Bank of Japan Review 2020-E-3

Recent Characteristics of FX Markets in Asia —A Comparison of Japan, Singapore, and Hong Kong SAR—

Financial Markets Department
WASHIMI Kazuaki, KADOGAWA Yoichi

July 2020

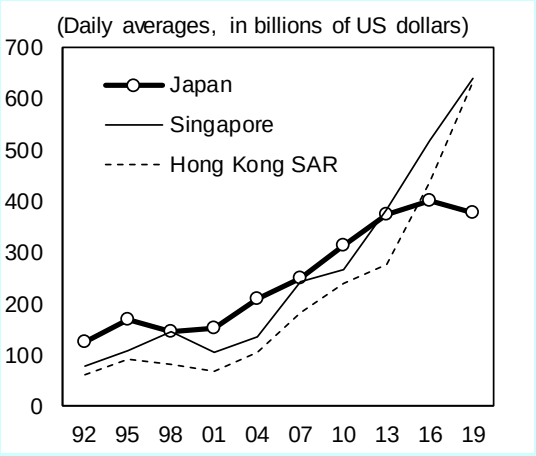
In recent years, turnovers of Foreign Exchange (FX) trading in Singapore and Hong Kong SAR have outweighed those of Japan, and the gap between the two cities and Japan continues to stretch. The two cities consolidate trading of G10 currencies by institutional investors and others by advancing electronic trading. Additionally, a number of treasury departments of overseas financial/non-financial firms are attracted to the two cities, contributing to the increasing trading of Asian currencies in tandem with expanding goods and services trades between China and the ASEAN countries. At this juncture, FX trading related to capital account transactions is relatively small in Asia partly due to capital control measures. However, in the medium to long term, capital account transactions could increase, which would positively affect FX trading. Thinking ahead on post-COVID-19, receiving such capital flows would positively impact on revitalizing the Tokyo FX market, thereby developing Japan's overall financial markets including capital markets.

Introduction

The Bank for International Settlements (BIS), in cooperation with the world's central banks, conducts the *Triennial Central Bank Survey of Foreign Exchange and Over-the-counter Derivatives Markets*[1]. Survey results indicate that, among major Asian financial centers, turnover of Foreign Exchange (FX) markets in Singapore and Hong Kong SAR have recently surpassed Japan, with the gap expanding in 2019 (Chart 1). Studies focusing on FX transactions in the three Asian financial centers are limited[2]; therefore, to understand market structures and revitalize the Tokyo FX market, it would be beneficial to investigate recent developments in these centers.

Based on above understanding, this paper compares the FX markets in Tokyo, Singapore, and Hong Kong SAR. The medium- to long-term outlook for Asian currency transactions will also be discussed. However, without adequate data and with high uncertainty, it is not possible to discuss the implications of COVID-19[3]. Nonetheless, the following discussion is reasonable to some extent for the medium- to long-term perspective, given that structural changes observed in the FX markets will most likely carry forward.

[Chart 1] FX turnover



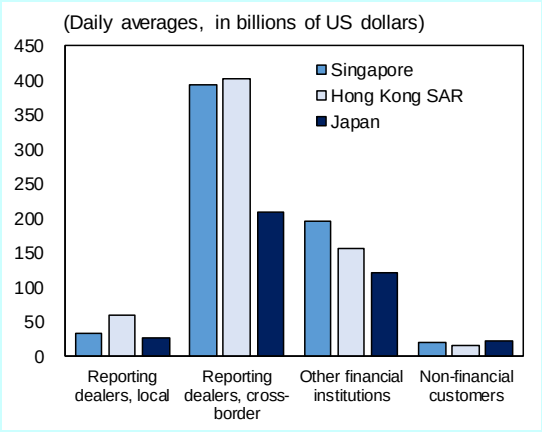
Source: BIS, "Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets."
Note: As of April for each year. The same applies to charts below.

Comparison of the three Asian financial centers

Characteristics of turnover by counterparty

The Triennial Central Bank Survey collects data from major financial institutions around the world (called "reporting dealers"), covering comprehensive topics consistent with international protocol. Japan's turnover with non-financial customers, including corporations, is slightly higher than the other two cities (Chart 2). However, Japan's turnover of financial customers and other financial institutions, which includes institutional investors and hedge funds, is fairly smaller.

[Chart 2] FX turnover by counterparty (2019)

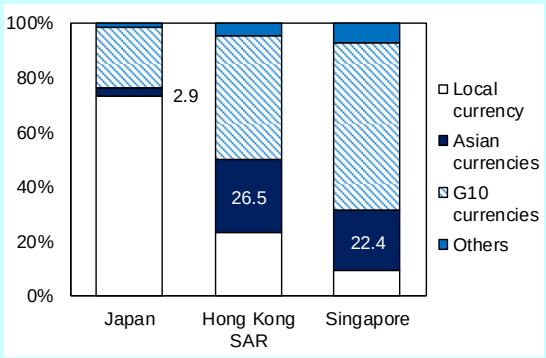


Source: BIS, "Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets."

Characteristics of turnover by currency pair

Currency breakdown of FX turnover in Singapore and Hong Kong SAR indicates that trading shares of Asian currencies and G10 currencies (advanced economy currencies) are high relative to Japan, and both contribute to the overall turnover increase (Chart 3, 4).[4]

[Chart 3] Currency shares of FX turnover against the U.S. dollar (2019)

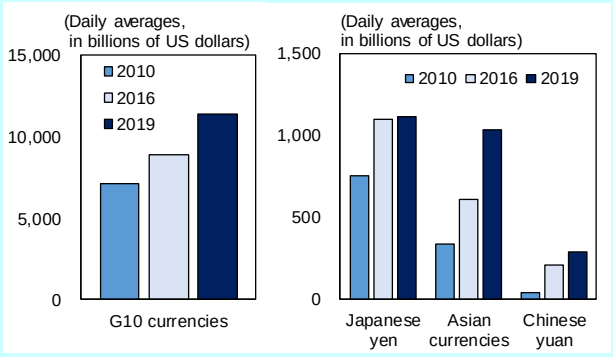


Source: BIS, "Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets."

Note: "Asian currencies" include: Chinese yuan, Hong Kong dollar, Indian rupee, Korean won, Singapore dollar, and New Taiwan dollar. Other Asian currencies are listed as "Others" due to lack of breakdown information. Local currencies are excluded from "Asian currencies" and "G10 currencies."

Regarding Asian currencies, the trading shares of the Chinese yuan and the Hong Kong dollar are high in Hong Kong SAR[5], while a wide variety of Asian currencies, including the ASEAN currencies, are traded in Singapore. Pertaining to the G10 currencies, the ubiquitous use and advancement of electronic trading has reduced transaction costs and increased trading both in inter-dealer market and dealer-to-customer market, where a wide range of customers centered on institutional investors are quite active. In Japan, the USD/JPY pair accounts for more than 70% of total trading volume, while transactions of other currencies are relatively smaller. This may reflect the strong presence of Japanese export and import companies in the Tokyo FX market that can cause biased transactions toward receipt/payment of the U.S. dollar.

[Chart 4] Changes in global FX turnover by currency



Source: BIS, "Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets."

Note: "Asian currencies" include: Chinese yuan, Hong Kong dollar, Indian rupee, Korean won, Singapore dollar, New Taiwan dollar, Thai baht, Indonesian rupiah, Philippine peso, and Malaysian ringgit.

Economic background of increasing FX trading volumes in Asia

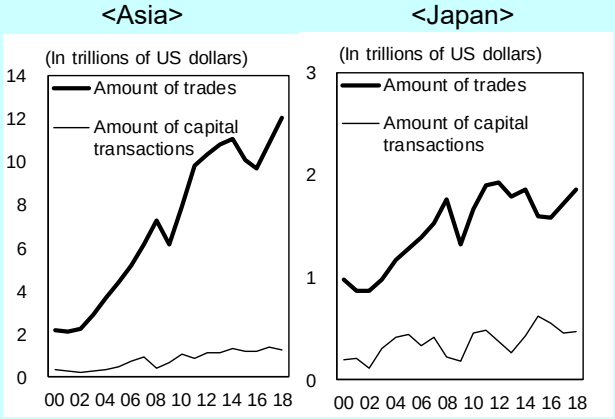
In general, FX transactions are classified based on actual buying and selling (underlying transaction) and on speculation. The former comprises current account and capital account transactions. Asian currency transactions have basically been centered on current account transactions; therefore, FX trading volume has aligned with trade in goods and services, given that capital controls have restricted financial and hedging transactions to some extent[6].

Developments in current account transactions

Trade in goods and services in Asia excluding Japan has expanded more rapidly than in Japan, accelerating current account transactions of Asian currencies (Chart 5). Singapore and Hong Kong SAR have attracted many regional headquarters of multi-national corporations. Additionally, overseas financial institutions that have such regional headquarters as customers have opened branches/subsidiaries in both cities. The regional headquarters are often in charge of treasury functions that pay and receive money between countries/areas in the region, contributing to FX turnover and diversity of traded currencies in the two cities. The U.S. dollar functions as an intermediary currency in settling Asian currencies. For example, for the THB selling and the SGD buying, the transaction is decomposed into two separately executed transactions: the THB selling and the USD buying, and the USD

selling and the SGD buying. The FX trading volume in the two cities benefit from both Asian currencies and the U.S. dollar trading amid expanding Asian current account transactions.

[Chart 5] Amount of trades and capital transactions in Asia



Source: IMF, "Balance of Payments."

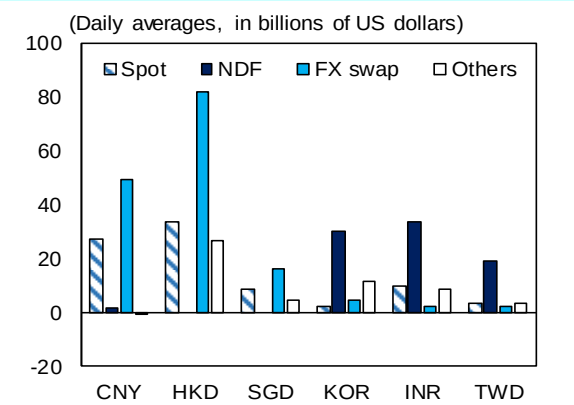
Note: Asia comprises China, Hong Kong SAR, India, South Korea, Singapore, Indonesia, Malaysia, Thailand, and the Philippines. "Amount of capital transactions" is the sum of inflows and outflows of direct investments and portfolio investments.

Meanwhile, with USD/JPY trading by Japanese financial/non-financial corporations, the transaction is usually completed within Japan. In contrast, for the Asian currency/JPY transaction that is decomposed into the Asian currency/USD and the USD/JPY, the former pair is often run off from Tokyo to Singapore and Hong Kong SAR, while the latter is conducted in Japan.

The aforementioned increase in current account transactions also positively influences FX transactions that aim for hedging, rather than just transactions to settle an original contract. *The Triennial Central Bank Survey* indicates that the increase in the trade volume of the Asian currencies is led not only by the spot, but also by swap and the NDF (Non-deliverable Forward) (Chart 6). The NDF settles the difference between the contracted forward rate and the spot rate at the time of settlement with a predetermined currency such as the U.S. dollar[7]. The increased transaction demand for Asian currencies, whose volatilities are higher than G10 currencies, has recently become palpable. This has increased the hedging needs by non-financial corporations that hold positions of Asian currencies as well as by financial institutions with such customers. Furthermore, for a hedging transaction to occur, money flows from investors (or speculators) that match with the hedging transactions will be generated.

In Singapore and Hong Kong SAR, fast-paced and high-frequent electronic trades often cover swap and NDF trading, in addition to spot trading. This seems to

[Chart 6] Changes in FX turnover against the U.S. dollar (2016–2019)



Source: BIS, "Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets."

Note: Abbreviations: CNY: Chinese yuan (including CNH, offshore Chinese yuan); HKD: Hong Kong dollar; SGD: Singapore dollar; KOR: Korean won; INR: Indian rupee; TWD: New Taiwan dollar.

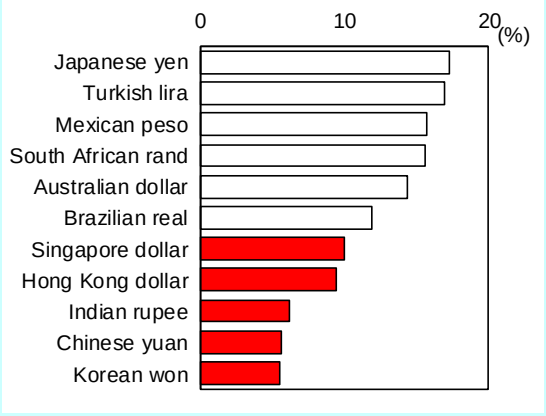
have created a positive feedback loop of Asian currencies that reduces transaction costs, improves liquidity, and increases total trade volume.

In Singapore, leveraging its competitive tax rates and advantages in IT talent[8], the government and the Monetary Authority of Singapore have attached great importance to a variety of measures for the widespread use of electronic trading, including attracting matching and trading engines operated by major financial institutions. Additionally, the two cities have a wide range of customers such as hedge funds and PTFs (proprietary trading firms)[9]. The banks have also upgraded electronic trading systems in response to customer needs.

Developments in capital account transactions

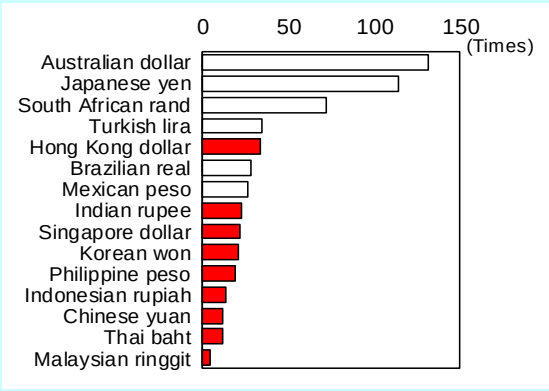
A number of competitive asset management companies targeting the high-income customers are based in Singapore and Hong Kong SAR. From the perspective of the best execution practice, FX transactions pertaining to the asset management business have shifted to electronic trading to enhance transparency. This trend also contributes to increased FX turnover in the two cities. That said, in many Asian counties, market liquidities in capital and fixed income markets are not as high compared with major advanced economies, and capital account transactions are inactive partly because of capital controls introduced in many countries. Actually, the share of Asian currencies traded by institutional investors is relatively low (Chart 7). Moreover, based on an index that divides the turnover of currencies by the sum of the trades and capital transactions (Chart 8),[10] the ratios of Asian currencies are smaller relative to those of G10

[Chart 7] Trading shares with institutional investors (2019)



Source: BIS, "Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets."

[Chart 8] Ratio of FX turnover to trade volume and capital flows by currency (2019)



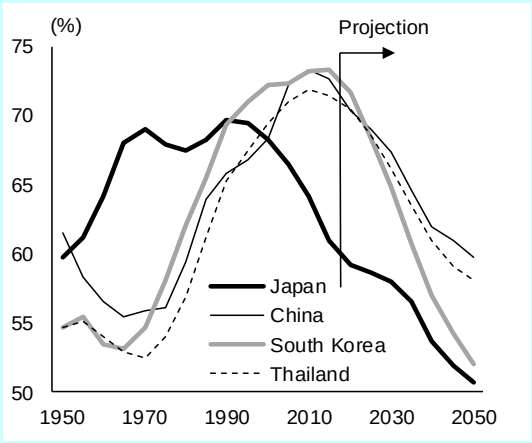
Source: BIS, "Triennial Central Bank Survey of Foreign Exchange and Over-the-counter (OTC) Derivatives Markets." IMF, "Balance of Payments."
Note: The denominator (amount of trade and capital flows) are as of 2018. The numerators (FX turnover) are annualized.

currencies, which in turn suggest that the turnover of Asian currencies is small compared with underlying economic activities. In other words, there seems to be ample room for capital account transactions in Asia to increase going forward, which will accordingly lift up overall Asian currencies turnover.

Medium- to long-term outlook

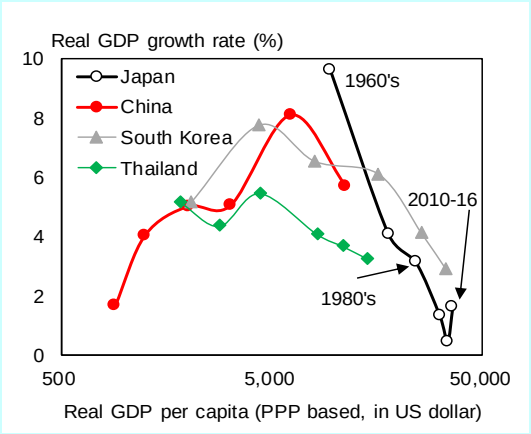
In the medium to long run, globalization and regional economic developments in Asia will increase capital account transactions, and if capital controls are gradually eased, the FX trading volume will expand. In addition, population aging seen in Asian region would affect capital transactions. International organizations forecast that Asia's population aging will accelerate at relatively fast pace over the next decades albeit with some difference across countries[11]. Based on Japan's experience along with other advanced economies, the working age population will decline as the population ages, reducing GDP growth rates and the expected returns of assets denominated in local currencies (Charts 9, 10). Under such circumstances, emerging Asian countries, including China and Thailand, would gradually ease capital controls and could allocate accumulated domestic assets to external (including Asia) investments (Chart 11)[12].

[Chart 9] Shares of the working age population to the total population (age dependency ratios) in Asia



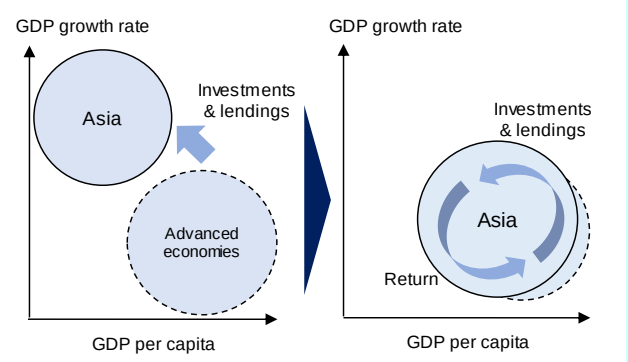
Source: United Nations

[Chart 10] Income growth in Asia



Source: Penn World Table
Note: The dots denote the average of each decade. The horizontal axis is in logarithm scale.

[Chart 11] Outlook for Asian financial developments



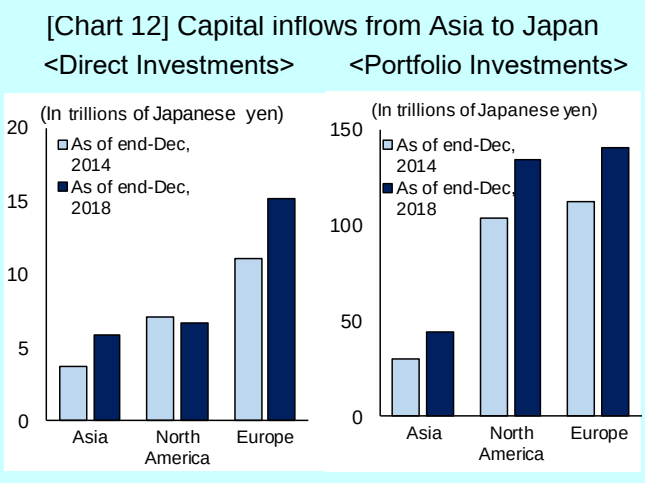
Note: The chart is made referring Yamaoka, H. (2017), "Growth and financial infrastructure of Asia and Japan (available only in Japanese)," Presented at the 36th meeting of the Foreign Exchange Subcommittee of Council on Customs, Tariff, Foreign Exchange and Other Transactions.

The above-mentioned demographic change could affect the saving–investment balance and capital flow through changes in the expected returns of local currency denominated assets. However, some caveats should be mentioned. For instance, regarding investment behavior, domestic investment opportunities and actual investment spending will differ depending on the progress of innovations[13]. That is, domestic investments would relatively accelerate if corporations and financial institutions could succeed with innovations and develop potential demand. Furthermore, the private sector could revisit global operations/investments strategies when business environments and risk awareness change, affected by such factors as COVID-19. If so, the above-mentioned trends in current account/capital account transactions in Asia could change[14].

Implications for the Tokyo FX market

External investment flowing from Asia excluding Japan into Japan is currently small compared with those from other areas, but both direct investments and portfolio investments have picked up in recent years (Chart 12). Receiving such inflows inject further dynamism into Japan's financial markets in the medium to long term, which in turn will increase Tokyo's FX turnover. As discussed, a FX transaction of Asian currencies is generally decomposed into two trades intermediated by the U.S. dollar and then traded in the inter-dealer market. Therefore, given the ample liquidity of the USD/JPY in the Tokyo FX market, it is expected that at least one of the two trades (the USD/JPY pair) would increase in Tokyo should Japan receive flows from Asian countries. Additionally, even taking in a small amount of the Asian currency/USD pair would promote the diversity of currencies traded in the Tokyo FX market.

[Chart 12] Capital inflows from Asia to Japan



Source: Ministry of Finance, Japan

The FX transaction cost is another important point. Taking in not only external investment flows from Japan into Asia (the Asian currency buying and the JPY selling) but also those from Asia into Japan (the Asian currency selling and the JPY buying) would enable FX dealers in Tokyo to efficiently match customers' selling and buying orders (called "internalization"). The internalization is usually conducted on electronic platforms, which can reduce transaction costs and facilitate setting competitive prices for customers with tight bid–ask spreads. For the G10 and non-Asian emerging market currencies traded in the Tokyo FX market, both buying and selling orders from customers including non-financial corporations and retail margin traders are observed and hence the internalization is active, albeit with divergence across currencies[15]. Attracting emerging Asian currencies would further develop the Tokyo FX market.

Conclusion

This paper highlighted recent characteristics of Asian FX centers (Singapore, Hong Kong SAR and Japan), and reviewed the current state of and outlook for Asian currency transactions. *The BIS Triennial Central Bank Survey* indicates that the turnover of G10 currencies has steadily grown, while that of Asian currencies has increased more rapidly than G10 currencies. FX markets of Singapore and Hong Kong SAR, where competitive advantage in Asian currency trading exists, have benefited from increased turnover of Asian currencies. In the medium- to long-term perspectives, the transaction volume of Asian currencies is expected to dramatically increase in case the increase in capital account transactions and the easing of capital controls come off at gradual pace, in tandem with the population aging.

From the viewpoint of gaining impetus on the Tokyo financial market, receiving such capital flow from Asia is essential and is expected to contribute to increase the FX turnover as well. FX transactions by nature are strongly affected by cross-border economic and financial activities. Therefore, in the short run, a close follow-up on the impacts of COVID-19 and geopolitical developments as well as if these factors would beget structural changes in trading practices. Additionally, in the long run, providing attractive financial products would be more important in order to receive capital flows from Asia. Furthermore, accepting a high-skilled labor force with deep knowledge of Asian trading practices as well as local circumstances and encouraging human resource

investment into English communication and IT skills by Japanese financial/non-financial firms would be necessary. Currently, in Japan, the number of foreign high-skilled labor force has increased, while improvements in the working and living environment remains an issue[16]. Moreover, in the medium run, revitalizing the Tokyo market through improvements in market infrastructures including above-mentioned management in human resources and transaction practices as well as trading platforms.

[1] See BIS Quarterly Review (December 2019) for key takeaways of the FX turnover survey by the BIS. Turnover of emerging market currencies comports with the widespread use of electronic trading platforms and the expansion of asset investment in emerging markets. For survey details, see: https://www.bis.org/statistics/rpfx19.htm

[2] For example, Oh, Y., Takada, Y., and Sugayama, Y., "Recent structural changes in FX markets" (*Bank of Japan Review* 2014-J-5, 2014, available only in Japanese) compares Japan's FX markets with other major FX markets. The authors argue that the FX turnover increase in Tokyo is slower relative to London and New York, despite increasing USD/JPY transaction volume, partly due to the muted presence of hedge funds in Tokyo.

[3] For example, other than *the Triennial Central Bank Survey*, local FX market committees in Tokyo, London, New York, Singapore, Hong Kong SAR, Sydney, and Canada publish survey results of FX turnovers in their markets biannually, i.e., in April and October. Looking ahead, following-up possible changes in trend of FX turnovers by using these survey results seems to be useful.

[4] The survey captures FX turnover in April 2019 when uncertainty pertaining to the U.S. monetary policy was high, which increased hedging needs, thereby pushed up the total turnover of Asian currencies and the U.S. dollar. Meanwhile, the volatility of JPY in the same period was low and stable compared with the past, and the turnover might be contained.

[5] Hong Kong SAR functions as a gateway to trade and investment with China and is well-known as a leading trading center of CNH (offshore Chinese yuan). See HKMA Quarterly Bulletin, December 2019. In addition, in Hong Kong SAR, geopolitical risks have emerged for some time in recent years, as represented by the 2014 Umbrella Movement. Nevertheless, Hong Kong SAR's gateway function and its role as an international financial center remain broadly unchanged. For example, the number of and the value of IPOs in Hong Kong SAR were both ranked number one in 2019 backed by listings by Chinese firms, according to Ernst & Young "Global IPO trends: Q4 2019."

[6] See Tsuyuguchi, Y. and Wooldridge, P., "The evolution of trading activity in Asian Foreign Exchange Markets" (*Bank of Japan Working Paper* Series 08-E-5, 2008). Even speculative transactions, the total trading volume is relatively limited compared with major currencies because of capital controls.

[7] A delivery of a notional amount denominated in the original currency is not necessary in the NDF transaction, which can provide a hedging opportunity with a currency that is under strong delivery controls in offshore markets and traded where the forward market is less developed. In addition, the NDF transaction settles only the difference instead of the notional amount, thereby saving the total amount of settlement compared with the forward transaction and reducing settlement risks.

[8] For example, the IMD World Talent Ranking 2019 ranked Hong Kong SAR and Singapore 18th and 20th, respectively, in appealing to professional talents, while Japan is ranked 26th. That said, in Japan, measures to boost the acceptance of a foreign skilled labor force have been implemented recently including the points-based preferential immigration treatment for highly skilled foreign professionals.

[9] In general, PTF is an investment entity that utilizes high frequency trading (HFT) and engages only in propriety trading.

[10] In this paper, the amount of capital flow is calculated as the sum of inflows and outflows of direct investments and portfolio investments.

[11] For example, see ESCAP, "Aging in Asia and the Pacific: Overview," 2017.

[12] For example, Erik Lueth "Capital Flows and Demographics −An Asian Perspective" (*IMF Policy Discussion Paper* WP/08/8, 2008) argues that Asian population aging would result in increased investment in Asian region under perfect capital mobility when labor forces change according to the 2007 UN population projections.

[13] See Kuroda, H., "Demographic Changes and Macroeconomic Challenges" (Keynote Speech at the G20 Symposium, Tokyo, 2019).

[14] The COVID-19 pandemic has surged financial market volatility including the FX market and triggered operational changes of trades due partly to working from home. So far, the market function is maintained as a whole thanks to business continuity plans, swiftly implemented by market participants. The demographic change in the future assumed in this section seems largely materialize albeit with uncertainties, given that the forecast error of demography is small in general relative to other economic variables.

[15] See the BIS Quarterly Review (December 2016) for global trends in the internationalization ratio. The ratio considerably differs depending on currency pairs and products, i.e., the ratio of spot trading is higher than futures and swap trading. Having said that, the results should be interpreted with some latitude as the internalization ratio also differs across financial institutions.

[16] For example, see the policy recommendations by the Council for Promotion of Foreign Direct Investment in Japan under the Cabinet Office.

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