Analysis of USDJPY Price Fluctuations -- Based on the Huge Fluctuations in the First Fall of 2022

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Abstract. This paper focuses on the analysis using currency-related theories represented by the Mundell-Fleming model for the change in the price of USDJPY from the beginning of 2022 to the present. While incorporating special current events changes, the author pays attention to the impact of the traditional safe-haven currency status on the changes in the yen's exchange rate and makes a reasonable forecast of its future trend.

Keywords: Impossible Triangle; USDJPY, Depreciation; Safe-haven currency; Yield curve control (YCC).

1. Introduction

After observing the fluctuations in the value of USDJPY from the beginning of 2022 to the present, it is easy to see that the sharp decline to sudden rise from July to August is very striking. Analyzing the reasons for the changes over this period and combining them with the yen's status as a traditional safe-haven currency and the Impossible Triangle theory will help us to analyze the future trend of the yen's exchange rate, make investment decisions, avoid investment risks, and gain insight into the yen's important status as one of the major currencies. The "impossible Triangle" indicates that a country's financial policy faces the inevitable dilemma (also known as the "Mundell Dilemma") that the economy can only have two of the three policy goals (free movement of capital, monetary policy independence and exchange rate stability).

Many analysts and investment institutions believe that the Bank of Japan will take measures to stop the yen from depreciating as soon as possible, because their past monetary policies have tended to be conservative and the yen's exchange rate has always been relatively stable. Another group believes that the value of USDJPY will soon break 140, after all, the main factors leading to the depreciation of the yen remain unchanged. Unlike the two, I think they both underestimate the yen's status as a traditional safe-haven currency and the risk aversion of investors caused by the complex world situation. For the reason that Japan satisfies the assumptions of the "Impossible Triangle" (monetary policy independent of fiscal policy, developed capital and money markets and a corresponding amount of foreign exchange reserves), and the Bank of Japan usually value the benefits of maintaining monetary policy independence and free capital flows more than the cost to the economy of abandoning the exchange rate stability target and the inflation.The depreciation of the yen will continue, but it will certainly be accompanied by several small and sudden recoveries, as it has been in the past two months.

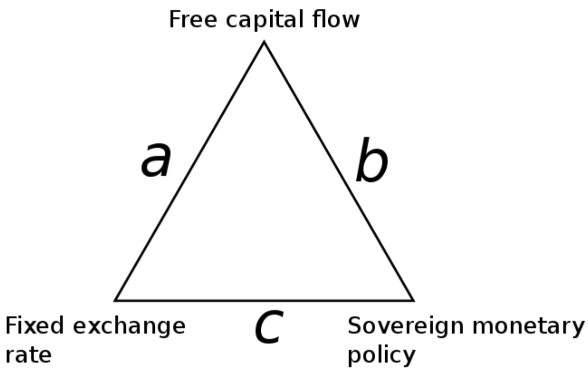

Figure 1. Impossible Triangle

Since the beginning of this year, we can notice that global funds have been withdrawn from Japanese capital markets several times due to the depreciation of the yen and the weakness of the Japanese economy, and the yen is the weakest of the G10 currencies. Figure 1 and 2 indicate that the price of USDJPY is significantly more volatile in the first half of 2022 compared to the rise and fall of the past five years

Figure 2. USDJPY changes in 5 years
Note: source: https://tradingeconomics.com/japan/currency

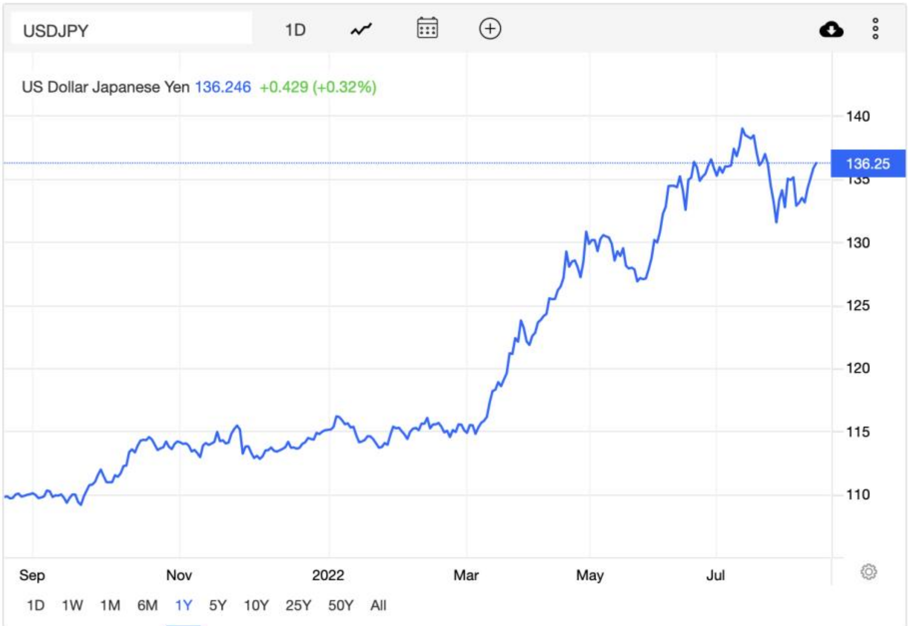

Figure 3. USDJPY changes in 2022
Note: source: https://tradingeconomics.com/japan/currency

The divergence in monetary policy between Japan and the developed economies led by the United States is the main reason for the depreciation of the yen, in addition to the rise in crude oil prices is also one of the influencing factors. Under the pressure of global hyperinflation, Europe and the United States are in accelerated interest rate hike mode, but the Japanese authorities are doing the opposite and insisting on an easy monetary policy. They insist on quantitative easing, unlimited bond purchases and a policy of yield curve control, but the hold on the yen exchange rate is far less than before. Both the continued decline of the yen and the fact that Japanese interest rates (the 10-year

Treasury rate) have remained at lower values have made the yen an easy currency to achieve shorting in carry trades.

So why does the Bank of Japan stick to the loose monetary policy represented by the yield curve control policy (YCC)? The main reason is the lack of domestic demand. Unlike Europe and the United States, Japan's inflation mainly comes from import and export of energy and commodities, while the impact of domestic demand is low, lower interest rates and the fall in the exchange rate are conducive to stimulating the growth of export volume, while at the same time, the adverse impact of policies such as consumption tax hike and free education on the economy should not be underestimated.

Following content is arranged as below: Section 2 analyzes the reasons for the sudden drop in USDJPY in August; Section 3 discusses the differences between the two traditional safe-haven currencies and the evolution of major monetary policies; Section 4 concludes the text and gives a forecast of USDJPY fluctuations.

2. Recent Changes in August

In this situation mentioned above, it seemed that the yen would continue to depreciate. However, at the beginning of August, the price of the yen rose strongly for several days in a row, a situation that really surprised many investors.

Figure 4. USDJPY changes in August 2022
Note: source: https://tradingeconomics.com/japan/currency

While the Federal Reserve System continued to aggressively raise interest rates and the divergence between the monetary policies of the United States and Japan widened further, concerns about the global economic situation grew and also gradually began to suspect that the growth of the U.S. economy would slow down or even decline, which eventually led to a rise in the prices of U.S. Treasuries, thus leaving the USDJPY value at the lowest point reached in July.

The figures support our analysis.In addition, in early August, Pelosi's visit to sensitive areas such as Taiwan led to a rise of geopolitical risks in Asia, which further intensified investors' risk aversion. As a traditional safe-haven currency, the yen once again became the preferred choice of investors in case of friction between countries. However, this recovery of the yen is not sustainable, the Japanese economy's dependence on foreign energy and rising commodity prices will lead to a trade deficit, coupled with the widening divergence in monetary policy, the pressure of the yen's depreciation is only a temporary relief, there will still be volatility in the future, the USDJPY value breakthrough of 140 is not unlikely to occur.

3. Two kinds of Safe-haven Currency：the Difference between USD and JPY

From the previous discussion, it is easy to see that the appreciation of the yen is largely due to its status as a safe-haven currency, so in the future, will the yen be able to maintain its status as an international safe-haven currency? A safe-haven currency is a currency that is not susceptible to politics, war, market fluctuations and other factors. It can avoid risks to the maximum extent possible. In most cases, it is very stable and not prone to devaluation.

Among the other recognized safe-haven currencies in the world capital markets, the the US dollar is based on the country's strong economic power. Compared to it, the Japanese yen has two different reasons to become one of the safe-haven currencies, one is the long-term low interest rates that facilitate arbitrage trading, and the other is its strong ability to cope with domestic and foreign risks. At the same time, Japan has a highly developed currency market, which creates a good environment for investors around the world to use the yen for hedging. Comparing important monetary policy changes in history, we can find that the U.S. and Japanese governments are thinking completely differently, a trend that has become increasingly evident in recent years and has gradually led to a widening of the U.S.-Japan spread. Looking at the historical data, it is not difficult to find the relationship between the US-Japan spread and the movement of the USDJPY value, that is, when the spread widens, the yen depreciates; when the spread narrows, the yen appreciates.

Table 1. Important Monetary Policy Changes in Japan and the US

Japan	the US
1985-1999：The space for conventional monetary policy has continued to shrink. From the mid-to-late 1980s to the early 1990s, Japan experienced asset price spikes and bubble bursts, and the economy fell into a sharp recession	1970s：To ease inflationary pressures, the Federal Reserve implements an expansionary monetary policy
1999-2001：Zero interest rate policy and forward guidance: Stabilize market expectations of zero interest rates in the future, allowing long-term interest rates to fall to stimulate the economy	1980s-2000: Implement a neutral monetary policy and reduce the intervention of interest rates in the economy.
2001-2006：Zero interest rates in parallel with the "quantitative easing" policy. Expansion of the central bank's demand deposit account balances (CABs) and commitment to a continued zero interest rate policy to reduce the level of interest rates in the medium and long term.	2002-2012: Reduced market liquidity, implemented massive interest rate hikes, and launched the first quantitative easing monetary policy (QE) after the 2008 financial crisis.
2010-2022: After being hit by the financial crisis, Japan gradually adopted comprehensive monetary easing (CME), quantitative and qualitative easing (QQE), and yield curve control (YCC) in a negative interest rate environment	2012-2021: Return to Neutral and Exit from QE.

Source: Japan Bureau of Statistics; https://zhuanlan.zhihu.com/p/520808152

Japan has a unique economic structure. The bursting of the bubble economy in the early 1990s, the lack of domestic demand and higher production costs combined to drive Japan to make huge foreign investments, which in turn led to almost the same amount of total domestic economy and overseas investments.

And we all know that Japan has various natural disasters. Therefore, when an earthquake occurs, the sophisticated life insurance awareness of Japanese nationals and the country's need to carry out post-disaster reconstruction mean that domestic demand will expand. So after a disaster, there is often a large amount of overseas capital that returns to Japan. Based on this experience, investment institutions in various countries design financial products accordingly.

4. Conclusion and implication

To sum up, both the attitude of the Bank of Japan and the analysis of many data can be seen: in the impossible triangle, Japan has changed its normal attitude, easily abandoned the fixed exchange rate and completely disregarded the impact of the sharply lowered Japanese interest rates (not only USDJPY) on Japan's own economy or the Asian economy as a whole. Both the upward pressure on domestic production costs and the squeeze on corporate profits and wages did not allow the Japanese authorities to lower their confidence in the current monetary policy. So the widening of the US-Japan spread is inevitable, and we can see the sharp widening of the gap between the two in the US-Japan spread change chart as of today, and the value of USDJPY is likely to rise further and is not limited to breaking the 140 mark.

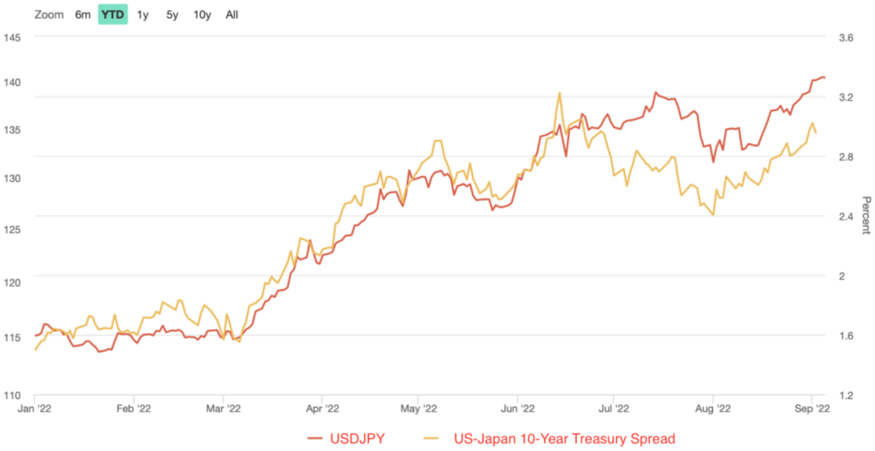

Figure 5. US-Japan 10-Year Treasury Spread YTD
Note: source: https://sc.macromicro.me/charts/931/jp-yen-bond-yield

According to Goldman Sachs research data, it can be seen that JPY is more sensitive to the changes in the rate differential with USD compared to the other major currency. In the short term, the interest rate differential is the most critical factor for the trend of USDJPY. If the U.S. interest rates continue to rise, maybe it will lead the number of USDJPY to rise to 140.

In the long term, the decline of U.S. economic growth may affect the interest rate differential, and according to the Mundell-Fleming's Impossible Trinity theory, if the free flow of capital and independent monetary policy are to be achieved at the same time, the Bank of Japan must abandon exchange rate stability and allow the yen to depreciate. Apparently, the Bank of Japan does not intend to change this policy, they said at the meeting held in July: in the absence of stable inflation, according to past experience, adhere to the easing policy can fully support economic growth. It is predictable that if the United States adhere to its monetary policies in the future, and Japan refuses to change, the yen will still face pressure to depreciate.

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