

Stock Prices and Exchange Rates under Monetary Policy Changes: The Cases of Japan and the US

Yutaka Kurihara

Faculty of Economics, Aichi University, Aichi, Japan

Shinichiro Maeda

Faculty of Economics, Kyushu University, Fukuoka, Japan

Akio Fukushima

The Institute for Economic Studies, Seijo University, Tokyo, Japan

ABSTRACT

This study examines exchange rates and stock prices in the context of US and Japanese monetary policy shifts. Also, the effects of announcements made by the monetary authorities are examined. The empirical results show that US stock prices have positive impacts on Japanese stock prices. As predicted, there is a negative correlation between Japanese interest rates and stock prices. Depreciation of the Japanese yen leads to rising stock prices. Although the Bank of Japan's announcement of "positive" news that the end of quantitative easing is expected to cause stock prices to decline, they instead increased. In the case of the US, however, appreciation of the US dollar promotes rising stock prices. This result is the opposite of the Japanese case. It may be concluded that there exists good communication between the monetary authorities and the markets, and that the news causes no unexpected effects or confusion on the financial markets.

Keywords: Exchange rate, Monetary policy, Stock, Japan, US.

INTRODUCTION

In the 2020s, developed economies have worked to combat recession and deflation. COVID-19 has damaged economies all over the world. The pandemic damaged production activity and supply chain disruptions occurred. The war in Ukraine began during economic restoration activities, and prices, including those in the energy sector, soared. From the middle of 2022, significant monetary policy changes were made in Europe and the US in an effort to lower prices, however, a policy of quantitative easing with low interest rates has continued to be conducted in Japan. Moreover, large and rapid changes in stock prices and exchange rates occurred in these giant economies in 2023.

The Bank of Japan Act demonstrates that its monetary policy is aimed at "achieving price stability, thereby contributing to the sound development of the national economy (The Bank of Japan's homepage)." The Bank set the price (consumer price index: CPI) stability target at 2 percent, and it has tried for over 10 years to attain the target while continuing monetary expansion. In September 2016, the Bank introduced a new instrument for the implementation of quantitative easing (QE). This policy has two elements: the first is "yield curve control,"

meaning the Bank manages both short-term and long-term interest rates; the second is an "inflation-overshooting," meaning the Bank works to increase the monetary base until the CPI in Japan exceeds 2 percent and the situation is firmly established.

Monetary policy in the US is based on the Federal Reserve's actions which aim for maximum employment, price stability, and moderate long-term interest rates. From March 2022, the Federal Reserve Board (FRB) has raised interest rates to combat inflationary pressures and nurture a strong labor market. At the March 2022 meeting, the Federal Open Market Committee (FOMC) raised the interest rate target range for the federal funds rate from 0-1/4 percent to 0-1/2 percent. The FOMC continued to raise the target in May and June, setting the target range from 1-1/2 to 1-3/4 percent. However, the FOMC ceased net asset purchases in March and began reducing its securities holdings in June. On the other hand, experts feel that the FOMC will take into account of lowering the interest rates to boost the economy as prices become stable in 2023.

The European Central Bank (ECB) enacts monetary policies to keep prices stable in the euro area. From 2022, the ECB and FRB have experienced serious US inflation and 2022 marked a significant turning point for the ECB's monetary policies. The energy crisis brought on by the war increased input costs of the economy along with the reopening of the economy after the pandemic. In July 2022 the ECB raised the key ECB interest rates for the first time in 11 years. However, high interest rates are thought to cool economic activity, so there will be a possibility to lower the interest rates from 2024.

This study examines stock prices and exchange rates under monetary policy changes of Japan and the US. Also, the effects of announcements made by the central banks are examined empirically. There is a common understanding that announcements, including their effects through transmission, need to be taken into account when implementing monetary policies. 2023 is focused on because during 2023 in Japan and the US contrarian monetary policies were implemented.

This study is structured as follows: Section 2 reviews monetary policies in 2023 in three giant economies: Japan, the US, and the euro area. Existing studies of the relationship between monetary policies and stock prices/exchange rates are reviewed in Section 3. In Section 4, preliminary empirical methods are presented for empirical analyses in the following section. Section 5 shows the empirical results and the results are examined. Finally, a brief summary is provided.

MONETARY POLICIES IN JAPAN, THE US, AND THE EURO AREA

This section reviews monetary policies in 2023 in the three giant economies. As explained in Section 1, significant differing monetary policies were implemented in Japan and the US/euro area. This study examines the relationship between monetary policies and stock prices/exchange rates.

The other purpose of this study is to examine the effects of announcements made by central banks on stock prices and exchange rates. The effects have been given a lot of attention recently and it has become clear that monetary authorities should take such announcements' effects into

account. Communication with markets in order to implement effective and sound monetary policies has become increasingly important for monetary authorities.

Table 1 lists monetary policies of Japan, the US, and the euro area in 2023. ‘Positive’ in this table denotes monetary tightening for Japan and also denotes monetary expansion for the US and the euro area. As shown in the previous section, the BOJ has considered when it should change its monetary policy stance from monetary easing to tightening. Alternatively, the FRB and ECB have considered shifting from a tightening monetary stance to an easing one.

Table 1: Monetary policies of Japan, the US, and the euro area in 2023.

Date	Central Bank	Decisions Regarding Monetary Policy Implementation	positive	Neutral
Jan. 18	BOJ	(Almost) unchanged		*
Feb. 2	FRB	The FRB decided to raise the interest rate paid on reserve balances to 4.65 percent.	*	
Feb. 2	ECB	The ECB decided to raise the three key ECB interest rates by 50 basis points.	*	
Mar. 16	ECB	The ECB decided to increase the three key ECB interest rates by 50 basis points	*	
Mar. 22	FRB	The FRB decided to raise the interest rate paid on reserve balances to 4.9 percent.	*	
Apr. 28	BOJ	(Almost) unchanged		
May 3	FRB	The FRB decided to raise the interest rate paid on reserve balances to 5.15 percent.	*	
May 4	ECB	The ECB decided to raise the three key ECB interest rates by 25 basis points.	*	
Jun. 14	FRB	(Almost) unchanged		*
Jun. 15	ECB	The ECB decided to raise the three key ECB interest rates by 25 basis points.	*	
Jun. 16	BOJ	(Almost) unchanged		*
Jul. 26	FRB	The FRB decided to raise the interest rate paid on reserve balances to 5.4 percent	*	
Jul. 27	ECB	The ECB decided to raise the three key ECB interest rates by 25 basis points.	*	
Jul. 28	BOJ	In the auction announcement for fixed-rate purchase operations of three on-the-run issues of 10-year JGBs which the Bank will make on every business day, unless it is highly likely that no bids will be submitted, the Bank will set a fixed rate to be applied in the auctions at 1.0 percent.	*	
Sep. 14	ECB	The ECB decided to raise the three key ECB interest rates by 25 basis points.	*	
Sep. 20	FRB	(Almost) unchanged		*
Oct. 26	ECB	(Almost) unchanged		*
Oct. 31	BOJ	The purchase size per auction will continue to be set in a flexible manner, taking account of market conditions (see the announcements of July 28).	*	
Nov. 1	FRB	(Almost) unchanged		*

Dec. 13	FRB	(Almost) unchanged		*
Dec. 14	ECB	(Almost) unchanged		*
Dec.19	BOJ	(Almost) unchanged		*

Note) Each section is based on each central bank's announcement from their homepage.

As shown in Table 1, it is clear that each central bank had taken opposite monetary policies between Japan and the US and between Japan and the euro area. Finally, 'positive' and 'neutral' in Table 1 are both used for empirical estimations in this study.

EXISTING STUDIES RELATED TO THIS STUDY

There have been a lot of excellent papers presented on this topic or similar topics. The relationship between monetary policies, stock prices, and exchange rates has been analyzed theoretically and empirically in the past. Monetary policies should not only consider short-term effects, but also medium-term and long-term effects. However, this study focuses on short-term effects and considers the impacts of monetary policies on stock prices and exchange rates. In the empirical analyses that will be performed in the following section, daily data are used for estimations.

Hajdukovic (2022) indicated that financial policies had positive effects on economies by promoting consumption, investment, stock prices, and so on, and reduced unemployment. Ozcelebo and Yidirim (2017) revealed that raising interest rates to dampen outflows might reduce returns of equities. This might also deteriorate economic activities in Indonesia. Kurniawan and Astuti (2023) showed that monetary policy transmission to growth of the economy via equity prices and exchange rates was useful in Indonesia. However, Chao, et al. (2011) showed that for an instantaneous US adjustment of the prices of manufacturing, equity prices, and exchange rates might lead to mis-jumps or mis-adjustments in the US by the monetary policy announcement.

Abouwafia and Chambers (2015) demonstrated that monetary policies and the shocks in exchange rates had significant influence in the short term on the stock prices in Kuwait and some other countries. Yang (2017) showed that the impacts of monetary policies on equity prices were found in the US and four Asian economies. Fassas and Papadamou (2018) indicated that monetary policies of easing slowed the variance premium of equity markets. Ono (2020) suggested that the US' unconventional quantity easing policy had no impact on equity prices compared with the conventional policy era. Lakdawala (2021) found that US monetary policy shocks were transferred via an unsure route, which is significant for announcements concerning huge asset purchasing. Fausch and Sutter (2024) showed that Swiss equity prices were influenced by conventional and unconventional monetary policies. On the other hand, Aliyu (2009) implied that the monetary authorities in Nigeria were not limited to taking stock market developments into account when determining their exchange rates policy measures.

Kalyvitis and Skotida (2010) showed a "delayed overshooting" of some exchange rates caused by a sudden US monetary policy change and found excess returns from transactions. Gong and Dai (2017) indicated that interest rate rising and the yuan's depreciation induced herding. Ahmed (2020) showed that both direction changes in Egyptian pound to US dollar rates had an

influence on equity market returns. Grisse (2020) indicated that increases of Swiss interest rates are linked to a Swiss franc appreciation against the euro and the US dollar, with the Swiss franc continuing longer than the interest rate shocks. Tümtürk (2020) demonstrated that there existed a two-way interaction between exchange rates and financial policies.

Javangwe and Takawira (2022) revealed that the stock market and interest rates were related negatively. Ouma and Kihui (2018) indicated that exchange rates and stock prices were linked in the short term and in the long term in stock markets. Emamian and Mazlan (2021) showed that real effective exchange rates and the US' equity prices had a negative relationship in the short term; however, the relationship was not significant in the long term. Yiu and Tsang (2023) suggested that monetary and exchange rate policies decreased negative impacts on ASEAN stock markets. On the other hand, Hartmann and Pierdzioch (2007) showed that exchange rate movements could not explain stock returns in Japan. Ferreira, et al. (2019) demonstrated that the exchange rates did not affect stock markets significantly in the case of European markets. Most of the empirical results of these studies have been as expected from the views of theoretical ones; however, some of them go against the expectations. At least from the views of empirical ones, we have not reached consensus. This study focuses on the Japan-US 2023 case and empirically examines the relationship between monetary policies and stock prices/exchange rates.

PRELIMINARY PREPARATION FOR EMPIRICAL ANALYSES

Before examining the relationship between monetary policies and stock prices/exchange rates, variables used in empirical analyses are checked. "Interest rate differences (Japan minus the US and Germany minus the US)" are used for estimations. Compared with the US, interest rates in Japan and Germany are low, so the variables are below zero. Table 2 shows the results. It should be noted that Japanese and US economic variables have strong relationships. The correlations between their stock markets and other stock markets, and between their exchange rates and stock markets are stronger than the ones between their interest rates and stock prices. Moreover, the economic relationship between Japan and the US has been strong.

Table 2: Statistical descriptive.

	Av.	S.E.	S.D.	Var.	Skewness	Min.	Max.	No.
Exchange rate (yen/dollar)	140.74	0.44	6.80	46.29	-1.29	128.40	151.72	232
Exchange rate (euro/dollar)	1.08	0.00	0.02	0.00	-0.53	1.05	1.12	232
10-year GB (Japan)	0.56	0.01	0.17	0.03	-0.87	0.25	0.96	232
10-year GB (US)	3.98	0.29	0.43	0.19	0.52	3.30	4.98	232
10-year GB (Germany)	2.47	0.01	0.23	0.05	-0.33	1.92	2.97	232
Nikkei 225 (Japan)	30744.40	157.00	2391.32	5718385.92	-1.27	25716.86	33753.33	232
Dow Jones (US)	34114.24	74.20	1130.13	1277201.34	1.15	31759.87	37661.52	232
DX	15686.11	33.06	503.52	253530.86	0.05	14436.31	16794.43	232

(Germany)								
Interest rate difference (Japan-US)	-3.41	0.02	0.29	0.08	-0.46	-4.14	-2.84	232
Interest rate difference (Germany-US)	-1.51	0.02	0.29	0.08	-1.09	-2.11	-0.95	232

EMPIRICAL METHODS AND RESULTS

This section examines the relationship between monetary policies and economic variables, namely, stock prices and exchange rates. The main purpose of the analyses is to check empirically the effects of specific monetary policy changes on stock prices and exchange rates. First, Japanese stock price (NIKKEI 225) is regressed by US stock price (DOW), Japanese interest rate (10-year bond), exchange rate (yen-US dollar), and “positive” and “neutral”. The estimated equation is (1)

$$\text{Japanese stock price} = a + b_1\text{US stock price} + b_2\text{Japanese interest rate} + b_3\text{exchange rate} + b_4\text{positive} + b_5\text{neutral} \quad (1)$$

The variables “positive” and “neutral” represent the monetary policy stances which were explained in Section 2. In the regression, 0 and 1 are employed estimations. In the case of employing ‘1’ an asterisk (*) is used in Table 1. The data are daily and are from NIKKEI NEEDS (Japanese newspaper company) except in the case of “positive” and “neutral”. The sample period is from the beginning of 2023 to the end of 2023 (232 business days). The results are shown in Table 3.

Table 3: Stock price in Japan.

	Coefficient	Std. Error	t-Statistic	Prob.
C	-50555.38	1766.25	-28.62	0.00
Stock price of US	0.84	0.04	20.27	0.00
Positive news of Japan	871.98	472.26	1.84	0.07
Neutral news of Japan	-206.60	386.38	-0.53	0.59
Positive news of US	-178.68	335.81	-0.52	0.60
Neutral news of US	589.16	335.33	1.76	0.00
Interest rate of Japan	-8617.91	449.57	-19.17	0.00
Yen-Dollar Exchange rate	407.10	10.91	37.31	0.00
Adj.R2: 0.92	F-statistic: 401.03	Prob (F-statistic): 0.00	Akaike Criterion: 15.86	D.W. 0.45

Almost all of the results are as expected. US stock prices have positive impacts on Japanese stock prices. There exists a negative relationship between stock prices and interest rates. Also, depreciation of the Japanese yen leads to rising stock prices. The Japanese economy depends strongly on exports. The depreciation generally leads to stock prices rising, especially those of manufacturing companies. The Bank of Japan is said to be measuring the timing of its next-level quantitative easing and lifting of negative interest rates. The Bank’s release of positive news should theoretically lead to a fall in stock prices, but instead stock prices are rising--although

this is only significant at the 10% level. The Bank's information dissemination may have been perceived by the market as signifying an improvement in economic conditions.

Table 4 and Figure 1 are impulse response functions of Japanese stock prices. In Figure 1, "interestjus" denotes interest rate differences between Japan and the US (all of them are below zero). The US interest rate is also a 10-year bond. The data are daily.

Table 4: Stock prices of Japan Vector Autoregression Estimates.

	Stock price of Japan	Interest rate difference between Japan and US
Stock price of Japan (-1)	0.99 (0.01) [89.67]	-4.19E-06 (2.6E-06) [-1.92]
Interest rate difference between Japan and US (-1)	73.21 (90.45) [0.81]	0.94 (0.02) [44.98]
C	610.38 (295.59) [2.06]	-0.05 (0.07) [-0.68]
Adj.R2	0.98	0.93
F-statistic	6099.99	1632.09
Akaike Criterion	12.07	12.07
Schwarz Criterion	12.16	12.16

Note) () denotes standard errors and [] denotes .t-statistics, respectively.

Response to Cholesky One S.D. (d.f. adjusted) Innovations
95% CI using analytic asymptotic S.E.s

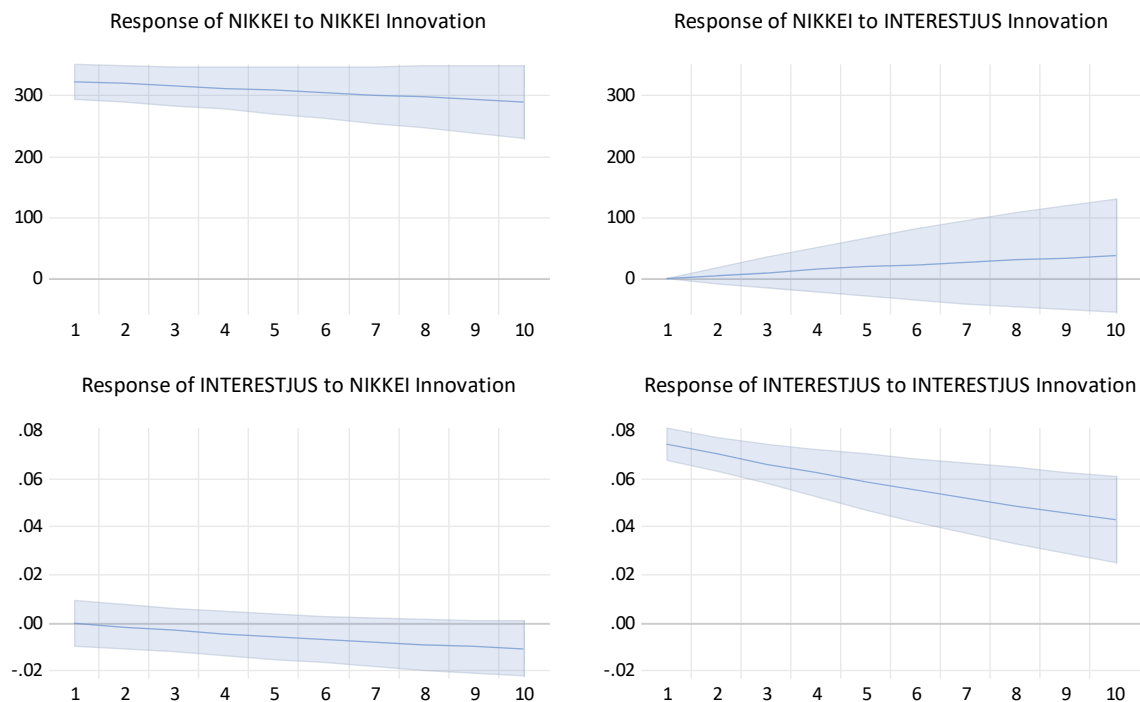


Figure 1: Impulse response of Japanese stock prices.

The results are interesting to note. Interest rate shocks continue for extended periods on stock prices. In Japan, interest rates have remained close to zero for many years, and the market may be overreacting to changes (increases) in interest rates, which requires caution when implementing monetary policies.

How about the US stock prices? The methods for estimation are the same with the Japanese case (Table 5 and Figure1). “Positive” and “negative” are the same with the previous estimation (see, Table 1). The equation is (2) and the results are Table 5, Table 6, and Figure 2.

US stock price = a + b1Interest rate of the US + b2positive + b3neutral + b4Yen-Dollar Exchange rate + b5Euro-Dollar Exchange rate (2)

Table 5: Stock prices in the US.

	Coefficient	Std. Error	t-Statistic	Prob.
C	-24109.62	4393.41	-5.46	0.00
Interest rate of US	239.29	363.77	0.68	0.50
Positive news of US	-143.46	420.13	-0.34	0.73
Neutral news of US	451.67	420.70	1.07	0.28
Yen-Dollar Exchange rate	71.04	20.56	3.46	0.00
Euro-Dollar Exchange rate	43710.44	4244.42	10.30	0.00
Adj.R2: 0.47	F-statistic: 41.47	Prob (F-statistic): 0.00	Akaike Criterion: 16.29	D.W. 0.13

Table 6: Stock prices in the US Vector Autoregression Estimates.

	Stock price of US	Interest rate difference between Japan and US	Interest rate difference between Germany and US
Stock price of US (-1)	0.95 (0.02) [52.33]	-1.78E-06 (6.0E-06) [-0.30]	-1.31E-05 (6.5E-06) [-2.01]
Interest rate difference between Japan and US (-1)	397.47 (106.62) [3.73]	0.96 (0.03) [27.50]	0.04 (0.04) [1.00]
Interest rate difference between Germany and US (-1)	-456.77 (120.63) [-3.79]	0.005 (0.04) [0.13]	0.91 (0.04) [21.16]
C	2261.95 (729.40) [3.10]	-0.06 (0.24) [-0.27]	0.44 (0.26) [1.68]
Adj.R2	0.96	0.93	0.92
F-statistic	1772.09	1066.21	877.97
Akaike Criterion	13.73	-2.31	-2.14
Schwarz Criterion	13.79	-2.25	-2.08

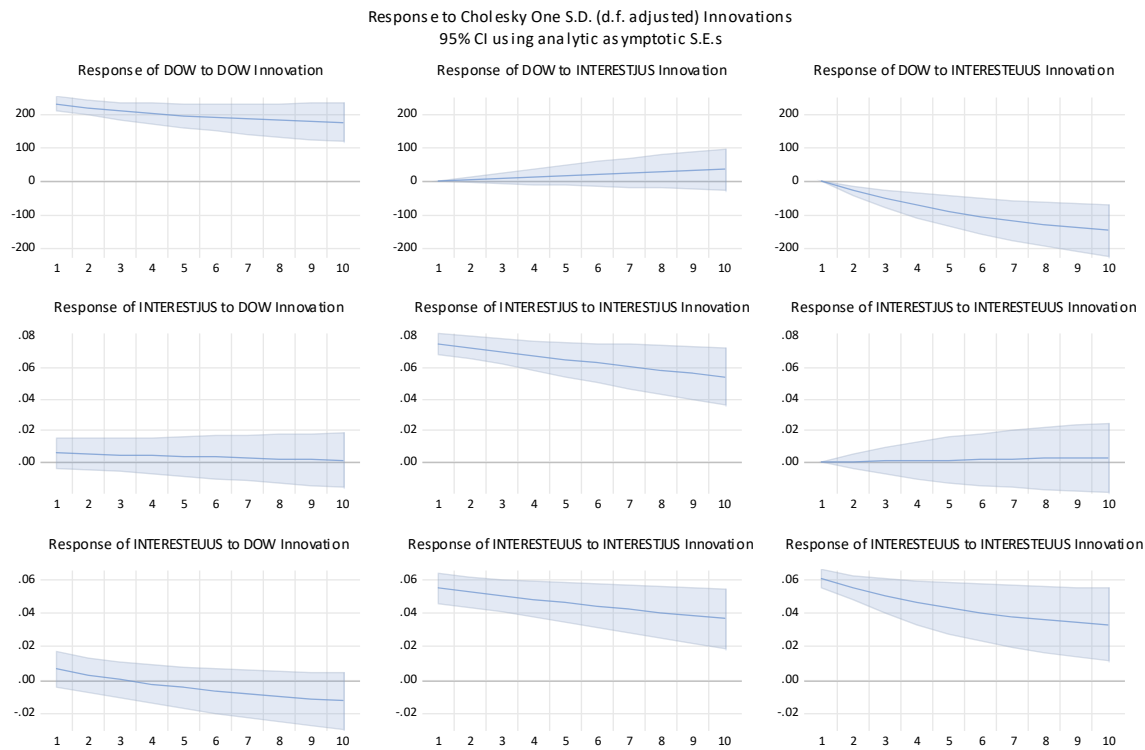


Figure 2: Impulse response of US stock prices.

The results are similar with the cases of Japan; however, appreciation of the US dollar promotes rising in stock prices. This result is the opposite of the Japanese case. Appreciation of the US dollar seems to be taken as a strong indicator of the economy's health.

For the exchange rates, interest rate differences between both countries are used for estimation instead of each country's rates. The estimated equation is (3). The results are Table 7, Table 8, and Figure 3.

Yen-Dollar exchange rate = $a + b_1$ Interest rate difference between Japan and the US + b_2 Positive news of Japan + b_3 Neutral news of Japan + b_4 Positive news of the US + b_5 Neutral news of the US (3)

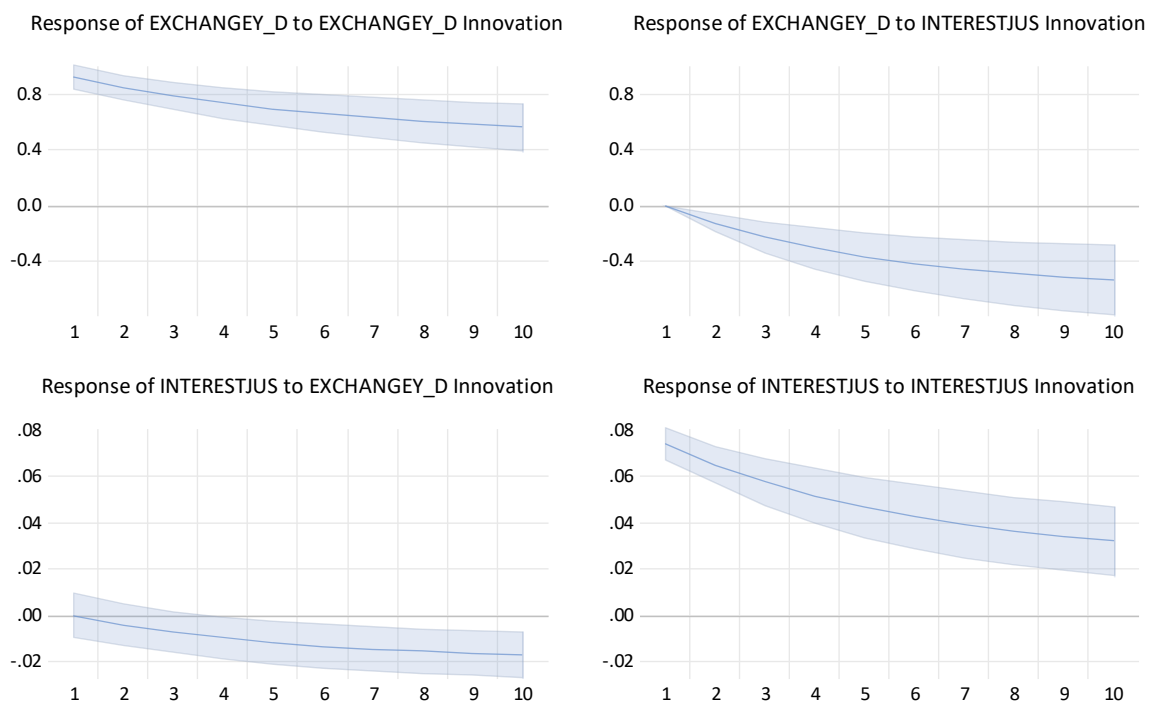
Table 7: Yen-US dollar exchange rate.

	Coefficient	Std. Error	t-Statistic	Prob.
C	71.09	2.62	27.10	0.00
Interest rate difference between Japan and US	-20.38	0.76	-26.68	0.00
Positive news of Japan	-0.95	2.36	-0.40	0.69
Neutral news of Japan	0.87	1.93	0.45	0.65
Positive news of US	-0.64	1.68	-0.38	0.70
Neutral news of US	2.88	1.67	1.71	0.09
Adj.R2:	F-statistic: 149.50	Prob (F-statistic): 0.00	Akaike Criterion: 5.26	D.W. 0.34

Table 8: Yen-US dollar exchange rate Vector Autoregression Estimates.

	Yen-Dollar exchange rate	Interest rate difference between Japan and US
Yen-Dollar exchange rate (-1)	0.92 (0.02) [49.73]	-0.004 (0.001) [-2.90]
Interest rate difference between Japan and US (-1)	-1.72 (0.43) [-3.96]	0.88 (0.03) [25.41]
C	5.35 (1.50) [3.58]	0.19 (0.12) [1.57]
Adj.R2	0.98	0.94
F-statistic	6037.83	1667.44
Akaike Criterion	2.70	-2.36
Schwarz Criterion	2.74	-2.31

Response to Cholesky One S.D. (d.f. adjusted) Innovations
95% CI using analytic asymptotic S.E.s

**Figure 3: Impulse response of exchange rates.**

The results are interesting. The announcements have not had an impact on the exchange rates. It can be judged that communication between the market and the financial authorities was quite good, and that the announcements did not come as a shock. Nor did they have any negative impact or cause confusion on the foreign exchange market. On the other hand, actual changes in interest rates are guiding the direction of changes in exchange rates that can be expected in reality. As with the stock prices, the shock of changes in interest rates continues long term.

CONCLUSION

This study examined stock prices and exchange rates under monetary policy changes in Japan and the US. The effects of announcements made by the central banks were also examined. US stock prices had positive impacts on Japanese stock prices. A negative relationship between stock prices and interest rates was found. Depreciation of the Japanese yen against the US dollar led to rising stock prices. The BOJ's announcement of the possibility of interest rate increases should theoretically have led to a general fall in stock prices; however, stock prices rose--although this is only significant at the 10% level. On the other hand, appreciation of the US dollar against the Japanese yen and euro promoted a rise in US stock prices. As appreciation of the US dollar seems to be considered a strong indicator of the economy's health, actual changes in interest rates were guiding the direction of changes in exchange rates that make sense. It can be judged that communication between the market and the financial authorities was quite good, and that the announcement did not come as a shock and did not have any negative impact or cause any confusion on the foreign exchange market.

References

- Abouwafia, H. E., & Chambers, M. J. (2015) Monetary policy, exchange rates and stock prices in the Middle East region. *International Review of Financial Analysis*, 37, 14-28. Doi: 10.1016/j.irfa.2014.11.001
- Ahmed, W. M. A. (2020). Asymmetric impact of exchange rate changes on stock returns: evidence of two de facto regimes. *Review of Accounting & Finance*, 19(2), 147-173. Doi: 10.1108/RAF-02-2019-0039
- Aliyu, S. U. R. (2009). Stock Prices and Exchange Rate Interactions in Nigeria: A Maiden Intra-Global Financial Crisis Investigation. *Journal of Financial Economics*, 7(3/4), 7-23.
- Bowman, D., Londono, J. M., & Sapriza, H. (2015). U.S. unconventional monetary policy and transmission to emerging market economies. *Journal of International Money & Finance*, 55, 27-59. Doi: 10.1016/j.jimonfin.2015.02.016
- Chao, C.-C., Hu, S.-W., Tai, M.-Y., & Wang, V. (2011). Monetary policy announcements and stock price dynamics in a small open economy. *International Review of Economics & Finance*, 20(4), 520-531. Doi: 10.1016/j.iref.2010.10.004
- Dogan, N., & Yalcin, Y. (2007). The effects of the exchange rate movements on the Istanbul stock exchange. *Applied Financial Economics Letters*, 3(1), 39-46. Doi: 10.1080/17446540601029136
- Égert, B. (2009). Monetary transmission mechanism in central and eastern Europe: surveying the surveyable. *Journal of Economic Surveys*, 23(2), 277-327. Doi: 10.1111/j.1467-6419.2008.00563.x
- Emamian, A., & Mazlan, N. S. (2021). Monetary-Fiscal policies and stock market performance: Evidence from linear ARDL framework. *Journal of Business & Economics Review*, 5(4), 69-80.
- Fassas, A. P., & Papadamou, S. (2018). Unconventional monetary policy announcements and risk aversion: evidence from the U.S. and European equity markets. *European Journal of Finance*, 24(18), 1885-1901. Doi: 10.1080/1351847X.2018.1496943
- Fausch, J., & Sutter, D. (2024). Monetary policy spillovers: the impact of ECB conventional and unconventional monetary policies on the Swiss stock market. *Applied Economics Letters*, 31(2), 122-127. Doi: 10.1080/13504851.2022.2128173

- Ferreira, P., Silva, M. F. da, & Santana, I. S. de (2019). Detrended Correlation Coefficients Between Exchange Rate (in Dollars) and Stock Markets in the World's Largest Economies. *Economies*, 7(1), 1-9. Doi: 10.3390/economies7010009
- Gong, P., & Dai, J. (2017). Monetary policy, exchange rate fluctuation, and herding behavior in the stock market. *Journal of Business Research*, 76, 34-43. Doi: 10.1016/j.jbusres.2017.02.018
- Grisse, C. (2020). The effect of monetary policy on the Swiss franc: an SVAR approach. *Swiss National Bank Working Paper*, 2, 1-33.
- Hajdukovic, I. (2022) Transmission mechanisms of conventional and unconventional monetary policies in open economies. *International Economics & economic Policy*, 19(3), 494-536. Doi: 10.1007/s10368-021-00527-0
- Hartmann, D., & Pierdzioch, C. (2007). Exchange rates, interventions, and the predictability of stock returns in Japan. *Journal of Multinational Financial Management*, 17(2), 155-172. Doi: 10.1016/j.mulfin.2006.08.004
- Javangwe, K. Z., & Takawira, O. (2022). Exchange rate movement and stock market performance: An application of the ARDL model. *Cogent Economics & Finance*, 10(1), 1-20. Doi: 10.1080/23322039.2022.2075520
- Kalyvitis, S., & Skotida, I. (2010). Some empirical evidence on the effects of U.S. monetary policy shocks on cross exchange rates. *Quarterly Review of Economics & Finance*, 50(3), 386-394. Doi: 10.1016/j.qref.2010.02.006
- Kurniawan, A., & Astuti, R. D. (2023). Transmission mechanism of monetary policy through asset price and exchange channel in Indonesia. *Jurnal Ilmu Ekonomi Terapan*, 8(1), 41-54.
- Lakdawala, L. (2021). The growing impact of US monetary policy on emerging financial markets: Evidence from India. *Journal of International Money & Finance*, 119, 102478. Doi: 10.1016/j.jimonfin.2021.102478
- Li, H., Ni, J., Xu, Y., & Zhan, M. (2021). Monetary policy and its transmission channels: Evidence from China. *Pacific-Basin Finance Journal*, 68, 101621. Doi: 10.1016/j.pacfin.2021.101621
- Okimoto, T. (2019). Trend inflation and monetary policy regimes in Japan. *Journal of International Money & Finance*, 92, 137-152. Doi: 10.1016/j.jimonfin.2018.12.008
- Ono, S. (2020) Impacts of conventional and unconventional US monetary policies on global financial markets. *International Economics & Economic Policy*, 17(1), 1-24. Doi: 10.1007/s10368-019-00456-z
- Ouma, D. O., & Kihuu, E. (2018). Exchange Rate Fluctuations and Stock Market Performance in Nairobi Securities Exchange, Kenya. *Journal of Emerging Issues in Economics, Finance, & Banking*, 7(1), 2434-2451.
- Ozcelebo, O., & Yidirim, N. (2017). Impacts of short-term interest rates on stock returns and exchange rates: Empirical evidence from EAGLE countries. *Journal of International Trade & Economic Development*, 26(2), 228-255. Doi: 10.1080/09638199.2016.1232747
- Maurer, T. D., & Nitschka, T. (2023). Stock market evidence on the international transmission channels of US monetary policy surprises. *Journal of International Money & Finance*, 136, 1-13. Doi: 10.1016/j.jimonfin.2023.102866
- Thorbecke, W., & Kato, A. (2018). Exchange rates and the Swiss economy. *Journal of Policy Modeling*, 40(6), 1182-1199. Doi: 10.1016/j.jpolmod.2018.07.002
- Tümtürk, O. (2020). Evaluation of monetary policy shocks in Turkey: A structural VAR approach. *International Journal of Management Economics & Business*, 16(3), 457-473. Doi: 10.17130/ijmeh.798572

Yang, S. -P. (2017). Exchange rate dynamics and stock prices in small open economies: Evidence from Asia-Pacific countries. *Pacific-Basin Finance Journal*, 46, 337-354. Doi: 10.1016/j.pacfin.2017.10.004

Yiu, M. S., & Tsang, A. (2023). Impact of COVID-19 on ASEAN5 stock markets. *Journal of the Asian Pacific Economy*, 28(4), 1392-1405. Doi: 10.1080/13547860.2021.1947550

Ziaei, S. M., & Szulczyk, K. R. (2021). Spillover Effects of US Unconventional Monetary Policy: (Evidence from Selected Asian Countries). *Review of Pacific Basin Financial Markets & Policies*, 24(2), 1-17. Doi: 10.1142/S0219091521500132