at the end of period for the portion held by financial institutions other than domestically licensed banks, the Japan Post Bank, foreign banks in Japan, *shinkin* banks, the Norinchukin Bank, the Shoko Chukin Bank, the Rokinren bank, and labor banks.

At the preliminary stage of compilation, preliminary figures are estimated by the equation, $\bar{X}_{t-1} \times \% \Delta \bar{X}_t$ [average amounts outstanding of bank debentures held by money holders in the previous month \times month-on-month percentage change in average amounts outstanding (current-previous month average) of total bank debentures issued for the current month]. The month-on-month percentage change ($\% \Delta \bar{X}_t$) is calculated by using the preliminary figures reported to the Bank of Japan from the issuers of bank debentures.

(4) Straight Bonds Issued by Banks

(a) Definition

Straight bonds issued by domestically licensed banks, etc. and bank holding companies,²³ and held by money holders.

(b) Primary Data Source

Deposits, Vault Cash, and Loans and Bills Discounted

²³ They exclude subordinated bonds, dematerialized commercial paper, bonds with warrants, public corporation bonds, bank debentures, bonds that are backed by government credit, and agency bonds.

(c) Compilation Method

Straight bonds issued by domestically licensed banks, etc. and bank holding companies, and held by money holders, are compiled by deducting the portion held by financial institutions from the total of straight bonds issued.

The total of straight bonds issued is compiled using data from the *Deposits, Vault Cash, and Loans and Bills Discounted* for the portion issued by domestically licensed banks; and by using data of Japan Securities Depository Center (JASDEC) for the portion issued by bank holding companies.

The portion held by financial institutions (domestically licensed banks, the Japan Post Bank, foreign banks in Japan, *shinkin* banks, Shinkin Central Bank, the Norinchukin Bank, the Shoko Chukin Bank, the Shinkumi Federation Bank, and the Rokinren Bank) is compiled by using data from the *Deposits, Vault Cash, and Loans and Bills Discounted*.

At the preliminary stage of compilation, as most of the data (except data of JASDEC) are unavailable, the amounts outstanding at the end of the current month are assumed to be unchanged from the previous month.

(5) CP Issued by Financial Institutions

(a) Definition

CP including dematerialized commercial paper issued by financial institutions (domestically licensed banks, etc., insurance companies, bank holding companies, and insurance holding companies) and held by money holders.²⁴

²⁴ CP is a promissory note with various discounting schemes. Financial institutions and enterprises issue it to facilitate short-term fund raising on an unsecured basis.

(b) Primary Data Source

Deposits, Vault Cash, and Loans and Bills Discounted

(c) Compilation Method

CP issued by financial institutions and held by money holders is compiled by deducting the portion held by financial institutions from the total amount of CP issued by domestically licensed banks, etc., insurance companies, bank holding companies, and insurance holding companies.

The MSS uses two different sources to calculate the total: the *Deposits, Vault Cash, and Loans and Bills Discounted* for domestically licensed banks, etc. [with the exception of foreign banks in Japan] and data of JASDEC for foreign banks in Japan, insurance companies, and holding companies. The average amounts outstanding of CP held by foreign banks in Japan is compiled by calculating the current-previous month average.

Preliminary figures of the total amount of issuance of CP are calculated by using data of JASDEC. As for CP held by financial institutions (domestically licensed banks, the Japan Post Bank, foreign banks in Japan, *shinkin* banks, Shinkin Central Bank, the Norinchukin Bank, the Shoko Chukin Bank, and the Shinkumi Federation Bank), preliminary figures are estimated by the formula $\bar{Y}_t \times (\bar{X}_{t-1} \div \bar{Y}_{t-1})$ [average amounts outstanding issued in the current month \times <average amounts outstanding held by financial institutions in the previous month \div average amounts outstanding issued in the previous month>].

(6) Government Securities

(a) Definition

Revenue bonds,²⁵ inherited government bonds,²⁶ Fiscal Investment and Loan Program FILP bonds,²⁷ and treasury discount bills (T-Bills)²⁸ issued domestically by the

²⁵ Revenue bonds are the government bonds issued to obtain revenues to deal with regular expenditure demands.

government of Japan and held by money holders. This category does not cover deferred payment bonds (government compensation bonds and investment and subscription bonds)²⁹ because their characteristics are different from revenue bonds in the sense that deferred payment bonds do not possess liquidity.

(b) Primary Data Source

Annual Statistics on Local Public Finance (Ministry of Internal Affairs and Communications)

Financial Statements Statistics of Corporations by Industry (Ministry of Finance)

Summary sheet of the holding balance of registered government bonds and clearing government bonds for each business

Survey of the holders of clearing government bonds

Financial statements of financial institutions

(c) Compilation Method

Figures of government securities held by money holders are estimated from the same data source as the figures for some sectors in the *Flow of Funds Accounts* ("households," "private nonfinancial corporations," "public nonfinancial corporations," "local governments," "private nonprofit institutions serving households," "financial

²⁶ Inherited government bonds are the bonds inherited by the general account that are arranged to dispose of the obligations of the Japanese National Railway Settlement Corporation.

²⁷ FILP bonds are issued by the government as a funding source for management of the Fiscal Loan Fund (excludes: FILP agency bonds and government-guaranteed bonds).

²⁸ T-Bills are short-term bonds issued to procure funds for treasury.

²⁹ Deferred payment bonds are government bonds that are issued in place of the payments to defer payments.

auxiliaries," and "finance companies"), which are combined in such a way as to be as close as possible to the concept of money holders^{30,31} in the MSS.³² As the data source of the *Flow of Funds Accounts* is the amounts outstanding at the end of period, the average amounts outstanding are calculated by taking the current-previous month average of the estimated amounts outstanding. Figures for months other than the months when the *Flow of Funds Accounts* are released (March, June, September, and December) are estimated using monthly available data from the data source used in the *Flow of Funds Accounts*. As for the data that is not available monthly, linear interpretation is applied. The estimation method for government securities held by each type of money holder is as follows.

(1)Households

The amount of government securities held by individuals refers to the sum of (1) government bond certificates, inscribed central government securities, and FILP bonds, which are based on data on the issuance and redemption of central government securities and FILP bonds (*Issuance, Redemption, and Outstanding of Public and Corporate Bonds*), and (2) personal holdings, which are based on the summary sheet of registered government bonds and clearing government bonds for each business, and on research on holders of clearing government bonds.

(2)Money Holders Other than Households

The amount of government securities held by money holders other than households is estimated mainly using data in financial statements of each economic sector

³⁰ Although "social security funds" in the *Flow of Funds Accounts* conceptually fall within the category of money holders, government securities held by social security funds are not included in the total of government securities which are a component of "L," based on the assumption that social security funds manage all the assets in trust accounts.

³¹ For the estimation method for the outstanding government securities held by each sector in the *Flow of Funds Accounts*, refer to Research and Statistics Department, "Guide to Japan's Flow of Funds Accounts" and "Compilation Method of Japan's Flow of Funds Accounts."

³² We use the balance sheets of money holders for estimating the amount outstanding of government securities that they hold when possible, while a survey on the actual holders of clearing government bonds is mainly used otherwise.

concerned. For example, the total amount of government securities held by finance companies is estimated from data in financial statements of money lenders, which comprise finance companies, the Resolution and Collection Corporation, and securities finance companies.

In contrast, the amount of public and corporate bonds held by local governments is estimated mainly using *Annual Statistics on Local Public Finance*, and the amount of those held by private nonfinancial corporation³³ is estimated mainly using *Financial Statements Statistics of Corporations by Industry*. The amount of government securities is then estimated as a portion of public and corporate bonds.³⁴ In addition, the amount of government securities held by private nonprofit institutions serving households is estimated by multiplying the previous month's amount outstanding by the rate of change in the amount held by nonfinancial corporations whose asset allocations appear to be similar.³⁵

³³ The amount outstanding of government securities held by private nonfinancial corporations does not include the portion managed in trust accounts.

³⁴ The ratio of the amount of government securities to that of public and corporate bonds is estimated separately for each sector. Estimations are made under the assumption that all local governments have the same ratio as certain local governments whose data are available, and private nonfinancial corporations have the same ratio as the share of government securities in the amount outstanding of public and corporate bonds issued.

³⁵ The amount of government securities held by private nonprofit institutions serving households is calculated using "the amount outstanding of government securities holdings" as of end-March 2011 as a basis, released in *Survey on Private Non-profit Institutions* (available only in Japanese) conducted by the Cabinet Office in fiscal year 2010.

(7) Foreign Bonds

(a) Definition

Bonds issued by nonresidents in domestic or foreign markets and held by money holders.³⁶

(b) Primary Data Source

International Investment Position of Japan

Balance of Payments ("Outward Portfolio Investment by Types of Investors")

Financial Institutions Accounts

International Transactions in Securities (based on reports from designated major investors) (Ministry of Finance)

(c) Compilation Method

Figures for foreign bonds are estimated as follows:

Monthly changes in the data of *Balance of Payments* ("long-term debt securities" and "short-term debt securities" of "financial instruments firms under other financial corporations"³⁷ and of "nonfinancial corporations, households, and NPISHs" in "Outward Portfolio Investment by Types of Investors")³⁸ are cumulatively added to the amounts outstanding of "long-term debt securities" and "short-term debt securities"

³⁶ Includes *samurai* bonds (yen-denominated foreign bonds issued by nonresidents in the domestic market), but excludes foreign bonds issued by domestic residents in foreign markets.

³⁷ Although this sector refers to securities companies (i.e., financial instruments firms [non-money holders]), it is assumed that their transactions are basically associated with money holders.

³⁸ "Outward Portfolio Investment by Types of Investors" in *Balance of Payments* has become available from January 2005 onward. Through December 2004, the figures of "other sectors" in *Balance of Payments* were adjusted by deducting the portion of foreign bonds held by life insurance companies, non-life insurance companies, and the trust account of domestically licensed banks.

contained in "other financial corporations" and "other sectors" in *International Investment Position of Japan* (end of every December).³⁹ The figures of *International Investment Position of Japan* ("other financial corporations" and "other sectors") are adjusted by deducting the portion of foreign bonds held by life insurance companies, non-life insurance companies, and trust accounts of domestically licensed banks.⁴⁰

As explained below, other adjustments are made to the compiled figures to reflect the monthly currency fluctuations in the stock of foreign bonds, which are calculated by building up the monthly flow to the amounts outstanding for the end of the previous year.^{41,42}

³⁹ Figures for foreign bonds are revised from January of the previous year for the release of the MSS in June. This is because *International Investment Position of Japan* is usually released at the end of May.

⁴⁰ Flow data of *Balance of Payments* for January 2014 onward and stock data of *International Investment Position of Japan* for end-2014 onward are recorded in accordance with the sixth edition of *Balance of Payments and International Investment Position Manual* (BPM6) published by the IMF. Following the change in the statistical standards, contract-type investment funds, which were previously recorded under "bonds and notes" (corporate-type investment funds are recorded under "equity"), are separated from "bonds and notes" and are now recorded under "investment fund shares," a sub-category newly set under "portfolio investment." This causes discontinuity in statistical data.

⁴¹ From December 2003 onward, the currency fluctuations of foreign bonds, which had been adjusted assuming that all bonds are in US dollars, are adjusted based on three currencies (US dollar, euro, and yen) using end-of-month currency rates. Currency composition of foreign bonds is estimated by using data such as the "portfolio investment position by currency and type of securities (assets)."

⁴² The following adjustment is made after the release of end-December figures (*International Investment Position of Japan*): The differences between the figures, calculated by building up monthly transaction amounts (*Balance of Payments*) on the amounts outstanding at the end of December of the previous year (*International Investment Position of Japan*) and the amounts outstanding at the end of the latest December (*International Investment Position of Japan*), are evenly distributed throughout the relevant year.

Estimation Method of Foreign Bonds Amounts Outstanding
(based on figures as of end-December, Year XXXX)

	end-December Year XXXX	end-January Year XXXX+1	
Flow in current month	100	200	
Exchange rate yen/dollar	100	90	
yen/euro	150	165	
Balance of the current month (in yen)	1,000 500 300 200	1180 550 390 240	$550 + 390 + 240 = 1,180$ $500 \times (90/100) + 200 \times (500/1,000)$ $= 550$ $300 \times (165/150) + 200 \times (300/1,000)$ $= 390$ $200 + 200 \times (200/1,000) = 240$

Calculation method
for the balance in
end-January

Step 1 Reflection of the exchange rates in January in the balance in end-December

- ¥1,000 (¥500 [dollar-based], ¥300 [euro-based],
¥200 [yen-based])

- Dollar-based: $¥500 \times (¥90/\$[\text{in Jan.}] / ¥100/\$[\text{in Dec.}])$
 $= \underline{¥450}$

- Euro-based: $¥300 \times (¥165/\text{euro}[\text{in Jan.}] / ¥150/\text{euro}[\text{in Dec.}])$
 $= \underline{¥330}$

- Yen-based: $\underline{¥200}$

Step 2 Calculation of the balance in end-January by adding the change in January to the balance in end-December

$¥450 + ¥330 + ¥200 + ¥200$ (flow in Jan.) $= ¥1,180$

It is assumed that the currency compositions of foreign bonds for the "flow in current month" and for the "balance in previous month" are the same.

The average amounts outstanding in this category are calculated using the current-previous month average of the amounts outstanding at the end of the period, which are estimated by the method above.

Since data of *Balance of Payments* become available with a lag of about 1.5 months, the flow for preliminary figures of the previous month is estimated using *International Transactions in Securities (based on reports from designated major investors)*. Preliminary figures are adjusted to reflect the monthly fluctuations in foreign exchange rates, assuming that the flow is zero.

5. Calculation Methods of Seasonal Adjustment

Once a year, the MSS applies seasonal adjustments for each series by the X-12-ARIMA approach (when final figures of the MSS of the previous year are compiled).

Seasonal adjustments are applied after taking the logarithmic transformation to the series between the beginning of the series and the latest December data of "M1" (amounts outstanding at end of period, and average amounts outstanding), "M2" (average amounts outstanding), "M3" (amounts outstanding at end of period, and average amounts outstanding), "L" (average amounts outstanding), and the components of these indices such as "currency in circulation" (average amounts outstanding), "deposit money" (average amounts outstanding), and "quasi-money" (average amounts outstanding). The seasonally adjusted data for the next year are calculated by dividing the original figures by the estimated seasonal factors.

The Research and Statistics Department of the Bank of Japan releases the details on models employed in each seasonal adjustment.⁴³

6. Entry Forms of the Data Source in the Money Stock Statistics

The MSS uses the data from the *Deposits, Vault Cash, and Loans and Bills Discounted* in compiling final figures, and the MSS (preliminary figures) in compiling preliminary figures. The entry forms are as provided in Appendix 4.

⁴³ Due to the limitation of the length of data series that the X-12-ARIMA can handle, seasonal adjustment is conducted on data for the latest 56 years. For further details, refer to Research and Statistics Department, "Seasonal Adjustment for Money Stock Data."

(Appendix 3)

Compilation Methods for Components of the Money Stock Statistics

	Final figures	Preliminary figures (reference)
Currency in circulation	Figures are calculated by deducting banknotes and coins held by financial institutions (which are based on money stock related inquiries, etc.) from the total of banknotes and coins issued.	As seen on the left, except that banknotes and coins held by financial institutions are mainly based on money stock related inquiries (preliminary figures).
Deposit money	Figures are compiled by collecting money stock related inquiries, etc., and deducting checks and notes held by the surveyed financial institutions, securities companies and <i>tanishi</i> companies.	As seen on the left, except that checks and notes held by the surveyed financial institutions are based on money stock related inquiries (preliminary figures).
Quasi-money, CDs	Figures are compiled by collecting money stock related inquiries, etc. and deducting those held by securities companies and <i>tanishi</i> companies.	Figures are mainly compiled by collecting money stock related inquiries (preliminary figures).
Pecuniary trusts	Figures are compiled by collecting the balance sheets of trust accounts of domestically licensed banks (current-previous month average).	[Amount outstanding at end of period in the previous month held by money holders \times month-on-month percentage change in the preliminary amount outstanding of the principal at end of period in the current month] (current-previous month average).
Investment trusts	Figures (current-previous month average) are compiled by deducting the portion held by financial institutions and by nonresidents from the principal balance of investment trusts (balance sheets of trust accounts of domestically licensed banks) and real estate investment trusts (released by the Investment Trust Association).	Total amount of investment trusts issued: [total amount issued in the current month (publicly placed investment trusts) + total amount issued in the same month of the previous year (privately placed investment trusts and REITs) \times year-on-year percentage change in the most recent month for which final data are available]. The portion held by financial institutions: [outstanding amount of holdings in the same month of the previous year \times year-on-year percentage change in the most recent month for which final data are available]. The amounts held by nonresidents are estimated by using flow data in <i>Trading by Type of Investors</i> .
Bank debentures	Figures are compiled by collecting the balance sheets of financial institutions, etc., and deducting the amount held by the financial institutions from the total issued.	[The average outstanding of bank debentures held by money holders in the previous month \times the month-on-month percentage change in the average outstanding (current-previous month average of preliminary figures) of the total bank debentures issued in the current month].
Straight bonds issued by banks	Figures are compiled by collecting money stock related inquiries, etc. (JASDEC's data for figures of financial holding companies) with deducting the amount held by the financial institutions from the total issued (current-previous month average).	Same figures are used for the amounts outstanding at the end of period in the previous month and the current month for both holding and issuing amounts (current-previous month average) except for financial holding companies.
CP issued by financial institutions	Figures are compiled by collecting money stock related inquiries, etc. (JASDEC's data for figures of foreign banks in Japan, insurance companies, and financial holding companies) and deducting the amount held by financial institutions from the total issued (some of the figures are current-previous month average).	Figures are compiled by collecting JASDEC's data and deducting the amount held by financial institutions from the total issued. [Total amount issued = amount outstanding at end of period in the previous month + changes in the amount issued in the current month].
Government securities	Figures are estimated based on money holders' holdings of government bond certificates and of registered and clearing government bonds, utilizing the data in the Bank of Japan's directory of government securities (current-previous month average). Some of the figures are estimated mainly using data in financial statements and statistics.	As seen on the left. Some of the figures for the current month are the same as those for the end of the previous month.
Foreign bonds	Amounts outstanding at the end of every December as a benchmark (<i>International Investment Position of Japan</i>). For the period later than this, compilation applies to the equation below (current-previous month average): [Amount outstanding at end of period in the previous month (yen based) \times the fluctuation of exchange rates + the change in the current month (yen based)].	[Amount outstanding at end of period in the previous month \times the fluctuation of exchange rate by currency (current-previous month average)].

CONFIDENTIAL

1-1

Deposits, Vault Cash, and Loans and Bills Discounted (monthly)

Month

Year

Banking accounts of domestic branches

million yen (rounded down to millions)

(Appendix 4)

		Deposits during the month	Withdrawals during the month	End-of-month outstanding			
					Corporations	Households	Local governments and local public enterprises
Entities other than financial institutions and central government	01						
Current deposits	02						
Ordinary deposits	03						
Saving deposits	04						
Deposits at notice	05						
Special deposits	06						
Deposits for tax payments	07						
Time deposits	08						
Fixed savings	09						
Installment savings	10						
Nonresident yen deposits	11						
Foreign currency deposits	12						
Foreign currency deposits owned by residents	13						
Foreign currency settlement deposits owned by residents	14						
Financial institutions	15						
Central government	16						
Total deposits	17						
Negotiable certificates of deposit	18						
Excluding financial institutions and central government	19						
Banknotes and coins	20						
Checks and bills	21						
CPs Issued	22						
CPs Held	23						
Of which issued by financial institutions	24						
Straight bonds issued by banks	26						
Bank-issued straight bonds held	27						

CONFIDENTIAL

1-2

Deposits, Vault Cash, and Loans and Bills Discounted (monthly)

Month

Year

Banking accounts of domestic branches

Trust accounts of domestic branches

million yen (rounded down to millions)

		Average amounts outstanding				End-of-month outstanding	Average amounts outstanding
			Corporations	Households	Local governments and local public enterprises		
Entities other than financial institutions and central government	01						
Current deposits	02						
Ordinary deposits	03						
Saving deposits	04						
Deposits at notice	05						
Special deposits	06						
Deposits for tax payments	07						
Time deposits	08						
Fixed savings	09						
Installment savings	10						
Nonresident yen deposits	11						
Foreign currency deposits	12						
Foreign currency deposits owned by residents	13						
Foreign currency settlement deposits owned by residents	14						
Financial institutions	15						
Central government	16						
Total deposits	17						
Negotiable certificates of deposit	18						
Excluding financial institutions and central government	19						
Banknotes and coins	20						
Checks and bills	21						
CPs Issued	22						
CPs Held	23						
Of which issued by financial institutions	24						
Bank debentures held	25						
Straight bonds issued by banks	26						
Bank-issued straight bonds held	27						

To: Research and Statistics Department, Bank of Japan
Due on 10AM on the 4th business day of the following month.

Money Stock Preliminary Data Inquiry Table (monthly)

Month

Year


In million yen (rounded off to millions)

[illegible]

Note: Demand deposits are the total of Current Deposits, Ordinary Deposits, Saving Deposits, Deposits at Notice, Special Deposits, and Deposits for Tax Payments, except Time Deposits, Fixed Savings, Installment Savings, Nonresident Yen Deposits, and Foreign Currency Deposits.

(Appendix 5)

Classifications and Contents of Major Trust Instruments

 indicates the instruments in L

	Contents of Trust Instruments
Pecuniary Trusts	"Pecuniary Trusts" refers to the trusts in which fiduciary properties are money.
Money Trusts	"Money Trusts" refers to the trusts in which the money is issued to the settlers at the end of the trust period.
Designated Money Trusts	"Designated Money Trusts" refers to the money in trust in which the settlers designate the management methods and the type of instrument.
Jointly Operated Designated Money Trusts (Principal Covering Type)	"Jointly Operated Designated Money Trusts" refers to the trusts in which trust banks guarantee the principal. The day of maturity is designable if longer than one year.
Jointly Operated Designated Money Trusts (Other Types – "Hit", "Super Hit")	<i>Hit</i> (one month grace period): Trusts that can be withdrawn after a one-month grace period without paying any charges. There is no principal covering. <i>Super Hit</i> (one-year grace period): Trusts that can be withdrawn after a one-year grace period without paying any charges. There is no principal covering. Unit type: Trusts that are trust instruments with a dividend paid in accordance with the performance during the trust period. There is no principal covering. Adjustment fees are required in case of cancellation of the trust. The trust periods are typically from three to five years.
Loan Trusts (Beneficiary Certificate)	"Loan Trusts" refers to the trust instruments that are established under the Loan Trusts Law in which the trust period is two or five years. Trust banks cover the principals. In case of the termination of trusts before the day of maturity, trusts are bought by trust banks; they then deduce a certain amount of the value if terminated one year after maturity.
Income Distribution Type	"Income Distribution Type" refers to the loan trusts in which the trusts are finalized every six months after the application deadline by using the provisional dividend rates. Incomes are paid on the next day of finalization.
Income Maturity Receiving Type – "Big"	This instrument refers to the trusts that reinvest returns during the trust period. In essence, these are identical to semiannual compounding by using provisional rate of returns of loan trusts. Returns are paid at once to the settlers on the day of maturity.
Noncollectively Invested Designated Money Trusts	This instrument refers to the trusts that individually invest in the trust by each contract. There is no principal covering. Incomes are paid in accordance with performance.
Pension Trusts	Includes: Corporate Pension Trusts, National Pension Fund Trusts, Personal Pension Trusts, Contract Type Pension Trusts and Fund Type Pension Trusts. There is no principal covering.
Specified Money Trusts	"Specified Money Trusts" refers to the trusts in which the clients give instructions for the management of the entrusted property.
Specified Money Trusts (<i>Tokkin</i>)	"Specified Money Trusts" refers to the trusts that specify and instruct the conditions on the investment.
Securities Investment Trusts (Beneficiary Certificate)	"Securities Investment Trusts" refers to the trusts that are made specifically to invest money acquired by issuing beneficiary certificates from Securities Investment Trust Management Companies.
Pecuniary Trusts Other than Money Trusts	"Pecuniary Trusts Other than Money Trusts" refers to the trusts that do not return money; they return securities at the end of the trust period.
Nonpecuniary Trusts	"Nonpecuniary Trusts" refers to the trusts in which the fiduciary properties are instruments other than money (e.g. securities, money claims, chattels, lands, fixed objects on lands, surface rights, and lease holds).
Composite Trusts (Securities, cash, etc.) ^{note}	"Composite Trusts" refers to trusts that hold more than two different kinds of trust property (ex. money and securities, etc.) in the trust document.

Note: Composite trusts that can be substantially considered as either 1) "Specified Money Trusts," or 2) other kinds of trusts, may also be included into L.

Chapter 3 Notes on the Use of the Money Stock Statistics

Chapter 3

NOTES ON THE USE OF THE MONEY STOCK STATISTICS

1. Release Schedules and Access to Data

(Release Schedules)

The preliminary figures of the MSS (M1, M2, M3, and L) are released on the seventh business day of each month, and cover the preceding month (March and September figures are released on the ninth business day of the following month due to the two-day delay in obtaining data sources from financial institutions).

The final figures of both average amounts outstanding and the amounts outstanding at end of period are released on the seventh business day, two months after the month in question (February and August figures are released on the ninth business day).

All figures are released at 8:50 a.m.

(Access to Data)

Time	Medium
8:50 a.m. on the day of publication.	- Statistics > Currency > Money Stock on the Bank of Japan website (https://www.boj.or.jp/en/statistics/money/ms/index.htm). - Explanation of released data to the press.
Around 8:50 a.m. on the day of publication (time series data).	- BOJ Time-Series Data Search > Money and Deposits > Money Stock[MD02] > Data Selection by list of statistics > Money Stock (from April 2003) on the Bank of Japan website (https://www.stat-search.boj.or.jp/ssi/cgi-bin/famecgi2?cgi=\$nme_a000_en&lstSelection=MD02).

(Revision)

(1) Regular Revision

The data for the MSS are regularly revised as follows:

Data released in January, July and October	Data from the previous nine months may be revised.
Data released in February and August	Data from the previous seven months may be revised.
Data released in March, April, June and September	Data from the previous three years and a month may be revised.
Data released in March	Seasonally adjusted data are revised from the beginning of the data.
Data released in months other than above	Data from the previous five months may be revised.

(2) Ad Hoc Revision (for the reporting of mistaken data by financial institutions)

If an error is found in the data reported by financial institutions, the MSS data are revised immediately.

In principle, the MSS data are retroactively revised approximately for the previous three years. The revised data are released on the nearest release date of the MSS from the receipt date of the wrong data. If the range of revision falls short of 0.1% of amounts outstanding of M3 (or amounts outstanding of M2 in case of wrong report by money issuers of M2), the MSS data are basically revised in either March or September.

(3) Revision of L

In the MSS, components of "L" (data other than M3; same definition henceforth) are compiled using various statistics. Because these statistics are compiled based on information at a certain time, their accuracy inevitably deteriorates as changes occur to the financial and economic structure over time.

The Bank will revise the data for components of "L" according to the following standards:

1. When the Bank finds much room for improvement on the accuracy of the data.
2. Periodical revision (every three years): the Bank checks the necessity for revising the data, and implements the revision if necessary.

2. Accuracy of Indices

(1) Final Figures

Final figures for M3 ("currency in circulation," "deposit money," "quasi-money," and "CDs") are comprehensive and precise, since almost all necessary data sources are available. The compilation employs "Banknotes in Circulation," "Coins in Circulation," and the *Deposits, Vault Cash, and Loans and Bills Discounted* as well as other data sources such as various money stock related inquiries (these inquiries are organized directly by the Bank of Japan to collect financial information from individual financial institutions) and balance sheets of other financial institutions.

Though figures for other components of "L" rely more on estimates, using the data on "L" presents no inconvenience or problem due to the following reasons:¹

1. The seven components (pecuniary trusts, investment trusts, bank debentures, straight bonds issued by banks, CP issued by financial institutions, government securities, and foreign bonds) are estimated fairly precisely, as described in Chapter 2.
2. The seven components make up no more than about a quarter of the data for L.

(2) Preliminary Figures

The preliminary figures of "M2" and "M3" (average amounts outstanding) are accurate, while the accuracy of preliminary figures of "L" is comparatively low. The average absolute deviations in year-to-year percentage changes between the preliminary and final figures in fiscal year 2016² were 0.06 percent points for "M2," 0.04 percent points for

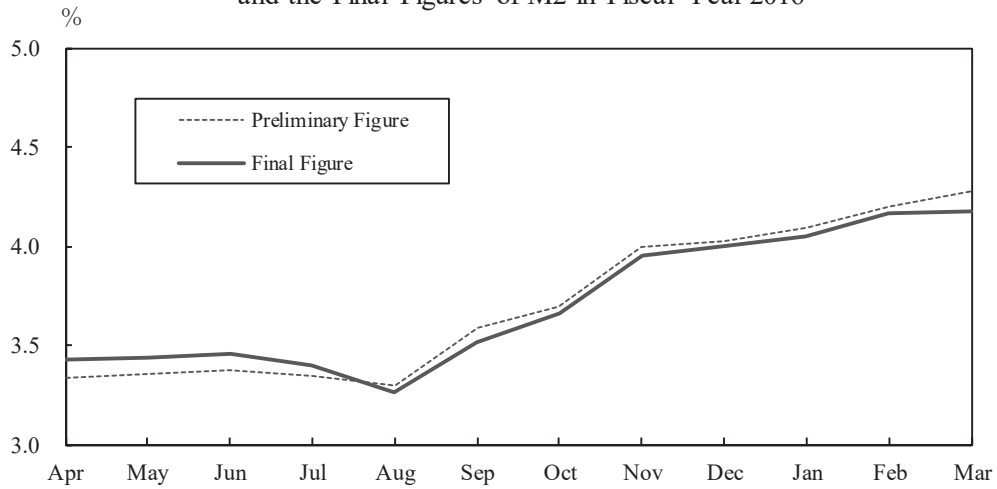
¹ As stated in Chapter 2, the average amounts outstanding are compiled by taking the current previous month average, since the amounts outstanding at end of period is the only source available.

² The revision after 2017 caused discontinuities between the preliminary and final figures. Therefore, we used the data of figures in fiscal year 2016.

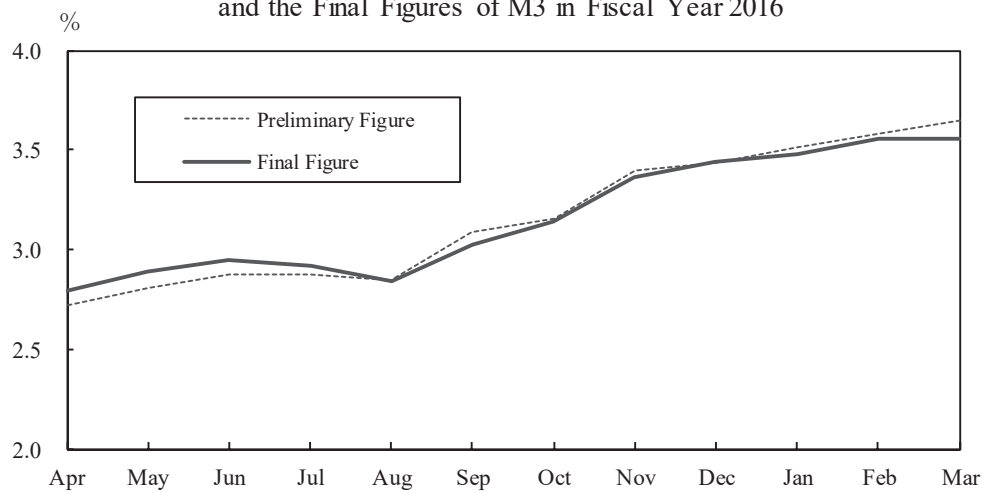
"M3," and 0.10 percent points for "L."³ The largest absolute deviation at certain period was 0.28 percent points for "L," since the available data sources were limited at the preliminary stage. This should be noted when using the preliminary figures of "L."

³ If an error in the reported data from financial institutions is discovered after publishing the final figures, the data of the MSS are revised. In these cases, the data are revised in comparatively long periods, so the difference between preliminary figures and the revised final figures would become larger than explained above.

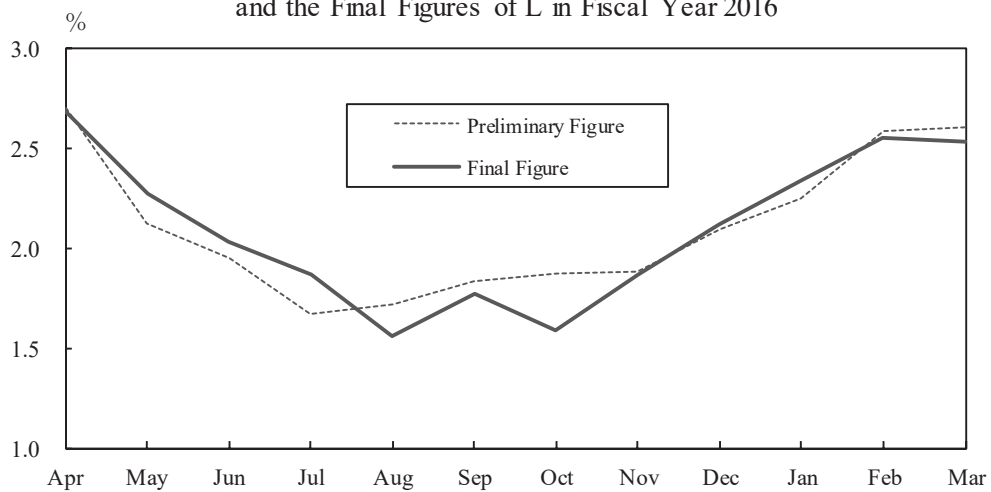
Deviation of Percentage Change between the Preliminary Figures
and the Final Figures of M2 in Fiscal Year 2016



Deviation of Percentage Change between the Preliminary Figures
and the Final Figures of M3 in Fiscal Year 2016



Deviation of Percentage Change between the Preliminary Figures
and the Final Figures of L in Fiscal Year 2016



3. Discontinuity of Series of the Money Stock Statistics

Following the revision in 2008, the ranges of financial assets and money issuers for each index of the MSS were revised, and range of money holders and estimation methods for some figures have also been changed. It causes discontinuities of series between the current and former series of the MSS as follows:

(M1)

The range of money issuers differs from that of the former M1. While the former M1 only covers demand deposits at "M2+CDs" financial institutions, the revised M1 covers demand deposits at all depository institutions, including the Japan Post Bank, agricultural cooperatives, *shinkumi* banks, etc.

(M2, M3)

As regards M2 and M3, the differences between the current and former series mainly derive from the differences in the range of money holders (securities companies, *tanshi* companies, and nonresidents are excluded in the current series) and the estimation method of some data. Apart from that, M2 and "M2+CDs" (former series) have the same range of money issuers and financial assets (except for nonresident yen deposits). Similarly, M3 and "M3+CDs - money trusts" (former series) have the same range of money issuers and financial assets (except for nonresident yen deposits).

(L)

The range of financial assets differs from that of "broadly defined liquidity" (former series). The "L" adds privately placed investment trusts to "investment trusts," adds "straight bonds issued by banks," and removes "repurchase agreements and securities lending with cash collateral" from the former series' "broadly defined liquidity."

Because the differences between the current and former series are relatively small for M2 and M3, it may be reasonable to analyze M2 from 1967 onward using data of "M2+CDs" in the former series, and to analyze M3 from 1996 onward using data of "M3+CDs – money trusts" in the former series.

The other example to make a proxy of the long-term time-series data for the MSS is as follows (the calculation method shown below can be applied for both original and seasonally

adjusted figures).⁴

(e.g.) Calculation method of base-adjusted figure of "M3+CDs – money trusts" connecting with the M3

○ Figures from April 2002 to March 2003:

<Calculating the figure of March 2003 <base-adjusted figure>>

$$Y (\text{March 2003}) = X1 (\text{March 2004}) \times X2 (\text{March 2003}) \div X2 (\text{March 2004})$$

Y: "M3+CDs – money trusts" of the former MSS (base-adjusted figure)

X1: "M3" of the current MSS

X2: "M3+CDs – money trusts" of the former MSS

○ Figures from April 1998 to March 2002:

< Calculating the figure of March 2002 <base-adjusted figure>>

$$Y (\text{March 2002}) = Y (\text{March 2003}) \times X2 (\text{March 2002}) \div X2 (\text{March 2003})$$

Y: "M3+CDs – money trusts" of the former MSS (base-adjusted figure)

X2: "M3+CDs – money trusts" of the former MSS

○ Figures from January 1996 to March 1998:

< Calculating the figure of March 1998 <base-adjusted figure>>

$$Y (\text{March 1998}) = Y (\text{March 1999}) \times X3 (\text{March 1998}) \div X3 (\text{March 1999})$$

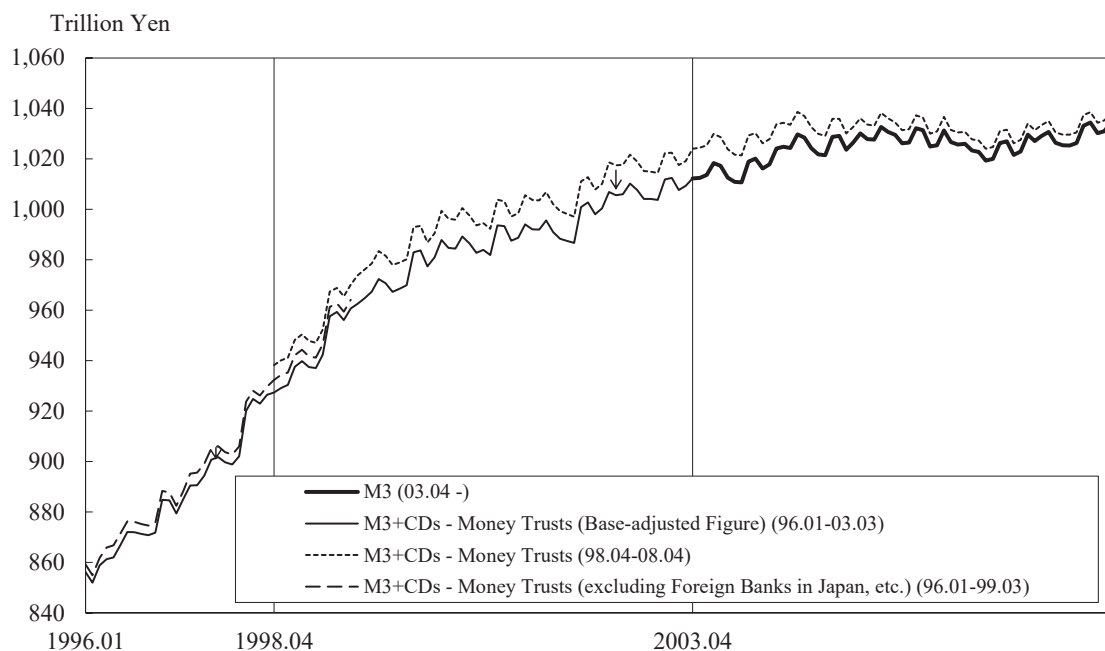
Y: "M3+CDs – money trusts" of the former MSS (base-adjusted figure)

X3: "M3+CDs – money trusts" of the old MSS (based on excluding foreign banks in Japan, etc., through March 1999)

⁴ The year-on-year change data of this series become equal to those of the former MSS through March 2004, and are equal to those of the current MSS from April 2004.

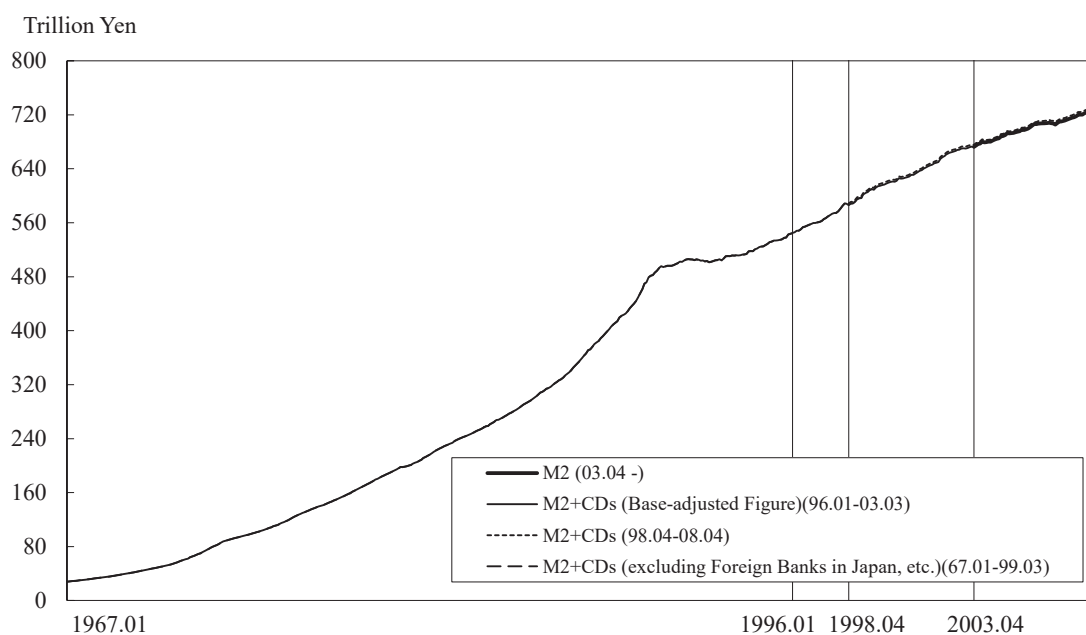
Average Amounts Outstanding of M3 (Original Figure)

(Base-adjusted Figures before March 2003)



Average Amounts Outstanding of M2 (Seasonally-adjusted Figures)

(Base-adjusted Figures before March 2003)

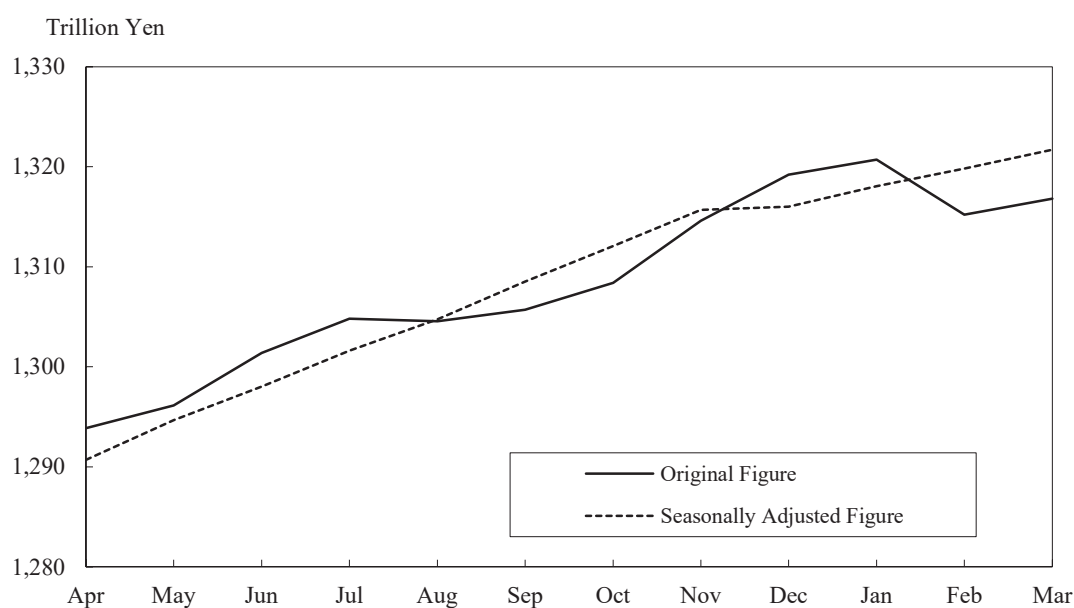


(The figures are as of the release of June 2008)

4. Percentage Changes in the Original Figures and the Seasonally Adjusted Figures

The original figures—which are compiled simply by using data sources—have seasonal fluctuations and disturbances. Moreover, in some cases, it is difficult to understand the actual movements in the economy solely by using original figures. For example, the December figure of the MSS (average amounts outstanding of M3) increases significantly every year due to a rise in the demand for money. The increase is seasonal, and does not necessarily indicate actual changes in the economy. That is why the MSS also calculates and releases seasonally adjusted figures ("amounts outstanding" and "percentage change at an annualized rate from the previous month") that remove seasonal fluctuations as well as the original figures ("amounts outstanding" and "percent change from a year earlier").

Average Amounts Outstanding of M3 (Fiscal Year 2017)



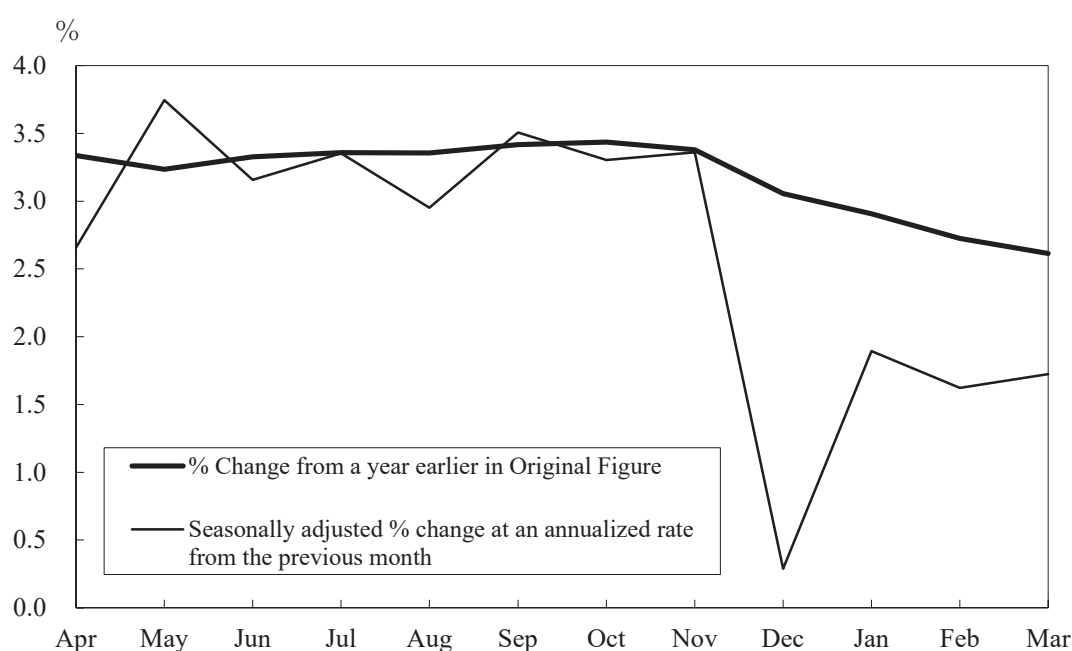
Calculating "percentage change from a year earlier" for original figures has both advantages and disadvantages. It has the advantage of making it easy to understand the general trend as fluctuations are smoothed out, and seasonal changes are eliminated. It also has the disadvantage of making it difficult to show current movements clearly.

The "seasonally adjusted percentage change at an annualized rate from the previous

month" excludes the fluctuations caused by seasonal changes, and illustrates current movements clearly. However, the monthly swings of seasonal figures are relatively large, since they are significantly affected by changes in current movements. Moreover, seasonally adjusted figures are retroactively revised once a year from the starting point of data due to the revision of seasonal adjustment.

It is important to keep these characteristics in mind when using the MSS.

Each Figure for M3 in Fiscal Year 2017



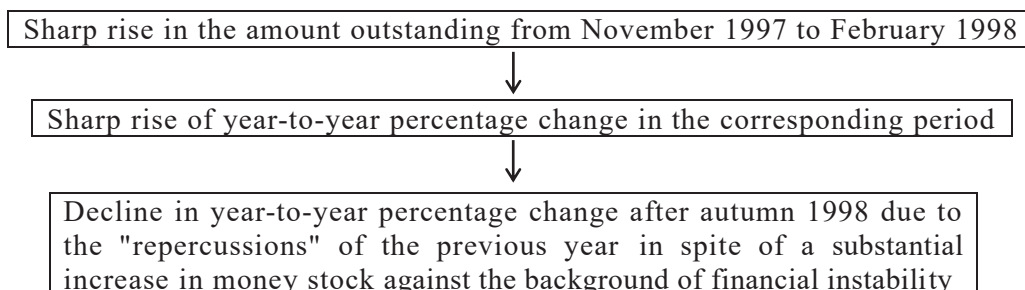
5. "Repercussions" from the Previous Year

It should be noted that large changes in the year-to-year percentage change sometimes take place when irregular movements exist in the previous year (so called "repercussions" of the previous year).

For example, the percentage change from a year earlier in the former series' M2+CDs rose sharply, from 3.2 percent to 5.0 percent from November 1997 to February 1998 due to rapid capital inflow from investment trusts to deposits. The change was caused by the growing concern over the stability of Japan's financial system, following the collapses of major financial institutions. On the contrary, the percentage change in the following year

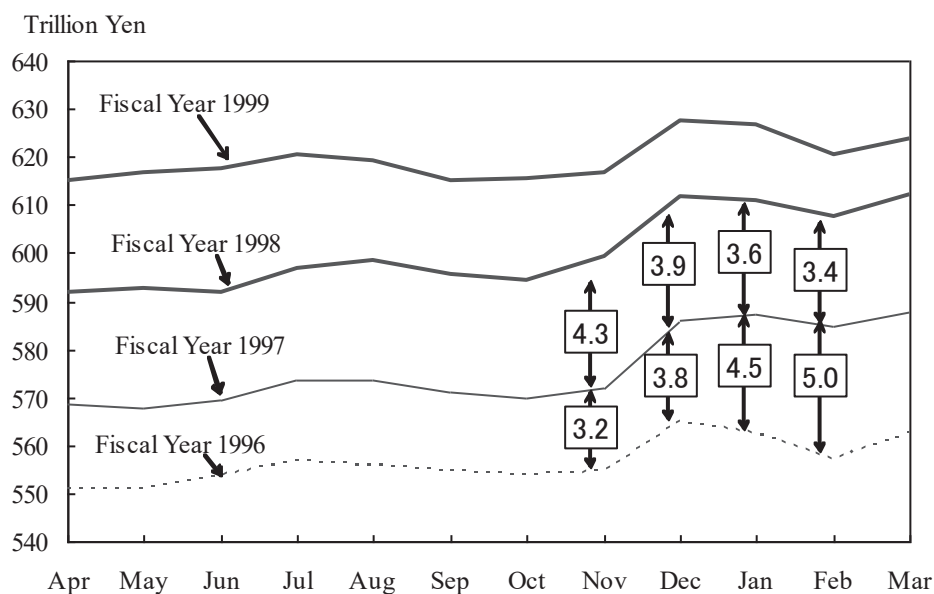
(i.e. from November 1998 to February 1999) dropped from 4.3 percent to 3.4 percent due to the "repercussions" from the previous year.

The chain of the above events is described below.



Average Amounts Outstanding M2+CDs (original figures)

Note: Figures in the boxes indicate the percent change from a year earlier in average amounts outstanding M2+CDs.



6. Effects of Fluctuations in Exchange Rates on the Year-to-Year Changes in Foreign Bonds

"Foreign bonds," a component of "L," have a different feature from other components. They are not only affected by the changes in supply and demand that reflect changes in the real economy and financial situation (as is the case with other components), but they are also affected by fluctuations in foreign exchange rates.

When comparing the year-to-year changes of foreign bonds in the previous month and current month, the next thing that needs to be taken into consideration is the fluctuation of the exchange rate from the previous month to the current month, and that from the previous month to the current month of the previous year.⁵ For example, if the yen appreciates in the current year, but its rate is smaller than the previous year, the exchange rate expands the year-to-year growth.

Decrease or Increase in Year-to-Year Change

Current year Previous year	Yen appreciation	Unchanged	Yen depreciation
Yen appreciation	Yen appreciation of the current year > Yen appreciation of the previous year ————→ Decrease Yen appreciation of the current year < Yen appreciation of the previous year ————→ Increase	Increase	Substantial increase
Unchanged	Decrease	Unchanged	Increase
Yen depreciation	Substantial decrease	Decrease	Yen depreciation of the current year > Yen depreciation of the previous year ————→ Increase Yen depreciation of the current year < Yen depreciation of the previous year ————→ Decrease

Note: From December 2003 onward, the currency fluctuations of foreign bonds, which had been adjusted assuming that all bonds are in US dollars, are adjusted based on three currencies (US dollar, Euro, and Yen). Thus, effects of fluctuations in exchange rates can also be different depending on the currency composition of the foreign bonds.

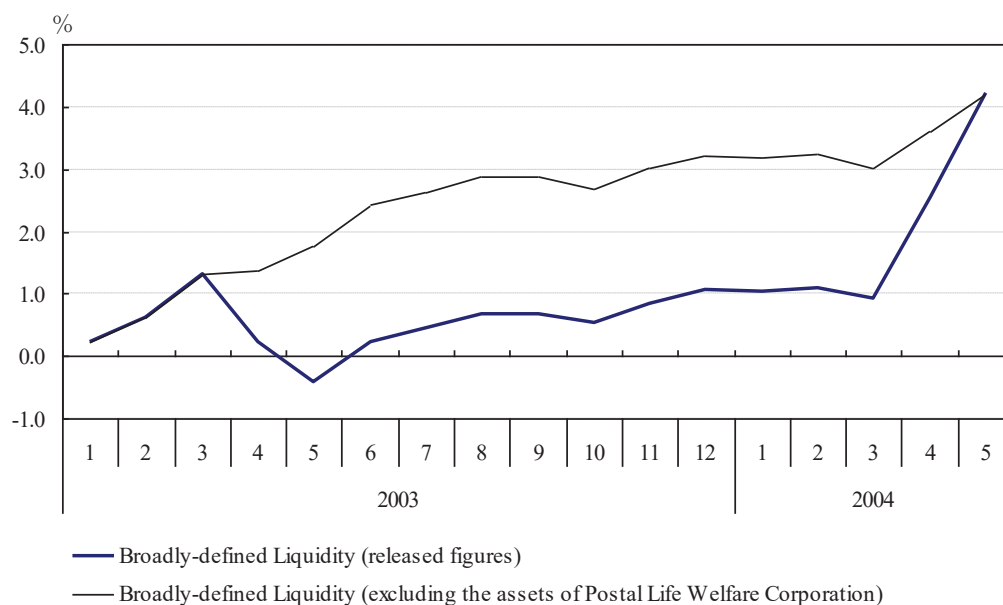
⁵ See Chapter 2.4(7) for the calculation method of foreign bonds.

7. A Case of the Change in the Organization of Money Holders

When an organization such as a public corporation (money holder) changes its status, it may become a non-money holder such as a financial institution and the central government, and vice versa.

MSS users should be aware that the range of money holders may discontinue before and after a change in the organization. For example, on April 1, 2003, the assets of the Postal Life Insurance Welfare Corporation were transferred to the Japan Post due to the dissolution of the corporation.⁶ After the transfer, the assets were excluded from the MSS, since the Postal Life Insurance Welfare Corporation was regarded as a "non-financial corporation" (money holders = included in the MSS), and the Japan Post as a "financial institution" (non-money holders = excluded from the MSS). The percentage change of "broadly defined liquidity" had decreased since April 2003. The dissolution of the Postal Life Insurance Welfare Corporation is considered to be one factor for the decrease.⁷

Percentage Changes of Broadly Defined Liquidity (from previous year)



⁶ For further details refer to Research and Statistics Department, "Reference Index of the Money Stock Statistics," June 9, 2003.

⁷ Another recent example is the establishment of Independent Administrative Institutions (IAIs). There were discontinuities to the money holders, since the government deposits at the Bank of Japan were transferred to the deposits at other financial institutions due to the establishments of IAIs. However, because the assets holdings of these institutions are quite small, their influences to the MSS may be trivial.

8. Analytical Methods to Investigate Fluctuations within the Money Stock Statistics

Figures for M3 fluctuate; they reflect the supply-demand movements stemming from changes in the real economy and financial situation.

Because various factors cause M3 to fluctuate, a solid analytical framework is essential to investigate the causes.

This section provides a brief introduction on "the balance sheet approach on money holders" and "the balance sheet approach on money issuers." These approaches are based on the idea that each component in M3 is a financial asset/liability held by money holders/issuers.

It should be noted that these approaches are analytical methods based upon ex-post identities, and thus do not necessarily illustrate the cause and effect relationship between the change in money stock and the factors related to its supply or demand.

(1) Balance Sheet Approach for Money Holders

"The balance sheet approach for money holders" is an analytical method that correlates the change in M3 with the change in other assets or liabilities in money holders' balance sheets. The approach focuses on the fact that M3 is a part of the financial assets of money holders.

In this approach, the factors of change in M3 are analyzed after having compiled money holders' balance sheets by utilizing statistics such as the *Flow of Funds Accounts*. A specific explanation of the analysis is below.

From the assets side, if M3 increases with the total assets unchanged, it could be judged that there was a shift-in transfer from other instruments (such as investment trusts, government securities etc.) to the instruments within M3.

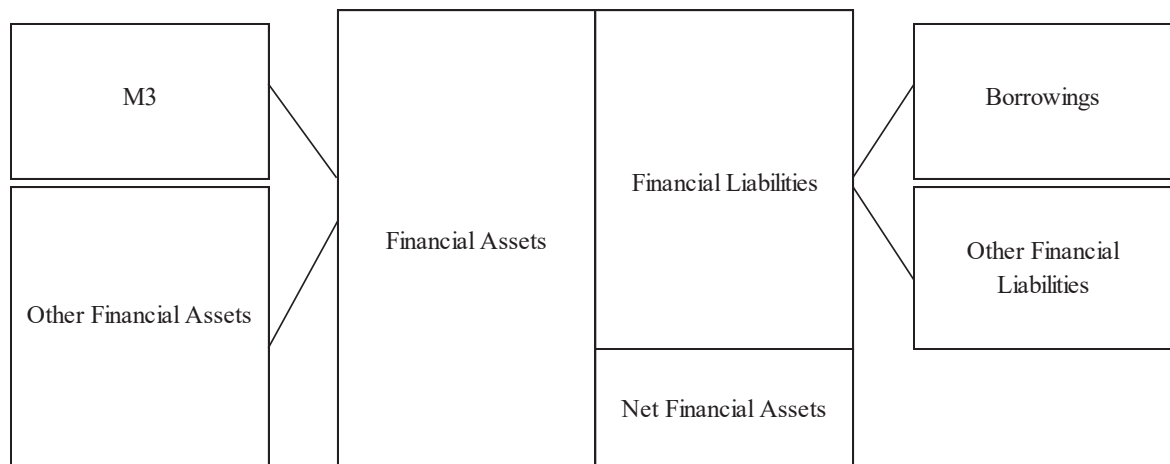
According to the example below, M3 increases by a certain amount if part of the other financial assets are cancelled and deposited as time deposits.

From the liability side, the factors that change M3 are a change in financial liabilities or a change in net financial assets (financial surplus or deficit) held by money holders. For example, if money holders gather funds in advance for the payments at the end of the

increases by a certain amount.

M3 will also increase by a certain amount if they invest additional income acquired by tax reduction or other means (i.e. an increase of receipts from the government sector) in CDs.

Balance Sheet of Money Holders



A more specific explanation of the balance sheet approach is as follows:

In the balance sheet of money holders, the following formulas exist:

$$\begin{array}{l} \text{Increase/Decrease in} \\ \text{Financial Assets} \end{array} = \begin{array}{l} \text{Increase/Decrease in Financial Liabilities} \\ + \text{Increase/Decrease in Net Financial Assets} \end{array}$$

On the asset side, there is a formula such as:

$$\begin{array}{l} \text{Increase/Decrease in} \\ \text{Financial Assets} \end{array} = \begin{array}{l} \text{Increase/Decrease in M3} \\ + \text{Increase/Decrease in Other Financial Assets} \end{array}$$

This implies:

$$\begin{array}{l} \text{Increase/Decrease in M3} \end{array} = \begin{array}{l} \text{Increase/Decrease in Financial Liabilities} \\ + \text{Increase/Decrease in Net Financial Assets} \\ - \text{Increase/Decrease in Other Financial Assets.} \end{array}$$

"Increase/Decrease in Net Financial Assets held by money holders" (i.e. surplus/shortage of funds) is the "shortage/surplus of funds held by non-money holders." Thus,

$$\begin{aligned}
\text{Increase/Decrease in Net Financial Assets held by Money Holders} &= \text{Surplus/Shortage of Funds held by Money Holders} \\
&= \text{Shortage/Surplus of Funds held by Non-money Holders} \\
&= \text{Shortage/Surplus of Funds held by Central Government, overseas, and Financial Institutions} \\
&= \text{Deficit/Surplus of Fiscal Balance} \\
&\quad + \text{Current Account Surplus/Deficit} \\
&\quad + \text{Shortage/Surplus of Funds held by Financial Institutions}
\end{aligned}$$

Accordingly,

$$\begin{aligned}
\text{Increase/Decrease in M3} &= \text{Increase/Decrease in Financial Liabilities (Borrowings or CP Issuing)} \\
&\quad - \text{Increase/Decrease in Other Financial Assets} \\
&\quad + \text{Deficit/Surplus of Fiscal Balance} \\
&\quad + \text{Current Account Surplus/Deficit} \\
&\quad + \text{Shortage/Surplus of Funds held by Financial Institutions}
\end{aligned}$$

(2) Balance Sheet Approach for Money Issuers

"The balance sheet approach for money issuers" is an analytical method that correlates the change in M3 with the change in other instruments in money issuers' balance sheets. The approach focuses on the fact that M3 is a part of financial liabilities of money issuers.

A balance sheet approach for money issuers could be regarded as an analysis that examines the numbers through the holders of liabilities. A balance sheet approach for money holders, on the other hand, could be regarded as an analysis that examines the numbers through the holders of assets.

The Bank of Japan releases the *Monetary Survey* to provide data sources regarding balance sheet approach for money issuers.

The *Monetary Survey* is a balance sheet whereby the accounts of the Central Bank (Bank of Japan) and Depository Corporations are aggregated and adjusted based on the

international standards adopted by the IMF.^{8,9}

The *Monetary Survey* releases, in addition to the overall assets and liabilities, the breakdowns by economic units on the asset side, and those by "currency in circulation," "deposit money," "quasi-money + CDs," and "other items (net)" on the liability side.

"Currency in circulation," "deposit money," and "quasi-money + CDs" in these statistics are identical to the corresponding end of period figures in the MSS.

Balance Sheet of Money Issuers

	Foreign Assets (Net)	Cash Currency in Circulation
Claims on Government (Net)	Domestic Credit	Deposit Money
Claims on Other Financial Corporations		
Claims on Local Governments		Quasi-money +CDs
Claims on Other Sectors		
		Other Items (Net)

⁸ The adjustment cancels out mutual transactions among financial institutions such as inter-bank deposits. It also combines or splits accounts.

⁹ The *Monetary Survey* provides the summary table of the money issuers as a whole and its components such as "central bank" and "depository corporations."

Chapter 4 Money Stock Statistics and Other Financial Statistics

Chapter 4

MONEY STOCK STATISTICS AND OTHER FINANCIAL STATISTICS

The Bank of Japan compiles a number of statistics other than the MSS. This chapter summarizes the relationships between the MSS and those statistics.

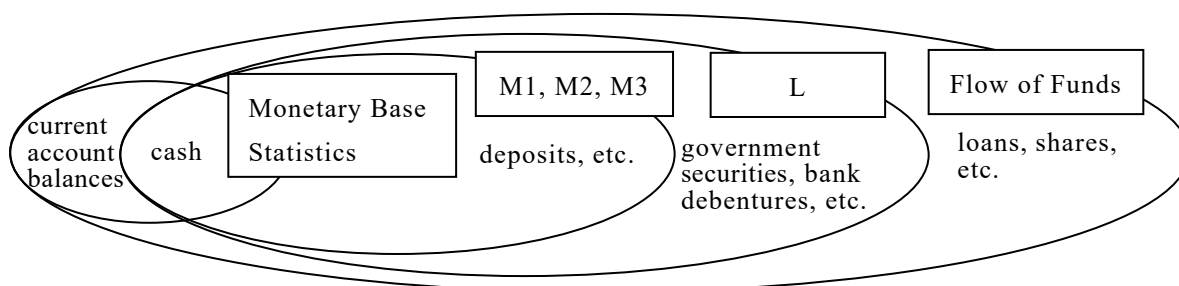
Among the financial statistics compiled by the Bank of Japan, the *Monetary Base Statistics* has the narrowest range. It shows "currency provided by the central bank," which is the sum of "banknotes in circulation," "coins in circulation," and "current account balances of BOJ. "

The *Flow of Funds Accounts*, on the other hand, has the widest range of financial statistics; it provides both the balance and change of all financial assets and liabilities for various kinds of economic units. The statistics cover the claims and debts across borders, in addition to the debtor-creditor relationship among economic units inside Japan.

The range of the MSS, which is composed of currency, deposits and financial assets with high liquidity held by money holders, is somewhere between that of the *Monetary Base Statistics* and the *Flow of Funds Accounts*.

The relationships of these statistics are illustrated as follows.

Range of the Monetary Base Statistics, the Flow of Funds, and the MSS



The following sections describe the details of the relationship between the MSS and other financial statistics that are compiled and released by the Bank of Japan.

1. Relations to Monetary Base Statistics

The monetary base is the "Currency Supplied by the Bank of Japan" and is defined as follows:

Monetary base = banknotes in circulation + coins in circulation + current account balances (current account deposits in the Bank of Japan)

The "banknotes in circulation" and "coins in circulation" in the *Monetary Base Statistics* include cash (banknotes and coins) held by financial institutions, while "currency in circulation" in the MSS does not. Moreover, the monetary base includes "current account balances," while the MSS does not. This is because the former is defined as the "currency supplied by the central bank," while the latter is defined as the "currency supplied to the economy from the financial sector as a whole" (including the central bank).

The Bank of Japan also compiles and releases the *Monetary Base and the Bank of Japan's Transactions* (MB-BOJT), which shows how the Bank supplies the monetary base by means of various transactions. It provides "stock tables" based on stock figures at end of month and "flow tables" showing increases/decreases in stock figures during period.

2. Relations to Deposits, Vault Cash, and Loans and Bills Discounted

The *Deposits, Vault Cash, and Loans and Bills Discounted* is compiled from "Deposits, Vault Cash, and Loans and Bills Discounted (see Appendix 4)" that is submitted every month from domestically licensed banks, *shinkin* banks, and foreign banks in Japan, other financial institutions (Shinkin Central Bank, the Norinchukin Bank, the Shoko Chukin Bank, the Shinkumi Federation Bank, the Rokinren Bank, and prefectural credit federations of agricultural cooperatives).¹ The following components are released every month with breakdowns by types of businesses.

(1) Monthly receipts and payments of deposits

(2) Deposits by depositor and deposits by type (average amounts outstanding and amounts outstanding at end of period)

¹ The Bank of Japan also compiles and releases the *Deposits, Vault Cash, and Loans and Bills Discounted by Prefecture (Domestically Licensed Banks)* to grasp the transition of these items in each prefecture.

- (3) Banknotes, coins, checks, and notes held by financial institutions (average amounts outstanding and amounts outstanding at end of period)
- (4) CP issued/held by financial institutions (liability/asset) (average amounts outstanding and amounts outstanding at end of period)
- (5) Straight bonds issued by banks (liability) and bank-issued straight bonds held (asset) (amounts outstanding at end of period)
- (6) Bank debentures held by the trust accounts (assets) (amounts outstanding at end of period)
- (7) Bank-issued straight bonds held by the trust accounts (asset) (amounts outstanding at end of period)
- (8) Loans in the banking accounts, trust accounts, and overseas branches accounts, by size and by type (average amounts outstanding and amounts outstanding at end of period)

Note: Figures of *shinkin* banks are not available for (6), (7), and (8) except the total and equipment funds. Figures of foreign banks in Japan are not available for (1), (6), (7), and (8) except the total. Figures of other financial institutions are released for some deposits items of (2) and the total of (8).

The *Deposits, Vault Cash, and Loans and Bills Discounted* is a main data source for the MSS in compiling the final figures (e.g. M2, deposit money, quasi-money, and CDs in M3).

M3 in the MSS covers the items of the Japan Post Bank and other financial institutions, in addition to those of domestically licensed banks, *shinkin* banks, and foreign banks in Japan. Therefore, the totals of financial items in the *Deposits, Vault Cash, and Loan and Bills Discounted* do not strictly coincide with that of the MSS. However, within the M2, domestically licensed banks, *shinkin* banks, and foreign banks in Japan account for the vast majority of deposit money, quasi-money and CDs; it is thus possible to conduct a more detailed analysis of the M2 using the *Deposits, Vault Cash, and Loans and Bills Discounted*.²

² Although the revision in 2008 excluded securities companies and *tanshi* companies from money holders, these companies remain money holders in the *Deposits, Vault Cash, and Loans and Bills Discounted* and the *Amounts Outstanding of Deposits by Depositor*, respectively. In other words, deposit money by corporations in the MSS excludes deposits deposited by securities companies and *tanshi* companies, while corporate deposits in the *Deposits, Vault Cash, and Loans and Bills Discounted* include these deposits.

3. Relations to Amounts Outstanding of Deposits by Depositor

The *Amounts Outstanding of Deposits by Depositor* compiles "the balance of deposits with domestically licensed banks and *shinkin* banks," "the balance of deposits by rank of amount," and "the number of accounts" with breakdowns by depositor and by type of deposits, at the end of March and September.³ The types of item in this publication are as follows.

Types of depositor:

(1) corporations, (2) nondeposit-taking institutions including money lenders and credit card companies, (3) institutions providing medical, health care, welfare, and educational services, and other organizations, (4) institutions providing medical and health care services, (5) institutions providing welfare and educational services and other organizations, (6) households, (7) central government, local governments, and local public enterprises, (8) financial institutions, (9) nonresidents.

Types of deposit:

current deposits, ordinary deposits, saving deposits, deposits at notice, special deposits and deposits for tax payments, time deposits and fixed savings, installment savings, nonresident yen deposits, foreign currency deposits.

This publication provides more detailed figures of the amounts outstanding at the end of period amount than does the *Deposits, Vault Cash, and Loans and Bills Discounted*. The range of deposits and the definition of depositors in this publication are generally identical to those of the MSS.⁴ Thus, this publication provides figures of M2 and M3 (amounts outstanding at the end of period) for the portion deposited to domestically licensed banks and *shinkin* banks with breakdowns by depositors, which is in more detail in class of depositors. There is, however, a difference in the sense that this publication has narrower range in financial institutions than M2 and M3.

³ The rank of amount is divided by a) less than 3 million yen, b) 3 million yen to less than 10 million yen, c) 10 million yen to less than 100 million yen, d) 100 million yen to less than 300 million yen, e) 300 million yen to less than a billion yen, and f) more than a billion yen.

⁴ The definition of "depositor" differs from that found in the MSS. Refer to footnote 2 for details.

4. Relations to Principal Figures of Financial Institutions

The *Principal Figures of Financial Institutions (Preliminary figures)* compiles monthly balance of loans (average amounts outstanding) and real deposits (deposits excluding checks and notes) + CDs (average amounts outstanding). The MSS uses the data sources of real deposits + CDs for calculating preliminary figures.

However, real deposits + CDs in this statistics differs from M2 in the MSS in some points; (1) the former does not include currency in circulation, (2) the former includes deposits with financial institutions, government, and nonresidents, and (3) the former covers only four entities; city banks, regional banks, regional banks II, and *shinkin* banks.⁵

5. Relations to Financial Institutions Accounts

Financial Institutions Accounts are compiled monthly using the balance sheets and the trial balances of financial institutions (domestically licensed banks and foreign banks in Japan).

Most of the items in this publication such as securities and loans are utilized as data sources in compiling L and the *Monetary Survey*.

The *Deposits, Vault Cash, and Loans and Bills Discounted*, which is the main data source in compiling the MSS, can be regarded as a more detailed data set on deposits and loans compared to *Financial Institutions Accounts*.

The concept of deposits in *Financial Institutions Accounts* is close to M2 (amounts outstanding at end of period), but there are some differences: (1) the former does not contain currency in circulation, (2) the former contains deposits with financial institutions, government, and nonresidents, (3) the former is the nominal deposits that include checks and notes, and (4) the former includes deposits received in the offshore accounts.

⁵ From the data for January 2008, the total of the monthly average amounts outstanding of real deposits+CDs for "other surveyed domestically licensed banks" including the Japan Post Bank, is also released.

6. Relations to Flow of Funds Accounts

The *Flow of Funds Accounts* (FFA) provides an overall view of all financial activities. It records movements of financial assets and liabilities among institutional units called sectors, such as financial institutions, corporations, and households, for each financial instrument called a transaction item. Meanwhile, the MSS aggregates money such as currency in circulation and deposit money, held by money holders such as corporations, individuals, and local governments. Therefore, it can be said that the MSS covers some part of financial assets and liabilities of the FFA.

However, the FFA is basically evaluated on market value, while the MSS is evaluated on face value. Also, classification of the sectors and transaction items is somewhat different. Therefore, figures for the corresponding sectors in each publication are not exactly identical.

There are some other points to be noted when comparing both publications: (1) the figures of the FFA represent amounts outstanding at end of period, whereas the representative figures of the MSS are the average amounts outstanding; (2) the FFA is a quarterly publication, whereas the MSS is monthly, and (3) the FFA is released three months after the surveyed quarter, while figures of the MSS are released basically on the seventh business day of the following month.