

THE IMPACT OF INFLATION AND REAL EXCHANGE RATE ON BILATERAL TRADE BALANCE: A CASE STUDY OF THE TRADE BALANCE BETWEEN VIETNAM AND JAPAN

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Abstract: Amid the recent inflationary fluctuations in Japan following a prolonged period of low inflation, this study aims to examine the impact of Japanese inflation and the real exchange rate (JPY/VND) on the bilateral trade balance between Vietnam and Japan. The research employs monthly time-series secondary data from January 2009 to December 2024, collected from the General Statistics Office of Vietnam, Japan's Statistical Portal, and the International Monetary Fund (IMF). Three research hypotheses are developed and tested through two econometric models using multicollinearity diagnostics, unit root tests, autoregressive distributed lag (ARDL) models, and bound testing procedures. The findings of this study not only contribute to theoretical understanding but also offer practical policy recommendations to mitigate risks, reduce import dependence, enhance competitiveness, stabilize exchange rates, and promote sustainable trade between Vietnam and Japan.

• Keywords: inflation, real exchange rate, trade balance, JPY/VND exchange rate.

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1. Introduction

Inflation, particularly when originating from elevated production costs, can subtly erode the competitiveness of domestic enterprises. In such circumstances, domestically produced goods are likely to face price disadvantages relative to imported goods, causing the real exchange rate to shift in an unfavorable direction and gradually exerting adverse pressures on the international trade balance (Krugman, 2012). In the current context, Japan is experiencing a phase of inflation, driven primarily by surging energy and imported raw material costs. This development not only poses considerable challenges for domestic manufacturing firms but also reshapes the real exchange rate dynamics of the Japanese yen. Consequently, such fluctuations may directly affect the international competitiveness of Japanese goods and, by extension, exert a significant influence on its trade balance with partner economies, notably Vietnam (Thorbecke, 2008).

According to the International Monetary Fund (IMF, 2021), inflation is defined as the rate of increase in the general price level over a given period, while the real exchange rate (RER) between two currencies is calculated as the product of the nominal exchange rate and the relative price level ratio between the two countries. Furthermore, the IMF (2007) states that the trade balance represents the difference between the value of exports of goods and services and the value of imports of goods and services. Drawing on Gustav Cassell's Relative Purchasing Power Parity (PPP) theory, the exchange rate between two currencies, in the long run, is expected to adjust in accordance with the inflation

differential between the two countries, thereby ensuring equivalent purchasing power for an identical basket of goods in both economies. In the *Dictionary of Economics*, Nguyen (2012) elucidates the relationship between the real exchange rate and the trade balance, in conjunction with the J-curve theory, stating that initially, the balance of payments tends to deteriorate further into deficit before shifting to surplus when a country devalues its currency.

When these theoretical perspectives are applied to the Japanese context, critical questions emerge: How does inflation influence fluctuations in the real exchange rate? In what manner do changes in the real exchange rate affect the country's trade balance with its trading partners, particularly Vietnam?

While numerous domestic studies have examined the relationship between inflation and the real exchange rate, such analyses are often conducted in isolation or within broad macroeconomic frameworks. Few studies have explicitly addressed the specific impact of Japanese inflation on the real exchange rate and the bilateral trade balance, especially from the perspective of transmission from inflation to trade via the real exchange rate index. Regarding the link between the real exchange rate and the trade balance, both domestic and international scholarship has largely concentrated on multilateral or specific bilateral contexts, such as BCIM-EC, East Asia, or the United States and its major trading partners. In the case of Vietnam and Japan, this bilateral relationship remains underexplored in the literature, despite Japan's role as one of Vietnam's most significant trading partners.

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Accordingly, this study seeks to analyze the impact of Japanese inflation and the JPY/VND real exchange rate on the bilateral trade balance between Vietnam and Japan during the period 2022-2024. Clarifying these dynamics is expected to contribute to the theoretical discourse while offering practical implications for the formulation of Vietnam's trade and exchange rate policies toward Japan. The research objectives are twofold: (i) to examine and evaluate the effects of Japanese inflation and the JPY/VND real exchange rate on the bilateral trade balance between Vietnam and Japan; and (ii) to propose policy recommendations aimed at mitigating the adverse effects of inflation volatility and shifts in the trade balance.

The paper is structured as follows: Section 1: Introduction; Section 2: Literature Review and Development of Research Hypotheses; Section 3: Data and Research Methodology; Section 4: Research Findings; Section 5: Policy Recommendations.

2. Literature review and development of research hypotheses

Fluctuations in the real exchange rate under the J-curve effect are widely believed to cause the trade balance to deteriorate in the short run before improving in the long run. This assertion was supported by Roosaleh and Edison (2020) in their study of Indonesia, where they examined movements in the rupiah and found that domestic currency depreciation can yield export benefits, particularly when the Marshall-Lerner condition holds. Similarly, Dilanchiev et al. (2022), in a study on Georgia using an autoregressive distributed lag (ARDL) model, confirmed that the real exchange rate exerts a positive long-run impact but has a negative short-run effect on the trade balance.

Rahman et al. (2024), focusing on the BCIM-EC region (Bangladesh, China, India, and Myanmar), highlighted the asymmetric nature of real exchange rate effects. They found that depreciation of the Bangladeshi taka stimulated exports to China and India but hindered exports to Myanmar. In the long run, such changes favored exports to major economies but had adverse effects on imports, reflecting the structural characteristics and bilateral trade patterns in the region.

Other empirical evidence also suggests that depreciation of the Vietnamese đồng (VND) can improve the trade balance over the long term via the J-curve effect, although market adjustment and the realization of benefits require time (Ho et al., 2023). Nguyen Thi My Linh and Nguyen Thi Kim Lien (2020) found that the real effective exchange rate can have negative short-run impacts, especially when import costs for raw materials increase. Nevertheless, in the long run, exchange rate flexibility can enhance trade balance outcomes by boosting domestic competitiveness. Nguyen Huu Tuan (2011) similarly emphasized that movements in the real exchange rate are closely linked to trade balance performance, with depreciation yielding long-term improvements but potentially dampening short-term results due to reliance on imported inputs.

Conversely, some studies report less clear evidence of the J-curve. Kim (2009), analyzing East Asia, found only limited

trade balance improvements from exchange rate adjustments, as in the cases of Korea-United States trade surplus and Korea-Japan trade deficit. Tunaer Vural (2016), in the case of Turkey, observed that sectors with comparative advantages and low dependence on imported inputs such as textiles tend to improve their trade balance when the lira depreciates. By contrast, industries heavily reliant on imported raw materials suffered adverse effects, thereby weakening the J-curve. Nguyen Thi Van Nga (2024), applying an ARCH model, demonstrated that the exchange rate significantly affects exports but has inconsistent effects on imports, underscoring the importance of a flexible exchange rate policy to stabilize markets and strengthen export capacity.

With respect to the inflation-exchange rate nexus, Kenya et al. (2018) analyzed the influence of interest rate and inflation differentials on Kenya's shilling (KES) against the US dollar between 2000 and 2014. Their findings showed that inflation differentials had a significant positive effect on exchange rate movements, consistent with the Purchasing Power Parity (PPP) theory. Similarly, Ali et al. (2015) found that inflation was positively correlated with exchange rate fluctuations, while money supply exhibited a negative relationship; both short-run and long-run interactions were observed in Pakistan over 2000-2009. Twarowska et al. (2014) further noted that rising inflation rates contributed to the depreciation of the Polish zloty, identifying inflation and the financial account balance as key determinants of the EUR/PLN rate.

Overall, the existing body of literature has examined the relationships among inflation, exchange rates, and trade balances, but predominantly within multilateral settings or selected bilateral contexts. Few studies have analyzed these dynamics in the context of Vietnam-Japan trade relations, despite Japan's role as a major trading partner. While prior studies have clarified the influence of the real exchange rate and documented J-curve effects in both the short and long run, they have often overlooked the role of other macroeconomic variables, particularly inflation. Given Japan's recent experience of complex inflationary pressures after years of low inflation, assessing how this factor interacts with the real exchange rate to shape the bilateral trade balance with Vietnam is both timely and necessary.

Accordingly, this study addresses this research gap by analyzing the impact of Japanese inflation and the JPY/VND real exchange rate on the Vietnam-Japan bilateral trade balance. The study's objectives are threefold:

H1: Japanese inflation has a negative effect on the JPY/VND exchange rate.

H2: The JPY/VND real exchange rate has a positive effect on the Vietnam-Japan bilateral trade balance.

H3: Inflation has a negative effect on the bilateral trade balance.

3. Data and research methodology

This study employs secondary time series data on Japanese inflation (INFJ), the JPY/VND real exchange rate

(RER), and the bilateral trade balance between Vietnam and Japan (BoT). Data are sourced from the General Statistics Office of Vietnam, the Statistics Bureau of Japan, and the International Monetary Fund (IMF). Monthly observations covering the period from January 2009 to December 2024 are utilized, yielding a total of 216 data points.

The empirical analysis comprises several stages, including multicollinearity testing, stationarity testing, estimation using the Autoregressive Distributed Lag (ARDL) model, and the application of the bounds testing approach to examine cointegration relationships. The ARDL methodology, originally proposed by Pesaran et al. (1996) and subsequently developed by Pesaran et al. (2001) and Im et al. (2003), combines elements of vector autoregression and ordinary least squares regression. It is recognized for its flexibility and applicability in the analysis of multivariate time series (Uko et al., 2016). The ARDL framework allows for the assessment of both short-run and long-run effects of independent variables on a dependent variable (Pesaran & Shin, 1998), and can be represented as:

$$Y_t = \alpha_0 + \sum_{i=1}^p \beta_i Y_{t-i} + \sum_{j=1}^q \sum_{l=0}^{\delta_j} \delta_{jl} X_{j,t-l} + \varepsilon_t$$

Where:

- Y_t : Dependent variable at time t
- $X_{j,t-l}$: j -th independent variable at lag l
- α_0 : Constant term
- β_i : Coefficient of the lagged dependent variable (autoregressive component)
- δ_{jl} : Coefficient of the j -th independent variable at lag l (distributed lag component)
- p : Maximum lag order of the dependent variable
- q : Maximum lag order of the j -th independent variable
- ε_t : White noise error term

To ensure the reliability of ARDL estimation, the variables must be stationary, optimal lag lengths should be identified, the model should avoid overfitting, and there should be no issues of autocorrelation or heteroskedasticity, with a correctly specified functional form (Gujarati, 2003).

A stationary time series is defined as one with a constant mean, variance, and covariance over time (Gujarati, 2003). Stationarity is tested using the Dickey-Fuller (DF), Phillips-Perron (PP), and Augmented Dickey-Fuller (ADF) tests.

Model specification

Model 1: Impact of Japanese inflation (INFJ) on the JPY/VND real exchange rate (RER):

$$RER_t = \alpha_0 + \sum_{i=1}^p \alpha_i RER_{t-i} + \sum_{j=0}^q \beta_j INFJ_{t-j} + \varepsilon_t$$

Given that both RER and INFJ are expressed in percentage terms, the variables are transformed into natural logarithms:

$$\ln RER_t = \alpha_0 + \sum_{i=1}^p \alpha_i \ln RER_{t-i} + \sum_{j=0}^q \beta_j \ln INFJ_{t-j} + \varepsilon_t$$

Model 2: Joint impact of Japanese inflation (INFJ) and the JPY/VND real exchange rate (RER) on the Vietnam-Japan bilateral trade balance (BoT):

$$\ln BoT_t = \alpha_0 + \sum_{i=1}^p \alpha_i \ln BoT_{t-i} + \sum_{j=0}^q \beta_j \ln INFJ_{t-j} + \sum_{k=0}^r \mu_k \ln RER_{t-k} + \varepsilon_t$$

4. Research results

a) Descriptive statistics

Table 4.1: Descriptive statistics of variables

Variable	Obs	Mean	Std. Dev.	Min / Max
BoT	216	5618.222	178920	-570069 / 481653
RER	216	205.9912	25.7703	158.5884 / 269.035
INFJ	216	0.0577778	0.2490105	-0.9 / 1.8

Source: Authors' calculations

The trade balance (BoT) has a positive mean value (5618.222), indicating a trade surplus for Vietnam during the study period. However, the large standard deviation (178920) relative to the mean reflects high volatility, with the minimum (-570069) representing a severe trade deficit period and the maximum (481653) indicating a high trade surplus. The real exchange rate (RER) between VND/JPY averages 205.9912 with a standard deviation of 25.7703, suggesting relative stability, as the minimum and maximum range from 158.5884 to 269.035. Japanese inflation (INFJ) averages at a very low 0.057778, reflecting stable inflation, with some periods of deflation (-0.9) and a maximum inflation rate of 1.8, consistent with Japan's inflation control policy.

b) Correlation matrix and multicollinearity test

Table 4.2: Correlation matrix

	BoT	RER	INFJ
BoT	1.0000		
RER	0.0341	1.0000	
INFJ	0.0572	-0.1434	1.0000

Source: Authors' calculations

Table 4.3: VIF Test

Variable	VIF	1/VIF
INFJ	1.02	0.979427
RER	1.02	0.979427
Mean VIF	1.02	

Source: Authors' calculations

The correlation matrix analysis in Table 3 indicates that the relationships among the variables in the model tend to reflect actual economic effects. Specifically, the real exchange rate (RER) and Japanese inflation (INFJ) exhibit a slight negative correlation ($\rho = -0.1434$), suggesting that when inflation in Japan increases, the VND/JPY real exchange rate tends to decrease. This finding is consistent with economic theory on the effect of inflation on exchange rates, whereby higher inflation can reduce a currency's purchasing power, thereby affecting the real exchange rate.

In addition, the trade balance (BoT) shows a positive relationship with both RER ($\rho = 0.0341$) and INFJ ($\rho = 0.0572$), indicating that changes in the real exchange rate and inflation may influence international trade, although the magnitude of such effects can vary depending on the specific economic context. The fact that none of the correlation coefficients exceed the 0.8 threshold and that the VIF values of all independent variables are below 3 suggests that the research model does not suffer from perfect multicollinearity.

c) *Augmented dickey-fuller test*

Table 4.4: Augmented dickey-fuller (ADF) test

Series	Prob.	Lag	Max Lag	Obs
BoT	0.0000	0	0	215
RER	0.7960	0	0	215
INFJ	0.0000	0	0	215

1st difference

Series	Prob.	Lag	Max Lag	Obs
D(BoT)	0.0000	0	0	214
D(RER)	0.0000	0	0	214
D(INFJ)	0.0000	0	0	214

Source: Authors' calculations

The Dickey-Fuller test results for the variables in the model indicate that lnBoT (log-transformed) is stationary at level I(0), and the independent variable INFJ is also stationary at level I(0). In contrast, the independent variable RER is stationary only after first differencing, I(1). Therefore, it is necessary to take the first difference of the RER variable.

d) *Johansen cointegration test*

Table 4.5: Johansen cointegration test

Model	Trace Statistic	Critical Value (5%)	Rank	Lags
Model 1	64.9173	3.76	1	1
Model 2	74.1638	15.41	2	2

Source: Authors' calculations

With a cointegration rank of 1, the Trace Statistic value is 64.9173, exceeding the 5% critical value of 3.76. This indicates the existence of at least one cointegration relationship between the real exchange rate (RER) and Japan's inflation (INFJ). This finding implies that the real exchange rate may be influenced in the long run by fluctuations in Japanese inflation, suggesting a strong long-term link between these two variables. With a cointegration rank of 2, the Trace Statistic value is 74.1638, surpassing the 5% critical value of 15.41. This result indicates the existence of at least two cointegration relationships among the variables: the trade balance (BoT), the real exchange rate (RER), and Japan's inflation (INFJ).

e) *ARDL regression results*

To construct an accurate and effective ARDL model, determining the optimal lag length for each variable is crucial. The optimal lag length ensures that the model accurately reflects both short-term and long-term relationships between the variables, avoiding the omission or excess of lags that could distort the analysis. Based on the optimal lag length test results, the variables in the ARDL model were selected with corresponding lags: dRER with lag 1, lnBoT with lag 2, and INFJ with lag 1.

Table 4.6: ARDL (1,1) regression results - Model 1

Variable	Coefficient	Std. Error	t-Statistic	P-value
Adjustment (ADJ)				
dRER (L1)	-0.7316	0.0716	-10.22	0.000
Long Run (LR)				
INFJ (L1)	-4.6194	2.4673	-1.87	0.063
Short Run (SR)				
INFJ (D1)	1.0135	1.4429	0.70	0.483
cons	0.1556	0.3618	0.43	

Source: Authors' calculations

$R^2 = 0.3973$ indicates that Japanese inflation explains 39.73% of the variation in the real exchange rate VND/JPY. Although the R^2 is not high, this is reasonable because

the real exchange rate is typically influenced by many other factors such as monetary policy, investment capital flows, and interest rates.

The ARDL regression results show that the error correction coefficient of RER at the first lag (-0.7316, $p = 0.000$) is negative and highly statistically significant, confirming the existence of a long-run equilibrium relationship and a rapid adjustment speed back to equilibrium. In the long run, Japanese inflation has a negative impact on the real JPY/VND exchange rate (-4.6194, $p = 0.063$), although the statistical significance is not strong enough to confirm this relationship. In the short run, the INFJ variable does not have a significant impact on RER (1.0135, $p = 0.483$). The constant term is not statistically significant (0.1556, $p = 0.668$), indicating no evidence of fixed factors outside the model. Overall, the results suggest that although there may be a relationship between Japanese inflation and the real JPY/VND exchange rate, this impact is not strong in the short run and is only marginally significant in the long run.

Table 4.7: ARDL (2,1,1) regression results - Model 2

Variable	Coefficient	Std. Error	t-Statistic	P-value
Adjustment (ADJ)				
lnBoT (L1)	-0.4295	0.0830	-5.17	0.000
Long Run (LR)				
dRER (L1)	-0.2239	0.4610	-0.49	0.628
INFJ (L1)	11.0211	9.2438	1.19	0.235
Short Run (SR)				
lnBoT (LD)	-0.3794	0.0689	-5.50	0.000
dRER (D1)	0.4039	0.1633	2.47	0.014
INFJ (D1)	-5.3982	3.2550	-1.66	0.099
cons	-0.2547	0.7924	-0.32	

Source: Authors' calculations

$R^2 = 0.4881$ indicates that 48.81% of the variation in the Vietnam-Japan trade balance is explained by the real VND/JPY exchange rate and Japanese inflation. This suggests that these two factors play an important role in influencing changes in the trade balance. However, the remaining 51.19% of the variation is unexplained, reflecting the influence of many other factors. The error correction coefficient of lnBoT at the first lag (-0.4295, $p = 0.000$) is highly statistically significant, indicating the existence of a long-run equilibrium relationship, but with a slower adjustment speed compared to the real exchange rate in Model 1.

In the long run, the real exchange rate does not have a significant effect on the trade balance (-0.2239, $p = 0.628$), while Japanese inflation has a positive but statistically insignificant effect (11.0212, $p = 0.235$). This indicates that exchange rate and inflation fluctuations in Japan are not the main determinants of Vietnam's trade balance in the long run. In the short run, the dRER variable has a positive and statistically significant impact on the trade balance (0.4039, $p = 0.014$), suggesting that the depreciation of JPY/VND can improve the trade balance in the initial period. However, Japanese inflation has a negative short-term effect (-5.3982, $p = 0.099$), but only marginally significant. Additionally, the lnBoT variable at the first lag has a strong negative effect on itself in the short run (-0.3794, $p = 0.000$), reflecting the stability of the trade balance over time. These

results confirm that, in the short run, the depreciation of JPY/VND can support Vietnam's trade balance, but in the long run, other factors beyond exchange rates and Japanese inflation may play a more important role in determining trade trends between the two countries.

f) Bounds test

Table 4.8: Bounds test results

Model	Statistic	Value	Critical Values (I(0))	Critical Values (I(1))	Conclusion
Model 1	F-statistic	52.917	4.04 - 6.84 (10%-1%)	4.78 - 7.84 (10%-1%)	Reject H0 (long-run relationship exists)
	t-statistic	-10.219	-2.57 - -3.43 (10%-1%)	-2.91 - -3.82 (10%-1%)	Reject H0 (long-run relationship exists)
Model 2	F-statistic	8.958	3.17 - 5.15 (10%-1%)	4.14 - 6.36 (10%-1%)	Reject H0 (long-run relationship exists)
	t-statistic	-5.175	-2.57 - -3.43 (10%-1%)	-3.21 - -4.10 (10%-1%)	Reject H0 (long-run relationship exists)

Source: Authors' calculations

In Model 1, the Bounds Test within the ARDL framework provides strong evidence of a long-term relationship among the variables. Specifically, the F-statistic value of 52.917 far exceeds the critical thresholds for both I(0) and I(1) at all significance levels (1%, 5%, 10%), allowing rejection of the null hypothesis (H_0) of no long-run linkage. Similarly, the t-statistic value of -10.219 is far below the smallest critical value, further confirming the existence of a long-run relationship. This indicates that the Real Effective Exchange Rate (RER) and Japan's inflation rate (INFJ) are cointegrated, meaning that despite short-term fluctuations, these variables maintain a long-run equilibrium. When deviations from equilibrium occur, adjustment mechanisms act to restore stability, highlighting the close link between the JPY/VND real exchange rate and Japan's inflation rate.

In Model 2, the F-statistic value of 8.958 also clearly exceeds the I(0) and I(1) critical thresholds at all significance levels, allowing rejection of the null hypothesis of no long-term relationship among variables. The t-statistic value of -5.175, well below the smallest critical value, further strengthens this conclusion. These results confirm that the Balance of Trade (BoT), Real Exchange Rate (RER), and Japan's inflation rate (INFJ) maintain a long-run equilibrium despite short-term fluctuations. When deviations occur, the adjustment mechanism helps return the variables to equilibrium, emphasizing the role of the real exchange rate and Japan's inflation in the dynamics of the trade balance.

g. Discussion

The study results have confirmed the hypotheses regarding the relationships between Japan's inflation (INFJ), the real exchange rate (RER), and the balance of trade (BoT) between Vietnam and Japan.

Hypothesis 1 (H1), which posits that Japan's inflation negatively affects the JPY/VND exchange rate, is confirmed in the long run, with a negative regression coefficient (-4.6194) and statistical significance at the 10% level. This aligns with macroeconomic theory, where high inflation reduces a currency's purchasing power, leading to a lower real exchange rate. However, in the short run, this effect is not statistically significant, indicating that exchange rate adjustments take time to fully reflect inflation factors.

Hypothesis 2 (H2), regarding the positive effect of the JPY/VND real exchange rate on Vietnam-Japan trade

balance, is confirmed in the short run, with a positive regression coefficient (0.4039) and statistical significance at the 5% level. This suggests that JPY depreciation against VND can enhance the competitiveness of Vietnamese goods in Japan, thus improving the trade balance. However, in the long run, this effect is not statistically significant, possibly due to other factors such as trade structure, tariff policies, or shifts in consumer demand.

Hypothesis 3 (H3), on the negative effect of inflation on the trade balance, is confirmed in the short run, with a negative regression coefficient (-5.3982) and statistical significance at the 10% level. This implies that high inflation in Japan may reduce consumer purchasing power, thus decreasing imports from Vietnam and exerting negative pressure on the trade balance. In the long run, this effect is not statistically significant, suggesting that other factors such as trade policies, international competition, or business adjustments may play more important roles.

Among the three hypotheses, all are supported; none is rejected. The key takeaway is that: (1) Japan's inflation negatively affects the JPY/VND exchange rate in the long run; (2) the real JPY/VND exchange rate positively affects the Vietnam-Japan trade balance in the short run, though without statistical significance; (3) inflation has a statistically significant negative effect on the trade balance in the short run. Furthermore, the study affirms the importance of the real exchange rate and inflation to the bilateral trade balance.

Regarding the impact of Japan's inflation on the real exchange rate (JPY/VND), these findings align with prior international studies such as Ali et al. (2015). Regarding the effect of the real exchange rate on the Vietnam-Japan trade balance, the results are consistent with earlier works such as Roosaleh and Edison (2020) for Indonesia and Kim (2009) for Korea. Additionally, we confirm the short-run negative effect of inflation on the trade balance. This mirrors prior findings in Vietnam, such as Nguyen Thi My Linh and Nguyen Thi Kim Lien (2020), who also observed that inflation can reduce both exports and imports, thereby negatively influencing the trade balance.

A novel aspect of this study is its detailed assessment of the impact of inflation on the real exchange rate and the impact of the real exchange rate on the trade balance within the Vietnam-Japan context. The research highlights that the real exchange rate does not have a long-run effect on the trade balance a notable finding given that prior studies such as Bahmani-Oskooee (2008) found a positive long-run effect. This difference may reflect other macroeconomic factors influencing the relationship, such as tariff policies, trade structure, and external policies of major trade partners.

5. Recommendations and conclusion

Bilateral trade relations between Vietnam and Japan have undergone more than 50 years of robust development, evolving into one of the most comprehensive and extensive strategic partnerships. By 2030, the development orientation for trade between the two nations will focus on strengthening economic cooperation, diversifying areas of collaboration, and enhancing the quality of trade exchanges, based on

the plans and policies currently being implemented by the Government of Vietnam (Prime Minister, 2021).

The research findings indicate that fluctuations in inflation, exchange rates, and the continual shifts between deficits and surpluses in the Vietnam-Japan trade balance have posed significant challenges for Vietnamese enterprises, particularly those investing in and conducting international business in Japan.

The first challenge stems from the rising Consumer Price Index (CPI) in Japan, combined with the depreciation of the Japanese yen (JPY) caused by the Bank of Japan's accommodative monetary policy, exerting upward pressure on the prices of Vietnam's key export products to Japan and undermining their competitiveness. The second challenge lies in the unpredictable volatility of the JPY/VND exchange rate, influenced by both BOJ's monetary policy and global macroeconomic factors such as U.S. interest rate changes and international capital flows. Such instability exposes Vietnamese exporters and importers to substantial risks in business planning.

The third challenge arises from the structure of bilateral trade. Vietnam's exports to Japan primarily consist of labor-intensive, low value-added goods such as textiles, garments, footwear, agricultural produce, and seafood items highly susceptible to competition and reliant on cheap labor. In contrast, imports from Japan largely comprise high value-added industrial products, machinery, equipment, and electronic components that require advanced technologies not yet domestically produced in Vietnam. This disparity not only reflects the technological gap between the two countries but also results in Vietnam incurring trade disadvantages, as export revenues fail to offset the rising costs of imports.

Based on these identified challenges from Japan's economic developments, the authors propose several policy recommendations for Vietnam to mitigate risks and strengthen its position in bilateral relations. These measures not only aim to address current conditions but also seek to build a sustainable economy, gradually reducing dependence and enhancing long-term competitiveness:

Firstly, mitigate cost-push inflation from Japanese imports by selectively controlling imports through non-tariff barriers and encouraging domestic production. Strengthening R&D for import-substituting products, supported by targeted policies, will help reduce dependence and stabilize prices.

Secondly, improve the trade balance by diversifying export markets and increasing the value-added content of products (through deeper processing and high technology) to reduce trade deficits. Developing domestic supporting industries is also crucial to decreasing reliance on imported components.

Thirdly, enhance competitiveness and reduce dependency by prioritizing technological improvement and human resource development through technology transfer with Japan and by upgrading the quality of education and training. Promoting industrial clusters and leveraging trade

agreements such as the CPTPP will strengthen national economic and trade positions.

While this study has provided valuable findings, certain limitations remain. First, the ARDL model examines relationships among a limited set of macroeconomic variables, whereas the trade balance is also influenced by other factors such as trade policy, investment climate, supply chain development, and consumer demand in Japan. Second, the research relies on historical data and does not account for the impacts of unexpected economic shocks, such as pandemics, financial crises, or political instability, which could significantly affect exchange rates and international trade. Finally, due to data and methodological constraints, the results may be specific to the study period and may not be fully generalizable to the future.

These limitations suggest avenues for further research. The model could be expanded to incorporate factors such as trade policy, investment environment, and supply chain structure to better capture influences on the trade balance and real exchange rates. Moreover, future research should evaluate the impacts of major economic shocks (e.g., the COVID-19 pandemic, global financial crises, or political disruptions) and employ methods such as structural models or dynamic data models to analyze how such shocks affect exchange rates and international trade balances.

In conclusion, this study contributes to clarifying the relationships between inflation, real exchange rates, and the trade balance in the context of Vietnam-Japan bilateral trade. The findings not only complement existing macroeconomic theories but also enhance understanding of the factors influencing international trade in both developed and developing economies.

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