Should the Bank of Japan Issue a Digital Currency?

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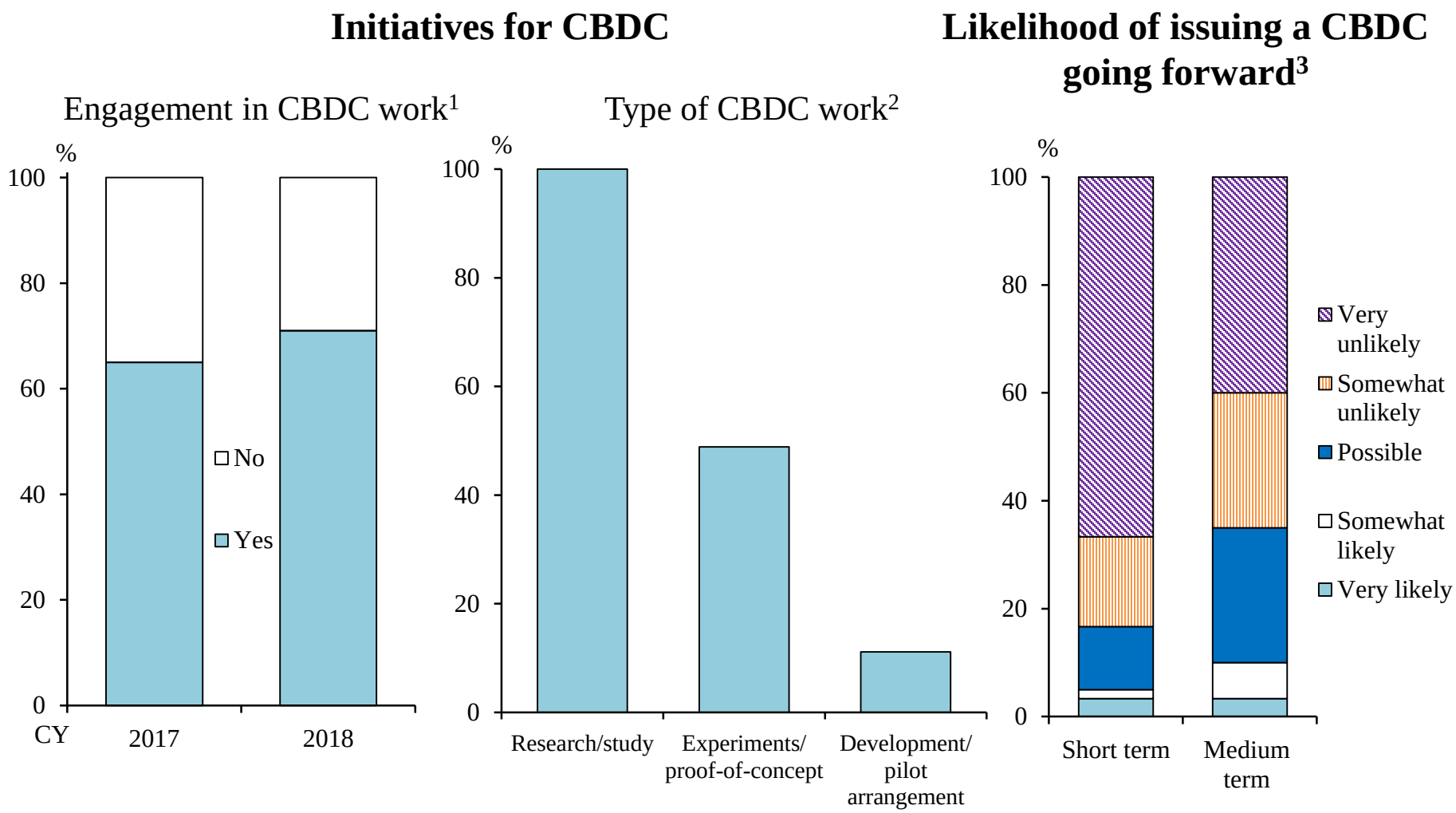
Masayoshi Amamiya

Deputy Governor of the Bank of Japan

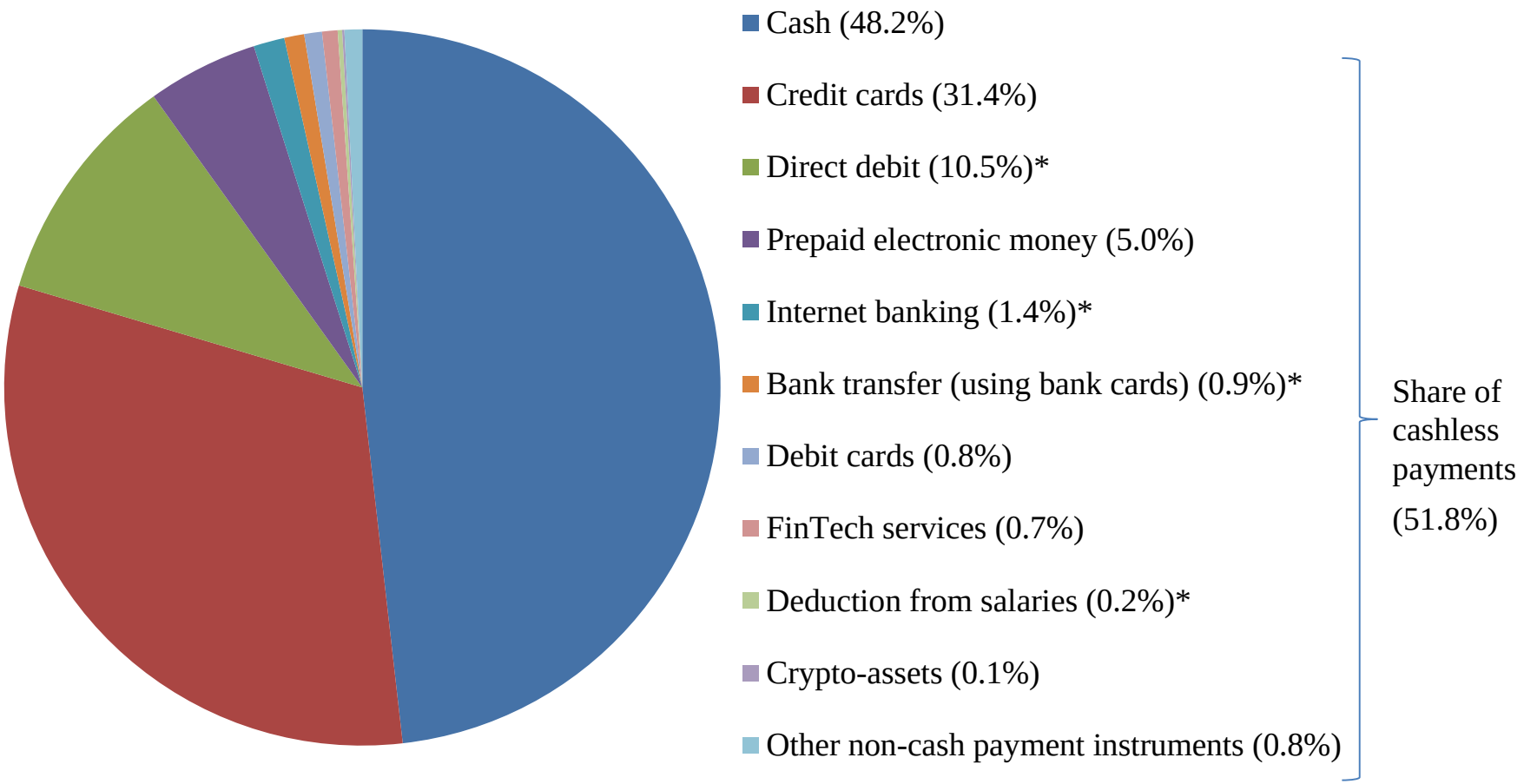
Figure 1 Survey on CBDC



Notes: 1. Share among the 63 respondent central banks. The sum of general purpose CBDCs and wholesale CBDCs.
2. Share among the respondent central banks that answered that they were engaged in CBDC work in 2018 survey (multiple answers were allowed). The sum of general purpose CBDCs and wholesale CBDCs.
3. Share among the 63 respondent central banks. Figures are for general purpose CBDCs. "Short term" denotes 1-3 years and "Medium term" denotes 4-6 years.

Source: Christian Barontini and Henry Holden, "Proceeding with Caution -- A Survey on Central Bank Digital Currency," *BIS Papers*, No.101, January 2019.

Figure 2 Share of Payment Instruments in Private Consumption Expenditure



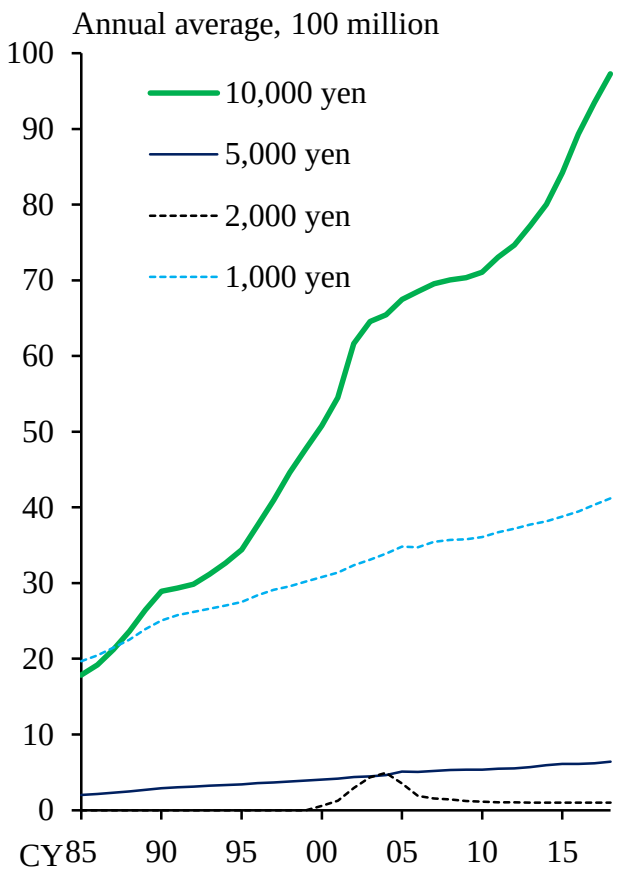
Share of transfers between bank accounts (sum of instruments with asterisks[*]): 13%

Note: In the figure "prepaid electronic money" refers to services such as Suica, PASMO, Rakuten Edy, nanaco, and WAON. "FinTech services" refers to payment services -- other than prepaid electronic money -- that is provided by FinTech firms; the services include iD, QUICPay, Alipay, WeChat Pay, Apple Pay, Google Pay, Rakuten Pay, LINE Pay, and Origami Pay. The survey was conducted online with a nationwide sample of 3,000 individuals who are between the ages of 20 and 69.

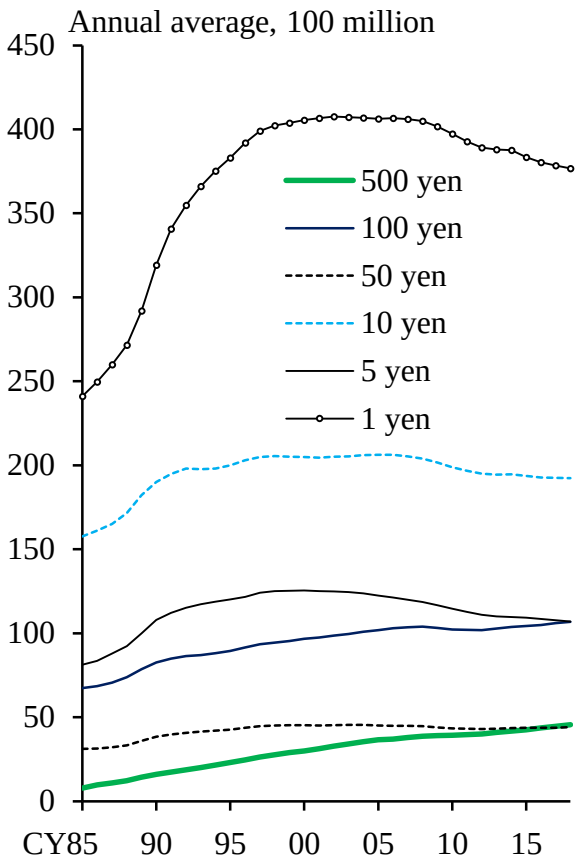
Source: The Nippon Institute for Research Advancement (NIRA), *Survey on Cashless Payments in Japan*, September 2018 (available only in Japanese).

Figure 3 Amount of Cash in Circulation

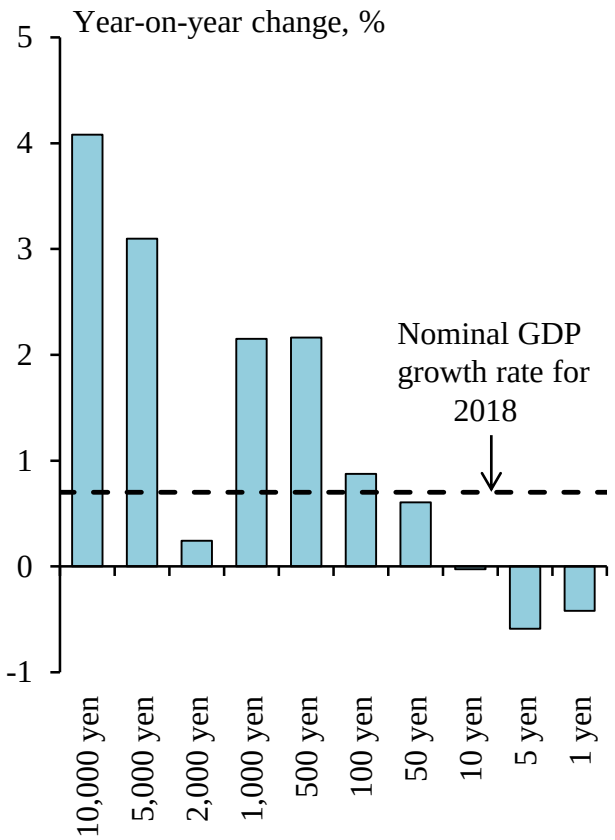
Amount of banknotes in circulation



Amount of coins in circulation



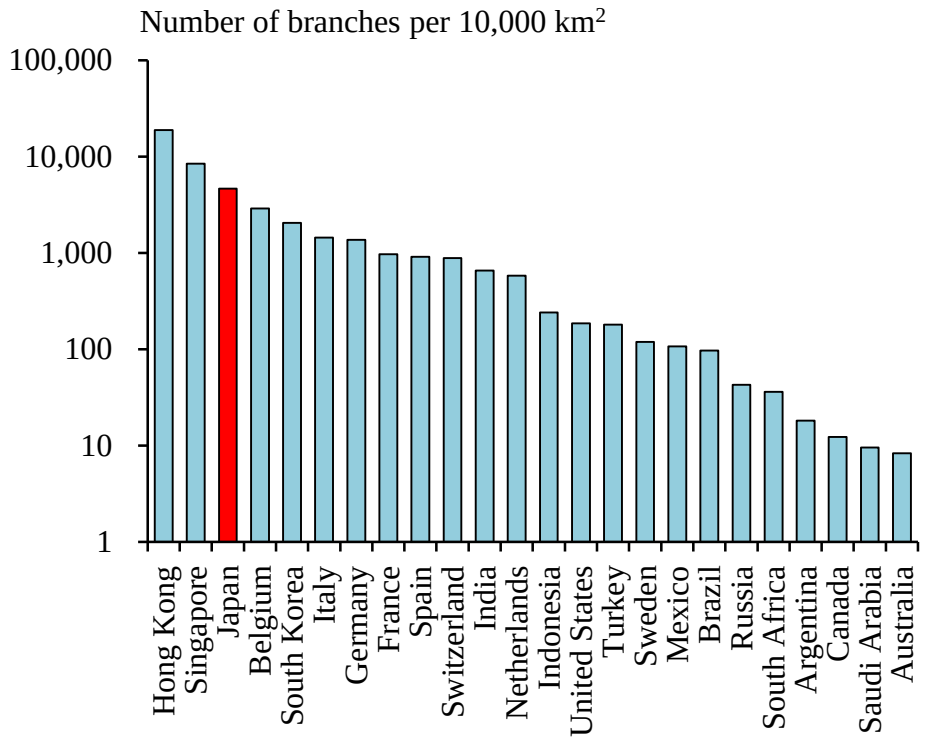
Change in the amount of banknotes/coins in circulation for 2018



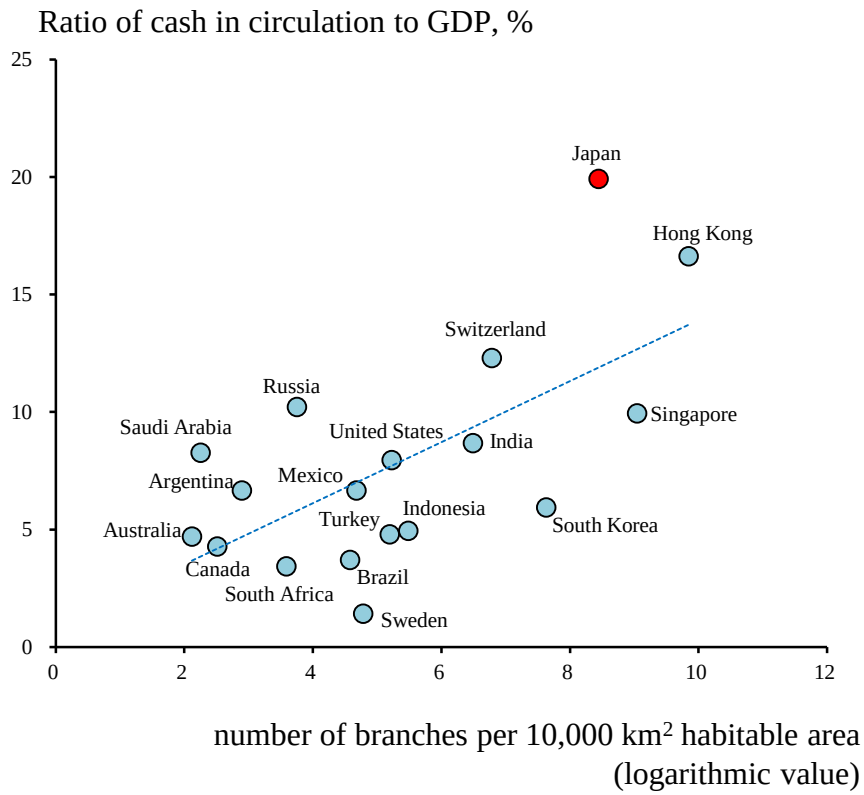
Source: Bank of Japan.

Figure 4 International Comparison of the Number of Financial Institutions' Branches and Cash in Circulation

International comparison of the number of financial institutions' branches per habitable area



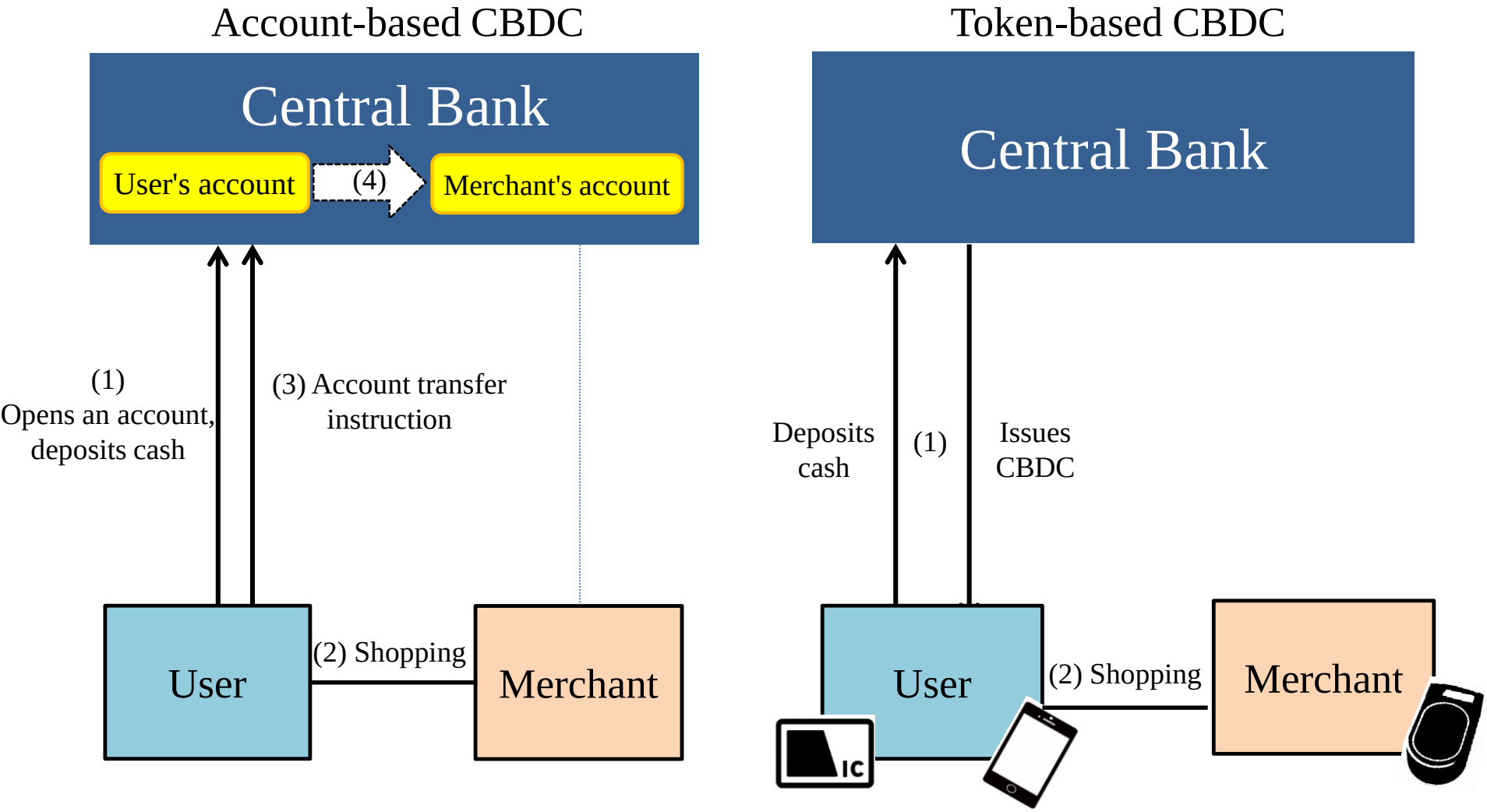
Correlation between the ratio of cash in circulation to GDP and the number of branches per habitable area



Note: The figure shows the latest possible international comparison as of the end of 2016 (the figure for Japan is as of the end of fiscal 2016). The habitable area is calculated by deducting the forest areas from the total area.

Sources: BIS, *Statistics on Payments and Financial Market Infrastructures*; World Bank; IMF, etc.

Figure 5 Issuance Forms of CBDC



(1) A user opens an account and deposits cash at a central bank.
(2) The user shops at a merchant.
(3) The user sends an account transfer instruction to the central bank.
(4) The central bank transfers CBDC to the merchant's account.

(1) A central bank issues CBDC to a user in exchange for cash. CBDC is stored on the user's smartphone application or IC card.
(2) When the user shops at a merchant, CBDC is transferred to the merchant's terminal, etc.

Figure 6 Expected Roles for CBDC

- Effectiveness on monetary policy
  - The level of interest rates applied to CBDC could work as the effective lower bound of interest rates for wide-ranging financial assets?
- Resolving the crowding of cashless payment instruments
  - Will issuing CBDC promote the unification of all cashless payment instruments?
  - The crowding of cashless payment instruments will likely be resolved in the process of competition.
- Maintaining the competitive environment in the retail payments market
  - Will issuing CBDC maintain the pressure on private sector firms to compete with each other?
  - The role of a government policy on competition.
- Fundamental functions of currency and a two-tiered system
  - Central banks should continue to supply payment instruments that are safe, reliable, inexpensive, and available to all in the digital age as well.
  - Under the two-tiered system, overall functions of payment and settlement systems should be examined, while taking into account the interrelations between central bank money and private money.

Figure 7 Improving the Functions of Private Digital Currency

■ Creditworthiness of private digital currency

- It is important to minimize the credit risk of private digital currencies and narrow the credit gap between private money and central bank money for the stability of financial system and payment and settlement systems.

■General acceptability of money

- Ensuring interoperability among payment service providers can increase the general acceptability of private digital currencies.
- Overseas, there are cases where nonbank payment service providers and banks participate in the same payment and settlement platforms.

■ Settlement finality

- Settlement finality is ensured in RTGS platforms that enable retail transfers on a 24/7 basis as with CBDC.
- Overseas, such RTGS platforms have already been launched in some places.