Chapter III The Issuance, Circulation, and Maintenance of Bank of Japan Notes

The Bank of Japan issues, circulates, and maintains Bank of Japan notes. This chapter explains these activities, and provides some information on the characteristics of Bank of Japan notes and related matters.

A. Cash and the Bank of Japan

1. Outline of cash and the issuance of banknotes

Cash consists of banknotes and coins, and is a payment instrument widely used for payment and settlement in various economic transactions (see Chapter IV), together with demand deposits[1] in financial institutions.

Printed banknotes and minted coins need to be put into circulation to be used as money in the economy. Banknotes, or Bank of Japan notes, are manufactured by the National Printing Bureau, which is an incorporated administrative agency, and are delivered to the Bank in exchange for the cost of their production. Up to this stage, banknotes are not yet considered to be money. Banknotes begin circulating and being used as money when financial institutions withdraw deposits from their current accounts at the Bank (hereafter, "BOJ accounts;" see Chapter IV.B.3),[2] and receive the banknotes at the Bank's counter. The Bank of Japan Act stipulates that the Bank shall issue banknotes (Article 1, paragraph 1, and Article 46, paragraph 1 of the Act), and thus the Bank is referred to as the sole issuer of banknotes in Japan. The banknotes issued are entered as liabilities in the Bank's balance sheet (see Box 3 for Chapter II, "The Bank of Japan's Accounts"). Coins, unlike banknotes, are issued by the Japanese government. Coins are manufactured by the Japan Mint, which is an incorporated administrative agency, and are issued as money when they are delivered to the Bank as stipulated in the Act on Currency Units and Issuance of Coins (Article 4). The procedures to put coins into circulation are similar to those for banknotes and they are put into circulation through the Bank. The issuer of banknotes is the Bank and that of coins is the government (the Ministry of Finance); banknotes are manufactured by the National Printing Bureau and coins by the Japan Mint

[1] Demand deposits are the deposits from which depositors can withdraw cash on demand, such as current deposits and ordinary deposits. Because of their high liquidity, these deposits are used as a payment instrument (see Chapter IV.B.2).

[2] At this point, the banknotes are deemed to be issued by the Bank.

(see Figure 3-1).

Currently, the Bank issues banknotes in four denominations: 10,000 yen, 5,000 yen, 2,000 yen, and 1,000 yen (see Figure 3-2). In 2004, the designs of the 10,000 yen, 5,000 yen, and 1,000 yen notes were renewed for the first time in 20 years. Coins are issued in six denominations (excluding commemoratives): 500 yen, 100 yen, 50 yen, 10 yen, 5 yen, and 1 yen. As of the end of March 2010, approximately 82 trillion yen of cash was in circulation, of which banknotes accounted for 95 percent. Banknotes account for such a large portion of cash in circulation mainly because of their larger face values. The Bank has issued 53 kinds of banknotes since its first issue of banknotes, the *Daikokusatsu* notes, in 1885. At present, 22 kinds of banknotes and 14 kinds of coins, excluding commemoratives, are valid.[3]

[3] At present, only four designs of banknotes are issued and used for payment to financial institutions over the counters at the Head Office and branches of the Bank. The banknotes in other designs are not reissued for further circulation once they are returned to the Bank. The details of the currently valid banknotes are described in "Banknotes and Coins in Use" on the Bank's website (http://www.boj.or.jp/en/index.html).

Figure 3-1 Issuers of Banknotes and Coins in Selected Countries and the Euro Area

	Banknotes		Coins	
	Issuer	**Manufacturer**	**Issuer**	**Manufacturer**
Japan	Central bank	National Printing Bureau (an incorporated administrative agency)	Government	Japan Mint (an incorporated administrative agency)
United States	Central bank[1]	Government	Government	Government
Euro area	National central bank of each member state[2]	National central bank, government, or private entities in each member state[3]	Government of each member state	Government of each member state
United Kingdom	Central bank[4]	Private entities[4]	Government	Government
Canada	Central bank	Private entities	Government	Government

Notes: 1. The Board of Governors of the Federal Reserve System retains the right to issue banknotes. The Board is a federal government agency, and is the supreme decision-making body of the Federal Reserve System. In practice, each of the Federal Reserve Banks is authorized by the Federal Reserve Act to issue banknotes.
2. The euro area comprises the 17 Member States of the European Union (EU) that adopted the euro as the single European Currency: Germany, France, Italy, Belgium, the Netherlands, Luxembourg, Austria, Spain, Portugal, Finland, Ireland, Greece, Slovenia, Cyprus, Malta, Slovakia, and Estonia. The Governing Council of the European Central Bank (ECB), the ECB's decision-making body, has retained the right to issue banknotes, but euro banknotes are issued by the national central banks in the euro area.
3. Varies from country to country.
4. In the United Kingdom, for historical reasons, there are some exceptions in Scotland and Northern Ireland.

Figure 3-2 Banknotes of Japan Currently Issued

Denomination (yen)	Size (mm)		Major Design		Watermark Design	Tactile Marks
	Height	Width	Front	Back		
10,000	76	160	Yukichi Fukuzawa (a pioneer of modern thought in the Meiji Period)	Phoenix statue in *Byodoin* Temple	Yukichi Fukuzawa	The tactile mark is in the shape of a hook.
5,000	76	156	Ichiyo Higuchi (a leading novelist in the Meiji Period)	*Kakitsubata-zu* (painting of irises), a work by Korin Ogata	Ichiyo Higuchi	The tactile mark is an octagon.
2,000	76	154	*Shureimon* Gate (the gate to *Shuri* Castle in Okinawa built by King Shosei of the Ryukyu Kingdom in the 16th century)	A scene from *The Tale of Genji scroll* and portrait of its author, Murasaki Shikibu	*Shureimon* Gate	Japanese braille for *ni,* meaning "two."
1,000	76	150	Hideyo Noguchi (a bacteriologist who was active in the Meiji, Taisho, and Showa periods)	Mt. Fuji and cherry blossoms	Hideyo Noguchi	The tactile mark is a horizontal bar.

2. Characteristics of banknotes

Banknotes are a widely used payment instrument, especially for small-value or retail payments. Banknotes are often used in face-to-face transactions, in which cash is handed directly from one party to the other. Banknotes are used to make payments for a wide range of economic transactions (general usability) and are accepted by anyone (general acceptability). These functions of banknotes stem from the following characteristics.

First, Article 46 of the Bank of Japan Act stipulates that banknotes shall be the legal tender for payment without limits; in other words, they are

the legally defined payment instruments that should not be refused by any creditor in satisfaction of any debt.[4] A banknote is the payment instrument by which the highest settlement finality can be achieved. Unlike payment by credit card or funds transfer between bank accounts, payment in banknotes does not require the intermediation of any financial institution or any other third party.[5] Banknotes also guarantee anonymity, since it is difficult to know who used them, when and where they were used, or for what purpose they were used.[6]

While banknotes have these advantages, they also have shortcomings. The safekeeping and transport of banknotes incur considerable costs if the volume of banknotes is large or if they are transported over a long distance. They also carry the risk of loss, theft, fire, or other damage.

To avoid these risks, funds transfer between bank accounts, which does not involve the physical movement of cash, is widely used. Credit cards, prepaid cards, and debit cards[7] are also used. Recently, a payment instrument called "electronic money" has become prevalent. For example, the major type of electronic money employs a prepaid function provided by integrated circuit (IC) chips. Currently, more than 100 million units of IC chip-loaded electronic money have been issued, which seems to indicate that electronic money is gradually strengthening its position as a retail payment instrument. However, the amount of electronic money in circulation remains small compared to that of coins in circulation (see Box 1, "Electronic Retail Payment Instruments in Japan").

[4] Under Article 7 of the Act on Currency Units and Issuance of Coins, coins are also a legally defined payment instrument that should not be refused by a creditor. However, the recipient may refuse to accept more than 20 coins of the same denomination in one payment, because the use of too many coins in one payment may make it difficult for the recipient to count or store them.

[5] When payment is made by credit card or funds transfer between bank accounts, funds are transferred between the payer/recipient and the financial institutions with which the payer/recipient holds an account, and between the financial institutions involved (see Chapter IV.B.2).

[6] Prepaid cards also guarantee anonymity; however, they can only be used in a limited range of transactions. Thus banknotes are better than prepaid cards in terms of general usability and general acceptability.

[7] Cash cards issued by financial institutions are the most common form of debit card. When a cardholder presents such a card to a retailer's cashier and enters the personal identification number, funds are immediately debited from the cardholder's demand deposit account at the financial institution that issued the card.

3. History of the banknote issuance system

The Bank issued its first banknotes in 1885, three years after its foundation.[8] Originally, banknotes were convertible notes whose convertibility to silver was guaranteed; when the gold standard was adopted in 1897, the banknotes became convertible into gold. Under this standard money system,[9] the Bank was required to hold specie (gold or silver) equivalent to the total amount of banknotes issued (specie reserve requirement).[10] The standard money system ceased to function when the gold standard was suspended (when the convertibility of banknotes into gold was suspended) in 1931 and Japan started to shift into a wartime regime. In 1941, Japan adopted a managed currency system and the standard money reserve requirements were abolished. The Bank of Japan Act of 1942 stipulated that the Bank was to hold prime assets of a value equivalent to the amount of banknotes in circulation (the reserve for banknote issuance system), and to set an absolute ceiling on the issuance of banknotes of Japan in order to control the upper limit on the amount of banknotes issued (the banknote maximum issuance limit system). These two systems were abolished under the Bank of Japan Act of 1997, about 50 years after the end of World War II. The changes were made mainly for the following reasons: (1) under a managed currency system, the stability of the value of banknotes should be maintained through the appropriate conduct of monetary policy by the Bank rather than through a direct link with the value of assets held by the Bank; and (2) the amount of banknotes in circulation should change according to movement in the level of economic activity, and as the absolute ceiling on the

[8] The history of money, including the history of banknote issuance, is described in "Short Essays on Monetary History" in the Currency Museum section of the website of the Institute for Monetary and Economic Studies of the Bank of Japan at http://www.imes.boj.or.jp/cm/english_htmls/index.htm.

[9] Under a standard money system, the value of a national currency, such as the yen or the U.S. dollar, is fixed to a specified commodity. Rare and durable precious metals (e.g., gold or silver) were commonly used as the commodity (standard money or specie money). When Japan adopted a standard money system under the New Currency Act of 1871, the value of one yen was fixed to be equal to the value of 1.5 grams of pure gold (equivalent to 1 U.S. dollar). In order to maintain the value of the currency against standard money, the common methods taken by the government or the central bank were to guarantee that the paper money (banknotes) was convertible into a certain amount of standard money (convertible system) and to authorize free export and import of the standard money.

[10] The Bank entered the banknotes (convertible banknotes) issued as liabilities on its balance sheet, and entered reserve assets (gold, silver, or prime assets such as public bonds up to a limited extent) held to fulfill the responsibility to maintain the standard money reserve requirements as assets on the balance sheet.

issuance of banknotes of Japan had been changed to accommodate the actual amount of banknotes issued, it was considered that the significance of the banknote maximum issuance limit system had been diminishing.

B. Circulation of Banknotes

1. Flow of banknotes and the role of the Bank

This section will explain the channels of banknote circulation. The principal channel of circulation starts when financial institutions receive banknotes at the counters of the Bank's Head Office and branches.[11] Individuals and firms then obtain banknotes by withdrawing money from their deposit accounts at financial institutions. The banknotes are used for various purposes, and then they are returned to the Bank via financial institutions.[12] The Bank and financial institutions serve as the strongholds for banknote circulation to ensure the smooth circulation of banknotes nationwide. In fiscal 2009, the average amount of banknotes in circulation was approximately 76 trillion yen, which was equivalent to approximately 16 percent of Japan's GDP in that year (see Box 2, "Demand for Banknotes in Japan").

The banknotes circulate as shown below (see also Figure 3-3, [a]–[f]).

(a) The Bank receives banknotes from the National Printing Bureau

The Bank places orders with the National Printing Bureau to manufacture banknotes based on the prospective demand for banknotes. When the banknotes are manufactured, the Bank pays the government the cost of production and receives the banknotes. The new banknotes are kept in the vaults at its Head Office and branches.

(b) Financial institutions withdraw money from BOJ accounts (issuance of banknotes)

To provide for payment of banknotes to individuals and firms, financial in-

[11] The banknote operations center (the Toda Annex) in Toda City, Saitama Prefecture, takes care of payment and receipt of banknotes to and from financial institutions using an automated and integrated processing system. In order to efficiently process the large volume of banknotes needed in the transactions at the Head Office, the banknote operations center is equipped with a fully automated system covering all operations, including receipt, custody, examination, and payment of banknotes. The center ensures accurate and speedy operations, with increased security.

[12] The principal channel of circulation for coins is the same as that for banknotes. Namely, they are distributed from the Bank to financial institutions, then to individuals and firms through these financial institutions.

stitutions obtain banknotes at the counters of the Head Office and branches of the Bank by withdrawing money from their BOJ accounts. Banknotes are issued when they are delivered at the counters of the Bank and start circulation.[13] The total amount of banknotes issued in fiscal 2009 was approximately 61 trillion yen.

(c) Individuals and firms withdraw money from accounts at financial institutions

Individuals and firms obtain banknotes at financial institutions' counters, cash dispensers, or ATMs (automated teller machines) by withdrawing money from their accounts at these financial institutions.

(d) Individuals and firms use banknotes and return them to financial institutions

Individuals and firms use banknotes for payments to other firms or financial institutions for the purchase of goods and services, financial transactions, or tax payments. The firms and financial institutions which receive the banknotes use them to make payments for other transactions, and individuals and firms bring the banknotes to financial institutions and have their deposit accounts credited.

(e) Financial institutions return banknotes to the Bank (withdrawal of banknotes from circulation)

Financial institutions bring their excess banknotes to the Head Office and branches of the Bank and have their BOJ accounts credited.[14] When banknotes return to the Bank, they are withdrawn from circulation. In fiscal 2009, approximately 61 trillion yen of banknotes were returned to the Bank.[15]

(f) The Bank examines returned banknotes

The Bank examines the returned banknotes and destroys those unfit for

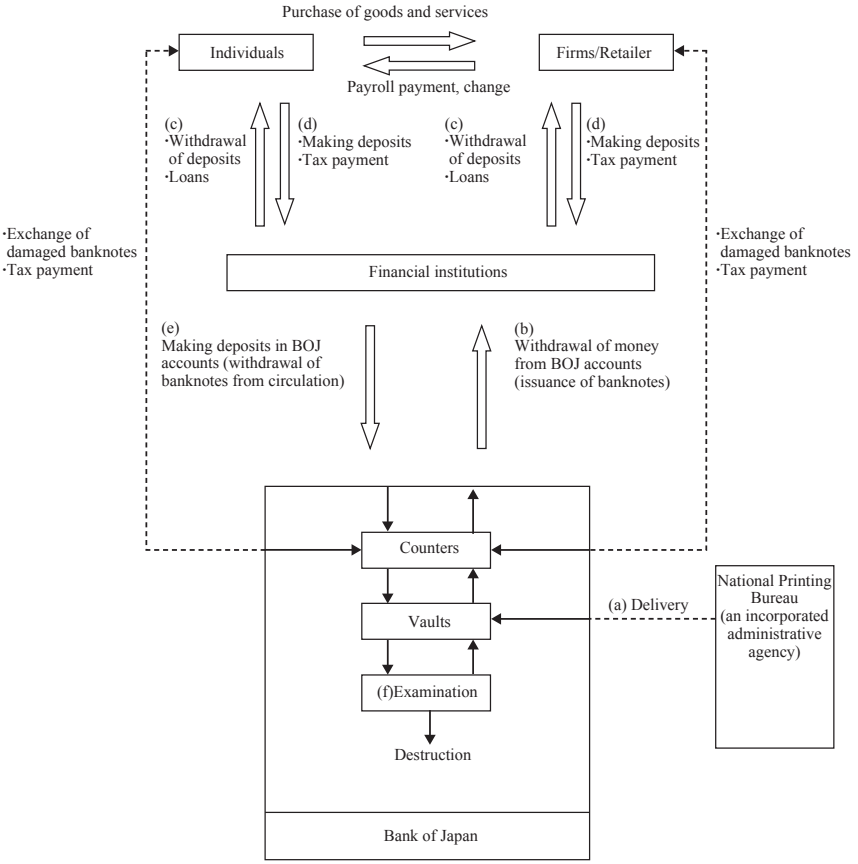
[13] To ensure the smooth delivery of banknotes in areas far from the Head Office or any branch of the Bank, the Bank designates specific offices of some financial institutions as custodians to hold unissued banknotes (banknote custody system). These banknotes are issued when they are paid out from the custodians.

[14] Financial institutions use their current account deposits at the Bank as payment instruments to make payments to the Bank, the government, and other financial institutions, and also as reserve deposits under the reserve requirement system (see Chapter IV.B.3).

[15] In fiscal 2009, approximately 61 trillion yen of banknotes was put into circulation by the Bank, while 61 trillion yen of banknotes was withdrawn from circulation. Thus, the amount of banknotes in circulation in fiscal 2009 remained flat from fiscal 2008.

recirculation. On the other hand, the Bank uses banknotes that are fit for recirculation for its payments at the counters of the Head Office or of the branches of the Bank to put them into recirculation (see C.1 in this chapter).

Figure 3-3 Circulation of Banknotes



2. Fluctuation in demand for banknotes

There are regular patterns of fluctuation in the amount of banknotes issued, reflecting changes in the demand for banknotes by individuals and firms. On a weekly basis, the amount of banknotes issued increases before the weekend, reflecting increased demand for use in shopping and leisure activities over the weekend. Some of these additional banknotes return to the Bank early in the following week. On a monthly basis, the amount of banknotes issued increases during the last ten days of the month, as payroll payments and settlement of various transactions are usually made in this period. A certain proportion of these additional banknotes then return to the Bank early in the following month. On an annual basis, the amount of banknotes in circulation doubles in December compared to other months. This is because December is the month when winter bonuses are paid, and demand for banknotes increases to meet the need for cash at the year-end and the New Year. A significant proportion of the banknotes issued in December return to the Bank in January. In addition to regular or seasonal changes, there are regional differences in the demand for banknotes. The Bank endeavors to ensure the smooth circulation of banknotes nationwide to meet the demand for banknotes.

C. Maintenance of Banknotes

1. Maintaining and improving the convenience of banknotes

As the country's sole issuer of banknotes, it is vital that the Bank of Japan ensures the convenience and credibility of banknotes. When banknotes are returned to the counters at the Head Office or branches of the Bank after being used for various purposes, the Bank makes an accurate count of them and verifies their authenticity. It also separates returned banknotes into those suitable for recirculation and those too damaged or worn for further circulation. This process is called the examination of banknotes. Banknotes that are judged to be unsuitable for recirculation are destroyed, while those in good condition are reissued for further circulation from the Bank's counters along with banknotes that are newly manufactured. The Bank exchanges damaged or worn banknotes that are brought in to the counters of the Head Office and branches, not only by financial institutions but also by individuals and firms, for those fit for recirculation (see Box 3, "Criteria for Exchange of Damaged Banknotes"). The average lifespan of banknotes is one to two years for 5,000 yen and 1,000 yen notes, which are used more frequently, and four to five years

for 10,000 yen notes.

In order to enhance the convenience of banknotes, various elaborations have been incorporated in their features.[16] For example, when a new series of banknotes was issued in 1984, the size of 10,000 yen notes was made smaller by 20 percent to make them more convenient to carry. At the same time, a uniform height was adopted for all denominations to facilitate handling in cash dispensers, an automated teller machine (ATM), and vending machines. The present banknotes also feature tactile marks[17] that make it easier for visually impaired individuals to distinguish the denomination of each bill.

2. Security measures for banknotes and international coordination

The number of counterfeit banknotes that appear in incidents in Japan is relatively low compared to other countries, and therefore public confidence in banknotes is high. To maintain the credibility of banknotes, it is essential that the Bank prevent counterfeiting. For this purpose, the Bank has taken a variety of measures to achieve this goal.

First, in terms of legal provisions, there are penalties for counterfeiting or altering banknotes or coins with the intent of using them for payment, and for the use, delivery, or receipt of counterfeit currency (under the Criminal Code). There are also penalties for the production or sale of items that resemble banknotes or coins (Act on Control of Imitation of Currency and Securities). The government can also ban the issuance, delivery, or receipt of items that are deemed to have the same or similar functions as paper currency (Act on Control of Securities Similar to Money of Bills). The production of paper with watermarks of letters, designs, and emblems made in a certain manner is prohibited, except for those authorized by the government (Act on Control of Manufacture of Watermarked Paper).

In addition to these legal provisions, with the cooperation of the authorities concerned, such as the Bank, the Ministry of Finance, and the National Printing Bureau, banknotes themselves incorporate many anti-counterfeiting features. The 10,000 yen, 5,000 yen, and 1,000 yen notes were renewed in 2004. Three concepts were adopted for the new banknotes: (1) the new banknotes make it difficult to counterfeit banknotes with a personal computer or equipment related to personal computers; (2) the new banknotes support the

[16] Article 47, paragraph 2 of the Bank of Japan Act stipulates that the Minister of Finance shall decide and publicly announce the forms (the designs and sizes) of Bank of Japan notes.

[17] Standard Japanese braille symbols are used to help individuals identify the different denominations by touch.

enforcement of the counterfeit-detecting ability of cash dealing machines; and (3) the new banknotes make it easy to notice counterfeit banknotes on sight. Various advanced anti-counterfeiting technologies have been adopted in the new banknotes, including a watermark bar pattern, intaglio printing in which the ink on the new banknote is raised higher than the old type, and a hologram in which the color and pattern of the design change when the banknote is tilted (see Figure 3-4). As described earlier, the Bank examines banknotes that are returned from financial institutions. It examines them rigorously to weed out possible counterfeits, or banknotes that are too damaged or too worn. The Bank endeavors to make it easier to detect counterfeits by keeping the circulating banknotes clean.[18]

These legal provisions, advanced anti-counterfeiting measures, and efforts to enforce the cleanliness of circulating banknotes have contributed to decreasing the number of incidents involving counterfeits compared to the period prior to 2004. However, the technology that facilitates counterfeiting has progressed rapidly in recent years and instances of counterfeiting banknotes with personal computers or equipment related to personal computers have increased globally. Thus, it is necessary to deal with this problem on a global basis, and therefore the Bank actively exchanges information and conducts joint studies with other central banks, and is strengthening its ties with relevant authorities, such as the National Police Agency and the National Printing Bureau.

[18] In order to prevent counterfeiting, it is important to actively inform the public about the anti-counterfeiting measures and to encourage people to check banknotes while they are circulating. For that purpose, the Bank prints and distributes posters and brochures describing the anti-counterfeiting measures incorporated in its banknotes. The details of new anti-counterfeiting measures are also available on the Bank's website.

Figure 3-4 Principal Anti-Counterfeiting Technologies for the Current Bank of Japan Notes: Anti-Counterfeiting Technologies for the Current 10,000 Yen Note

1. **Luminescent ink**
   The Governor's seal on the front side glows orange under ultraviolet light. Likewise, some parts of the background pattern glow yellowish-green.

2. **Intaglio printing**
   Raised printing is used for some features of the new note. The ink on the new note is raised higher than the ink on the old type.

3. **Hologram**
   When the banknote is tilted, the color and pattern of the design change.

4. **Latent image**
   When the banknote is viewed from a certain angle, the number "10000" appears on the bottom left of the front side, and the word "NIPPON" ("Japan" in Japanese) appears on the top right of the back side.

5. **Watermark bar pattern**
   When the banknote is held up to the light, three vertical watermark bars become visible. This feature is more difficult to reproduce with personal computers or color copiers than the traditional watermark.

6. **Pearl ink**
   When viewed from different angles, a semi-transparent pattern printed with pink pearl ink appears in the blank areas of the left and right margins on the front of the note.

Box 1 Electronic Retail Payment Instruments in Japan

Although there are various types of electronic retail payment instruments in Japan, those ordinarily referred to as "electronic money" are stored-value, or prepaid-format, electronic instruments for retail payments, which require users to "load" a certain amount of value before using them. Electronic money can be further categorized into two types: one is a chip-based type and the other is a server-based type.

In the chip-based type of electronic instrument, the loaded value is recorded and managed on an integrated circuit (IC) chip embedded in devices such as plastic cards and mobile phones, thereby enabling the management of the loaded value on a decentralized basis. On the other hand, the server-based type of electronic instrument does not require any physical device, and the loaded value is typically recorded and managed centrally on a computer server operated by an electronic money service provider. As for credit cards, a new type of service making use of contactless IC chips, which does not require authorization by signature or personal identification number (PIN) and thus enables users to make swift payments, has become widely available in recent years. As they are used in a way similar to prepaid electronic money for retail payments, except that they adopt post-payment functionality, contactless credit cards are sometimes referred to as "postpaid electronic money."

Electronic money has been gaining in popularity as a retail payment instrument available for use in places such as convenience stores, kiosks at train stations, and supermarkets. According to research conducted by the Bank, the pace of increase in the use of major chip-based prepaid electronic money has been accelerating in terms of the total number of instruments issued, as well as both the value and volume of transactions settled using electronic money, since 2007, the year often referred to as having been the "turning point" year in which electronic money services became firmly established in Japan. However, the outstanding value of major chip-based prepaid electronic money has remained low, at 2.6 percent of the total value of coins in circulation, as of the end of March 2010.

The Bank has been continuing to work on its research and analysis of electronic money, paying due attention to how the introduction of these new payment instruments changes the payment and settlement system in Japan, and how these changes may affect the central bank's policies and business operations in the future.

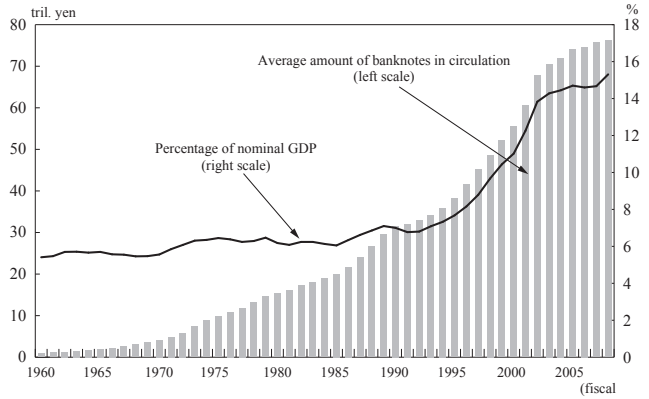
Box 2 Demand for Banknotes in Japan

Demand for banknotes is high in Japan, and the amount of banknotes in circulation as a percentage of nominal GDP has been higher than that in other major advanced countries.[1] Some of the reasons often cited are as follows: (1) cash has long been the main instrument for retail payments among individuals; (2) security is relatively well maintained and people feel that it is safe to carry cash around; (3) cash is easily accessible through the expanded networks of cash dispensers and automated teller machines (ATMs); and (4) public confidence in banknotes is high due to the relatively low number of incidents involving counterfeiting.

The amount of banknotes in circulation as a percentage of nominal GDP had long been stable until the early 1990s, but then began to increase substantially from the late 1990s. The following points are considered to be the reasons for the increase: (1) a decline in deposit interest rates due to monetary easing; (2) the financial turmoil around 1997-1998; and (3) the partial removal of blanket deposit insurance in 2002. These situations encouraged people to keep banknotes on hand by withdrawing them from their deposit accounts. This trend led to the increase in demand for banknotes in Japan, and the amount of banknotes in circulation surged.

Note: 1. The amount of cash (banknotes and coins) in circulation as a percentage of nominal GDP in Japan (12.1 percent in 1998 and 17.0 percent in 2008) was higher than that in the United States (5.9 percent and 6.2 percent) and Canada (4.0 percent and 3.7 percent), and the ratio in Japan is the highest among the Group of Ten (G-10) countries. Source: Bank for International Settlement (BIS), Committee on Payment and Settlement Systems, "Statistics on Payment Systems in the Group of Ten Countries, Figures for 1998," February 2000, and "Statistics on Payment and Settlement Systems in Selected Countries, Figures for 2008," December 2009.

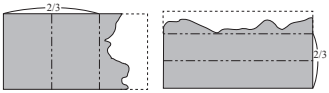
Table for box 2 Amount of Banknotes in Circulation as a Percentage of Nominal GDP



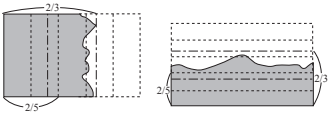
Box 3 Criteria for Exchange of Damaged Banknotes

The Bank of Japan exchanges damaged banknotes for ones fit for circulation based on the criteria below, provided that both sides of the banknotes have been maintained.

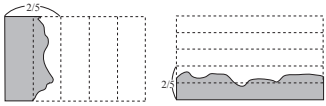
(1) Damaged or burnt banknotes with at least two-thirds of the original area remaining are exchanged at full face value (e.g., 10,000 yen notes will be exchanged for 10,000 yen and 5,000 yen notes for 5,000 yen).



(2) Damaged or burnt banknotes with at least two-fifths, but less than two-thirds, of the original area remaining are exchanged for half of their face value (e.g., 10,000 yen notes are exchanged for 5,000 yen).



(3) Damaged or burnt banknotes with less than two-fifths of the original area remaining have no value.



※ The shaded area indicates the remaining portion of the banknote.