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Retail Foreign Exchange Margin Trading in Japan: An Analysis from the Developments in 2022

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Foreign exchange (FX) margin trading by Japanese retail investors hit a record high in 2022, unprecedentedly exceeding 10 quadrillion yen. While outlining the mechanism of retail FX margin trading, this paper summarizes factors behind the recent surge in retail FX margin trading and changes in investment patterns of Japanese retail investors. In addition, an analysis is conducted on how retail FX margin trading impacts the global and Japan's FX markets. Continued monitoring of investment patterns of retail FX margin traders is integral to better understanding the developments in FX markets.

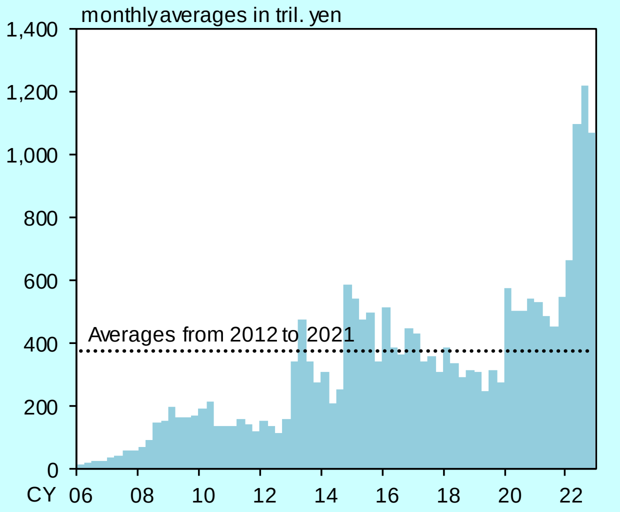
Introduction

In 2022, Japan's FX market experienced a rapid and significant depreciation of the yen against the U.S. dollar. In this situation, Japan's FX turnover, mainly of spot U.S. dollar/yen transactions, increased markedly.[1] Under these circumstances, FX margin trading by Japanese retail investors surged as well.

Retail FX margin trading is defined as FX transactions in which retail investors deposit a portion of their trading amounts (margin deposit) in FX retail aggregators (so called "FX firms") as collateral.[2] The investors are allowed to roll over (postpone) the settlement date at their own discretion, and only profits or losses of the transactions are cash settled. These characteristics of FX margin trading allow investors to gain an exposure to the FX market which is larger than their investment amount (leverage effects). This clearly contrasts with foreign currency deposits, where the amount of capital paid into an account becomes the deposit amount.

In Japan, retail FX margin trading started with the revision of the Foreign Exchange and Foreign Trade Control Act in 1998 and was brought under the Financial Futures Trading Law in 2005. Thereafter, the market expanded with a broadening of the base of investors, as the spread of smartphones improved convenience for trading and the bid-ask spread narrowed because of growing competition among FX firms. The trading volume maintained an increasing trend despite some fluctuations, even with tighter regulatory rules, including the introduction of margin requirements in 2010. In 2022, it hit a record high, unprecedentedly exceeding 1 quadrillion yen on a monthly basis and 10 quadrillion yen on a calendar year basis, while the FX market saw large fluctuations in exchange rates (Chart 1).[3]

[Chart 1] Trading Volume



Note: Latest data as of the October-December quarter of 2022.
Source: The Financial Futures Association of Japan.

The flows of retail FX margin trading have impacts on the formation of spot transaction prices in the interbank market. As such, the Bank of Japan continuously monitors the trends in retail FX margin trading to better understand the FX market. It has also released reports to explain market trends to the public.[4]

This paper aims to summarize the recent trends in retail FX margin trading. To this end, it highlights factors behind the recent surge in retail FX margin trading and changes in investment patterns of

Japanese retail investors, while explaining the mechanism of such trading. It also touches upon considerations for monitoring the impacts of retail FX margin trading on FX rates, while examining its impacts on global and Japan's FX markets.

Changes in the Retail FX Margin Trading Market in 2022

In retail FX margin trading, investors gain profits from swap points -- the interest rate differential of a currency pair -- if they hold long positions in a high-yield currency and short positions in a low-yield currency. Conversely, they take losses from swap points if they hold the opposite positions.

[Chart 2] Trends in FX Margin Trading

	2012	2022	Change
Trading volume (tril. yen)	1,689	12,173	+7.2 times
o/w USD/JPY	26 %	75 %	+49 %pts
Gross positions (tril. yen)	3.83	7.93	+2.1 times
o/w USD/JPY	32 %	53 %	+21 %pts
o/w AUD/JPY	23 %	7 %	▲15 %pts
Number of accounts (ten thousands)	450	1054	+2.3 times
o/w actually traded (ten thousands)	58	84	+1.4 times
(Spot trading volume in Japan (bil. USD))	95.2	172.6	+1.8 times

Notes: 1. "Trading volume", "Gross positions" and "Number of accounts" are data of OTC transactions.
2. "Trading volume" represents the total amount traded during each year. "Gross positions" is quarterly average. "Number of accounts" is as at end-December.
3. "Spot trading volume in Japan" is daily average in April and October.

Sources: The Financial Futures Association of Japan; Tokyo Foreign Exchange Market Committee.

As Japanese retail investors significantly increased their trading volume since the start of retail FX margin trading, they became widely known as "Mrs. Watanabe" internationally. [5] They were often identified as carry traders who earn returns by taking short positions in yen, which is a low-yield currency, and long positions in high-yield currencies, such as Australian dollars and New Zealand dollars. The following section examines changes in their investment patterns by comparing market trends in 2022 with those in 2012, the year after leverage -- the ratio of the trading amount to the margin deposit -- was capped at 25 times in August 2011 (Chart 2).

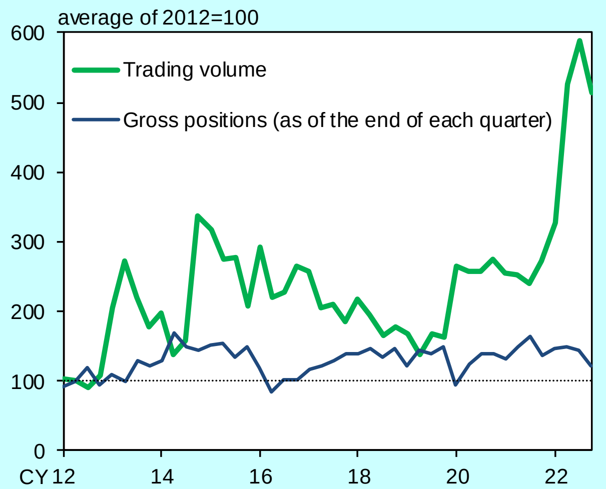
Active short-term trading

One feature of retail FX margin trading in Japan during 2022 was that short-term trades, particularly short-term intraday trades, increased relative to carry trades.

The monthly average of open positions on which swap points are accrued or charged -- in other words, FX positions that have been created but have yet to be closed out with the opposite positions -- doubled compared with ten years earlier. In comparison, the trading volume grew more than seven times, at a distinctly faster pace than the amount of open positions. This suggests that, as a whole, the main aim of Japanese retail FX margin traders shifted from obtaining returns from swap points on opening positions to earning FX gains from short-term rate changes. Furthermore, the rise in the trading volume was attributable to heightened activities by existing investors rather than the broadening of the base of investors, given that the pace of the increase in the trading volume was greater than that in the number of customer accounts.

Accordingly, looking at the data for opening positions and the trading volume per active customer's account, it is evident that the trading volume surged in 2022 (Chart 3). When compared with opening positions per active customer's account, this reveals that active short-term intraday trades were the main driver of the increase in the trading volume.

[Chart 3] Trading Volume and Gross Positions per Active Account



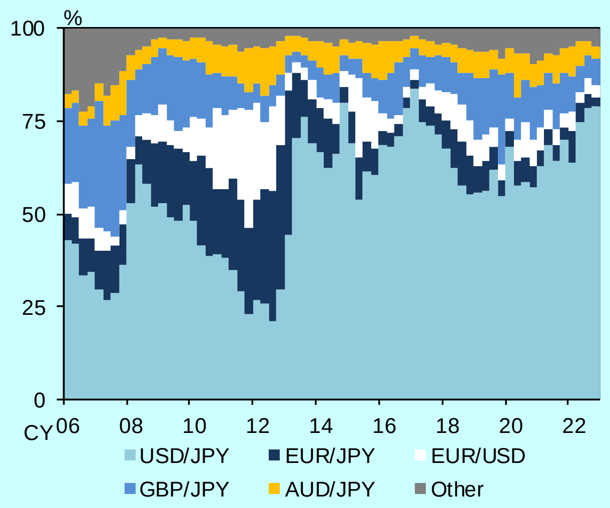
Note: Latest data as of the October-December quarter of 2022.
Source: The Financial Futures Association of Japan.

In this regard, there are also types of trades that are not recorded in the statistics on open positions, such as scalping and day trading. Scalpers make extremely short-term transactions at intervals of seconds or minutes. Day traders hold positions for a longer period of time than scalpers but do not take overnight positions. These trading styles have been on an expanding trend, partly due to the spread of automatic trading tools and the dissemination of information by trading influencers, mainly through social networking sites. Even so, many point out the explosive increase of such trades during 2022. In other words, it can be said that Japanese retail investors increased their presence as "minute traders" in 2022, traders who conduct short-term intraday trades that take advantage of small price movements, although they had been often described as "carry traders" in the past.

Active U.S. dollar/yen trading

Another key feature of retail FX margin trading in 2022 was active U.S. dollar/yen trading. Currency pairs favored by retail FX margin traders greatly change over time. For instance, the U.S. dollar/yen pair accounted for only around 25 percent of the overall trading volume in 2012. However, the pair was actively traded in 2022, with its share growing to around 75 percent (Charts 2 and 4). The change in the shares of currency pairs in the retail FX margin trading market contrasts with the stable share of U.S. dollar/yen trading in the Tokyo FX market, which generally stays at over 50 percent.

[Chart 4] Trading Share by Currency Pair



Note: Latest data as of the October-December quarter of 2022.
Source: The Financial Futures Association of Japan.

Factors behind the Surge in the Trading Volume and Changes in Investment Patterns

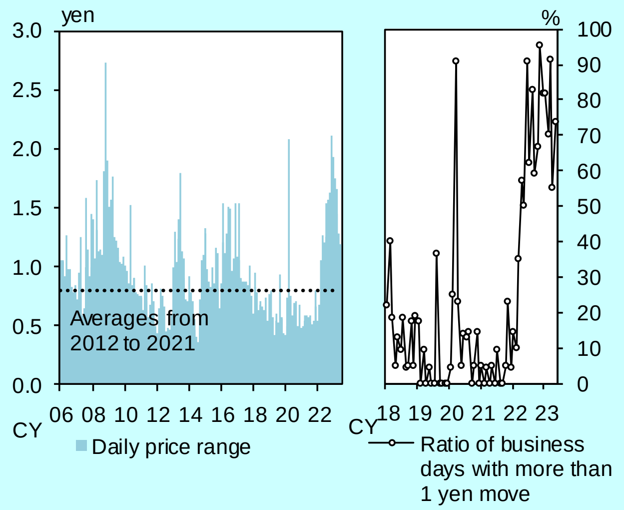
As mentioned, the surge in retail FX margin trading in Japan in 2022 was brought about by an increase in short-term U.S. dollar/yen trading, which is attributable to (1) high volatility in the market and (2) relatively low transaction costs.

Volatility remaining at a high level

In 2022, volatilities soared in global financial markets, including FX markets. In this situation, volatility of the U.S. dollar/yen exchange rate remained at a high level throughout the year.

The daily price range -- the difference between the highest and the lowest prices within a day -- of the U.S. dollar/yen exchange rate markedly widened from March 2022, a month which saw a significant depreciation of the yen against the U.S. dollar (Chart 5). In addition, the ratio of business days on which the U.S. dollar/yen exchange rate went through a fluctuation of over 1 yen to all business days in the month remained remarkably high throughout the year. These findings indicate that, as foreign exchange rates fluctuated in a volatile manner, retail investors actively engaged in transactions to earn FX gains, resulting in an increase in their short-term trades to take profits or cut losses.

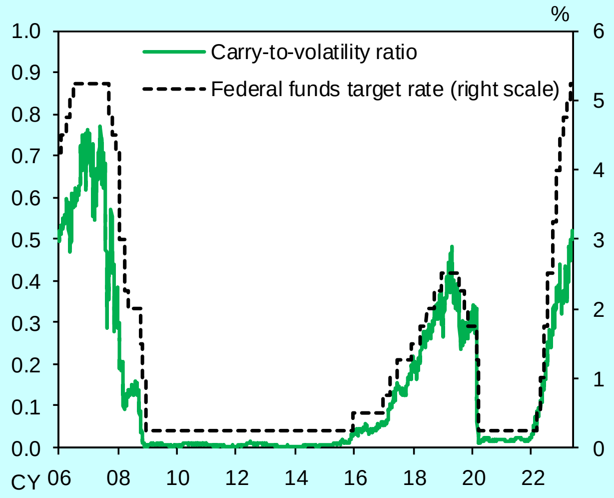
[Chart 5] Daily Price Range of USD/JPY



Notes: 1. Latest data as of end-May 2023.
2. "Daily price range" indicates the difference between the highest and the lowest prices within each business day.
3: "Ratio of business days with more than 1 yen move" indicates the ratio of business days on which the USD/JPY exchange rate went through a fluctuation of over 1 yen to all business days in the month.
Source: Bloomberg.

In terms of investment environments, central banks in major economies were moving to raise policy interest rates. In this situation, swap points accrued on short-yen positions shot up. Even then, the volume of carry trades was sluggish, affected by the high volatility in the market. Indeed, the rise in the carry-to-volatility ratio (i.e., the ratio of returns from holding a long-U.S. dollar/short-yen position overnight to the volatility in the two currencies) was moderate compared with the pace of policy rate hikes in the United States during the same period. This contrasted with the ratio's developments around the mid-2000s. In short, the rise in volatility made carry trades not as attractive as before (Chart 6).

[Chart 6] Carry-to-Volatility Ratio



Notes: 1. Latest data as of end-May 2023.
2. "Carry-to-volatility ratio" indicates 3-month OIS interest-rate spread to USD/JPY 3-month implied volatility.
3. "Federal funds target rate" indicates the upper limit of the target range for the federal funds rate.
Sources: Bloomberg; FRB.

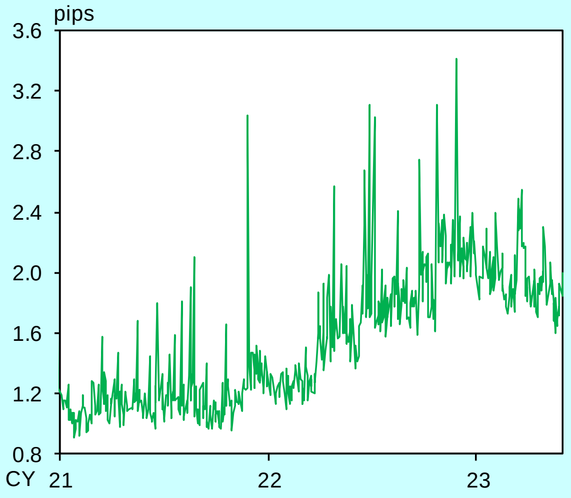
Relatively low transaction costs

Another factor that brought about an increase in retail FX margin trading in 2022 was relatively low transaction costs. Most FX firms in Japan do not charge any fees to their customers. Thus, the bid-ask spread -- the difference between the selling and buying prices a FX firm offers to its customers -- is virtually the only transaction cost. In this situation, the narrower the bid-ask spread is, the more likely investors are to earn FX gains.

The bid-ask spread varies depending on the FX firm, the currency pair, and the trading volume. In addition, the rate usually fluctuates in line with market developments. Nevertheless, competitive major FX firms in Japan have offered the spread for U.S. dollar/yen trading at a lower rate than that for other currency pairs and fixed the rate in principle. Specifically, they have set the spread for U.S. dollar/yen trading at 0.002 yen for a prolonged period of time. At this rate, the cost of a transaction worth 10 thousand U.S. dollars can be calculated by multiplying 0.002 yen by 10 thousand. Hence, the cost is 20 yen.

When the volatility in FX rates increases, the bid-ask spreads usually widen. Indeed, the bid-ask spread in the interbank market widened to around 0.02 yen in 2022, as market makers' risk tolerance declined due to an increase in volatility in the market. This spread is about 10 times the average spread FX firms offer to retail investors described above (Chart 7).

[Chart 7] Bid-Ask Spreads



Note: Latest data as of end-May 2023.
Sources: EBS; Bloomberg.

Moreover, the yen's depreciation against the U.S. dollar made the spread FX firms offer to their customers even narrower in yen terms.[6] That is to say, FX firms did not pass through the costs incurred from the widening of the spread in FX markets and the yen's depreciation to their customers. Major FX firms have seldom adjusted the spread for U.S. dollar/yen trading over a long term in a flexible manner. In this sense, FX firms were facing a situation they had never experienced before.

Impacts of Retail FX Margin Trading on the FX Market

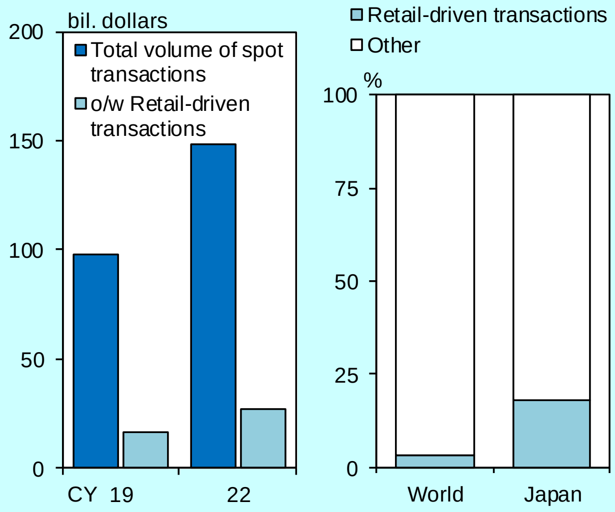
Retail FX margin trading's large share in Japan's FX market

In retail FX margin trading, it is common for FX firms to internally offset buy and sell orders from their customers (internalization of trades). They then cover their positions mainly through trading with banks to hedge against FX fluctuations (cover deals). In turn, the banks cover their positions arising from their trading with FX firms by conducting cover deals in the interbank market. Through these processes, retail FX margin trading has impacts on the developments in the FX market, including the interbank market.

The following examines the presence of FX margin trading by Japanese retail investors in the global FX markets, using the results of the Triennial Central Bank Survey on FX turnover conducted by the Bank for International Settlements (the BIS Triennial Survey), and summarizes considerations for monitoring retail FX margin trading.

The BIS Triennial Survey is conducted every three years to capture FX turnover data in April. According to the results of the 2022 BIS Triennial Survey, spot transactions in Japan's FX market significantly increased compared to the previous survey conducted in 2019. Further, among such transactions, retail-driven transactions registered a certain increase (Chart 8). While reporting financial institutions participating in the survey carry out spot transactions with various counterparties, retail-driven transactions accounted for around 20 percent of all transactions in Japan's FX market, whereas the trading's global share was less than only 5 percent.

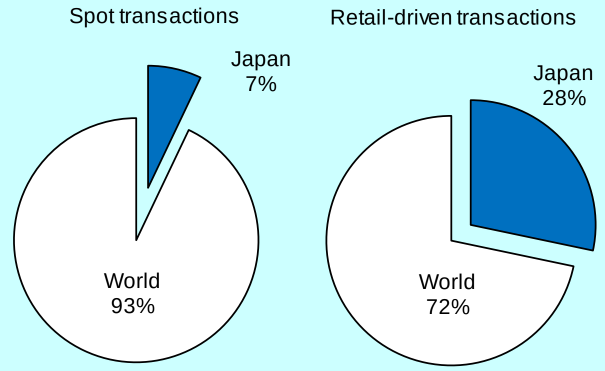
[Chart 8] Trading Volume of Spot and Retail-driven Transactions



Notes: 1. Daily averages in April.
2. The left chart shows FX turnover in Japan. It is adjusted for local double counting of transactions between two reporting dealers in Japan ("net-gross" basis).
3. The right chart shows the spot transactions in 2022. "World" excludes Japan, calculated using turnover adjusted for both local and cross-border double counting of transactions between two reporting dealers ("net-net" basis).
Source: BIS.

In addition, Japan's share in spot transactions in the global FX market was less than 10 percent, whereas its share in retail-driven transactions was around 30 percent. These findings confirm the significant presence of Japanese retail investors in the global retail FX margin trading market (Chart 9).

[Chart 9] Share of Japan in Global FX Turnover



Note: Share of Japan is calculated using turnover on a "net-gross" basis. Share of world is calculated using turnover on a "net-net" basis. "World" excludes Japan.
Source: BIS.

Consideration of the impacts on market liquidity

The FX market can be broadly categorized into (1) the dealer-to-customer market in which dealers (banks) trade with customers and (2) the inter-dealer (interbank) market in which dealers trade with each other. Various entities, including business corporates, hedge funds, institutional investors and FX firms, participate in the dealer-to-customer market for different transaction needs. In the interbank market, banks cover their positions arising from transactions with these entities.

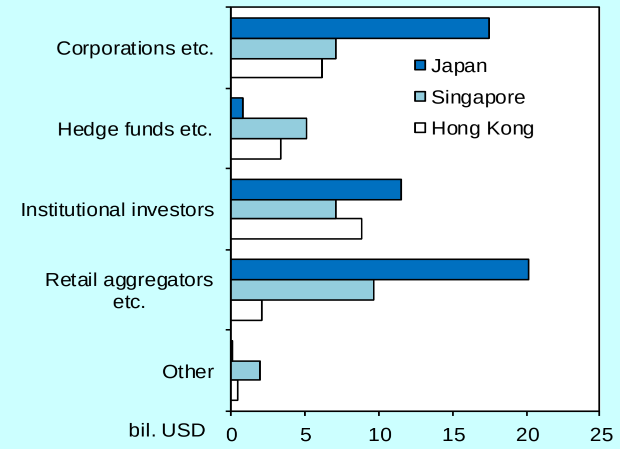
In general, the diversity of market participants balances out transaction directions, thereby preventing a too much widening of the bid-ask spreads banks and other market makers offer, and maintaining and improving market liquidity. As such, the start and expansion of retail FX margin trading basically contributes to improving the liquidity in the interbank market.

That being said, the impact of retail FX margin trading on market liquidity should be examined taking also into account the imbalances in transaction demands and the amount of activities, both of which fluctuate depending on market movements.

The amount of activities among market participants changes depending on transaction hours and jurisdictions. Looking at spot transactions during Asian hours by examining the difference in the turnovers by counterparty in three major Asian markets, namely those of Japan, Hong Kong, and Singapore, the volume and share of trading with hedge funds are considerable in the Singapore and Hong

Kong markets. In comparison, trading with FX firms is particularly sizable in Japan's market (Chart 10). This points to a need for monitoring the trends in FX firms, which is integral to a better understanding of Japan's FX market.

[Chart 10] FX Turnover by Jurisdiction and Counterparty



Notes: 1. "Net-gross" basis.
2. Daily averages in April 2022.
Source: BIS.

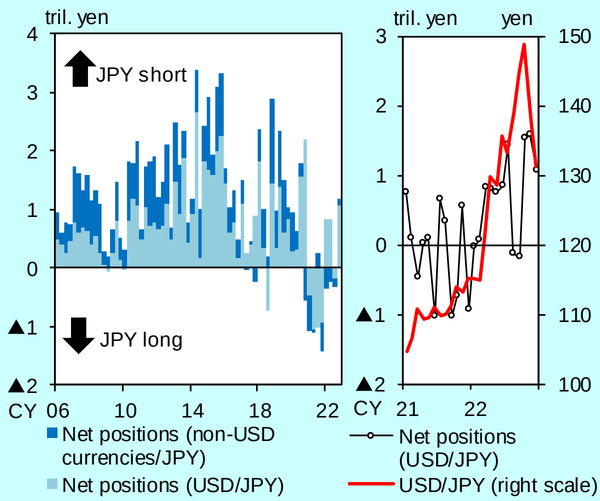
Consideration of the impacts on FX rates

Japanese retail investors have been widely known as contrarians who take the opposite positions to market movements. Contrarians are generally said to contain FX rate fluctuations to a certain degree, including fluctuations arising from the buying and selling of various other market participants. Therefore, it is important to understand whether there are any changes in their investment patterns.

Looking at open positions in retail FX margin trading from a somewhat long perspective, Japanese retail investors took short-U.S. dollar/long-yen positions in 2021 on net. However, they clearly moved to the opposite short-yen/long-U.S. dollar positions in 2022 (Chart 11). Taking into account the developments in the U.S. dollar/yen exchange rate, there is a possibility that Japanese retail investors amplified the depreciation of the yen against the U.S. dollar by cutting losses from existing positions and creating new trend-following positions.

That being said, it should be noted that a surge in retail FX margin trading accompanied by an increase in short-term U.S. dollar/yen trading does not always bring about an imbalance in transaction demands. Put another way, FX firms do not conduct cover deals to hedge against FX risks arising from customer orders if offsetting transactions from the same customer are carried out in a very short period. Given this, there is a possibility that trading closed out without cover deals is increasing. In addition, FX firms do not carry out cover deals if they can adjust their positions by internally offsetting buy and sell orders. It is essential to pay attention to the business models of FX firms and their stances toward cover deals when analyzing the developments in FX rates (see BOX).

[Chart 11] Net Positions for Japanese Margin Traders



Notes: 1. Latest data as of end-December 2022. The left chart is on a quarterly basis and the right chart is on a monthly basis.
2: "non-USD currencies" in the left chart includes EUR, GBP, AUD, CHF and ZAR.
Sources: The Financial Futures Association of Japan; Bloomberg.

Concluding Remarks

This paper summarized the trends in retail FX margin trading mainly in 2022, the year which experienced a surge in such trading. In 2022, as the U.S. dollar/yen exchange rate fluctuated in a volatile manner, Japanese retail FX margin traders increased their presence as "minute traders" who conduct short-term intraday trades that take advantage of small price movements, especially in the U.S. dollar/yen exchange rate. As factors behind the changes in their investment patterns, this paper highlighted high volatility in the U.S. dollar/yen exchange rate and relatively low transaction costs.

In addition, an analysis was conducted on the impacts of the increasing flows of retail FX margin trading on market liquidity in global and Japan's FX markets and the formation of FX rates. Also, a couple of other considerations were examined: the impacts of changes in investment patterns on market liquidity and those on FX rates. It is important to continue monitoring investment patterns of retail FX margin traders so as to better understand the FX markets.

BOX: FX Firms' Business Models and Cover Deals

The volume and timing of cover deals vary depending on the business models of the FX firms. In a survey conducted by the Financial Futures Association of Japan, FX firms are classified by (1) whether they use a system managed by other firms in executing transactions with customers, (2) the number of firms they use for cover deals to formulate prices, (3) whether they internally offset buy and sell orders, and (4) the timing in which they carry out cover deals.

If a FX firm uses a transaction system managed by another firm, it can provide FX services under its own name. On the other side, the FX firm that offers the system can offset customer orders efficiently by having more transaction flows. If a FX firm internally offsets customer orders, it can control the volume of cover deals to be carried out. Conversely, if a FX firm does not offset customer orders internally, it has to conduct cover deals for all customer orders. In the case of exchange-traded contracts, all customer orders are passed to the interbank market, because the orders are executed at the prices offered by six financial institutions.

The results of the latest survey that collected data for April 2022 show that over half of the 17 major over-the-counter (OTC) FX firms in Japan adopt the following business model. They (1) conduct transactions with their customers without using a system managed by another firm, (2) use several firms for cover deals, (3) internally offset buy and sell orders, and (4) carry out cover deals after executing transactions with customers. Attention should be paid to trends in FX firms, including their business models and their transaction shares, in order to better understand the impacts of retail FX margin trading on the interbank market.

[1] For the developments in Japan’s FX market, see the following.
Watanabe, K., Hari, K., Sawada, N., and Bessho, H., "Developments in and Characteristics of Japan's FX Market: An Analysis Based on the 2022 BIS Triennial Central Bank Survey," *Bank of Japan Review Series*, no. 23-E-4 (May 2023), https://www.boj.or.jp/en/research/wps_rev/rev_2023/data/rev23e04.pdf.

[2] In Japan, retail FX margin trading is regulated by the Financial Instruments and Exchange Act as derivative transactions. FX firms that offer services to investors residing in Japan are obliged to be registered as a Financial Instruments Business Operator.

[3] There are two types of retail FX margin trading. One is over-the-counter (OTC) transactions, and the other is exchange-traded transactions. Of the overall FX margin trading in Japan, OTC transactions accounted for over 90 percent in terms of the trading volume and the number of active customers' accounts and over 80 percent in terms of open positions as of the fourth quarter of 2022. In this paper, FX margin trading is referred to as an OTC transaction unless otherwise noted.

[4] For instance, see the following.
Mukoyama, Y., Kikuta, N., and Washimi, K., "Investment Patterns of Japanese Retail Investors in Foreign Exchange Margin Trading," *Bank of Japan Review Series*, no. 18-E-3 (November 2018), https://www.boj.or.jp/en/research/wps_rev/rev_2018/data/rev18e03.pdf.
Niimi, T., "Recent Trends in Foreign Exchange (FX) Margin Trading in Japan," *Bank of Japan Review Series*, no. 16-E-5 (August 2016), https://www.boj.or.jp/en/research/wps_rev/rev_2016/data/rev16e05.pdf.
Terada, T., Higashio, N., and Iwasaki, J., "Recent Trends in Japanese Foreign-Exchange Margin Trading," *Bank of Japan Review Series*, no. 08-E-3 (September 2008), https://www.boj.or.jp/en/research/wps_rev/rev_2008/data/rev08e03.pdf.

[5] Contrary to the existing image of Mrs. Watanabe, the main players in Japan's retail FX margin trading market are men in their 30s-40s, according to the results of the Financial Futures Attitude Survey of Individual Investors released in April 2017.

[6] In a case where the spread for a transaction worth 10 thousand U.S. dollars is fixed at 20 yen (calculated by multiplying 0.002 yen by 10 thousand U.S. dollars), the amount of the transaction a customer can carry out would increase from 1.2 million yen to 1.5 million yen if the U.S. dollar appreciated from 120 yen to 150 yen per dollar.

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