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The Role of Exchange Rate in Supporting Trade Balance in Vietnam

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Abstract

In this paper, I apply a multivariate Structural Vector Autoregressive (SVAR) and Vector Error correction model (VECM) to analyze short-term and long-term effects of foreign exchange rate on trade balance of Vietnam, using monthly data from 2004-2015. Real effective exchange rate is used to reflect overall performance of Vietnam's currency. The results suggest that in short-term, exchange rate has very limited impacts on trade flows; while in longer horizon, it does not affect imports in either nominal or real terms but has strong effect on nominal exports. To the extent of this research, there is a number of policy implications has been made to support policy makers in Vietnam.

BCC Bilateral Assistance & Capacity Building for Central Banks

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Contents

Section 1

Introduction

1.1 Motivation

Traditionally, exchange rate has played a very important role in international trade, especially in such a great open world economy. Many countries pursue a development strategy using exchange rate as a main intervention, which is called the export-led growth model.

Vietnam is one among the countries pursuing such strategy. The exports sector has experienced a structural change due to greater integration into the world economy. Although globalization and trade liberalization has been beneficial for Vietnam, it also increases the exposure to external shocks. Besides, one of main duties of exchange rate tool facilitating trade balance, stays remained despite the fact that the exchange rate regime has been adjusted many times during the last 20 years.

Notably, when the authority adjusts the exchange rate, they will have to face other unexpected impacts, given that there has existed twin deficits for a long time – trade balance deficit and budget deficit. In addition, the fact that Vietnam's public debt and external debt are increasing quickly recently is a barrier to the local currency depreciation.

Nevertheless, the impact of changes in exchange rate on Vietnam's trade flows is still ambiguous. Therefore, this paper aims to deal with the question of effectiveness of exchange rate movements on trade flows. In more details, how trade flows react to shocks of exchange rate. These shocks can arise from either administrational decisions or market's fluctuations.

For this purpose, the method is adopted is Structural Vector Auto-regression (SVAR), focusing on impulse response functions of exports and imports in the presence of exchange rate's shocks. Real effective exchange rate is used to reflect the competitiveness of Vietnam. The result is then compared with some other countries, including The United States, Japan, Korea and China, which are among largest trading partners of Vietnam. The author also uses an additional method which is Vector Error Correction model (VECM) for capturing long-run dynamics.

1.2 Literature Review

There is a wide range of literature focusing on investigating the impacts of exchange rate on trade balance. Most of the evidence provided is in favour of the theory, that is, a depreciation of exchange rate leads to higher exports and positively affect trade balance

(i.e., Wilson and Takacs (1979) using fixed exchange rate data, Bahmani-Oskooee and Kara (2003) using flexible exchange rate data).

Krugman and Obstfeld (2001), Hatemi-J (2004) found evidence of J-curve when investigating the impact of exchange rate on trade balance. The heart of J-curve effect drawn from Marshall-Lerner condition is that the trade balance of a country experiences the J-curve effect when the domestic currency is devaluated. At first, the total value of imports increases due to higher price of imported goods, and exceeds the total value of exports. This results in a trade balance deficit. However, the devaluation increases demand for exports, resulting in higher level of exports. Eventually, exports recover and bring back trade balance surplus.

It can be seen that in spite of many attentions on the effects of exchange rate on trade balance, little attention is paid on trade flows individually – exports and imports flows. Given that, this paper seeks contribution in revealing the dynamics of exports and imports in response to shocks of exchange rate.

The rest of the paper is structured as: part II refers to the background of Vietnam's trade performance and different exchange rate regimes; part III covers theoretical framework; part IV includes the data and methodologies used in the paper; part V is about the key results and further clarifications; and finally, part VI concludes.

Section 2

Background

2.1 Trade performance

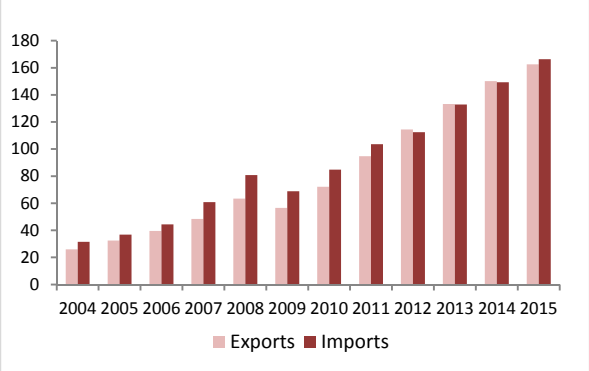
During the period of 2004 – 2015, both exports and imports are increasing year by year except in 2009 due to global crisis, but imports volume is usually higher then exports volume, resulting in trade balance deficit, except for the three years from 2012 to 2014 when there was trade balance surplus. However a surplus is not sustainable. Therefore, in 2015, deficit re-appeared even when VND decreased 5%.

Besides, from figure 2 it can be seen that trade share between Vietnam and lower-depreciated countries is dominating the total trade of Vietnam with major partners, meaning that the trade balance deficit may suffer more through competition.

In terms of structure by-products, over the period of more than 10 years, the share of raw or preliminary processed and low-value manufacturing goods reduced from 76% to 52%; share of high-value manufacturing goods increased from 4% to 39% but most of these classified high- value products are for assembly. This implies that it may take long time and great deal of efforts in order to increase the value added contained in exporting products.

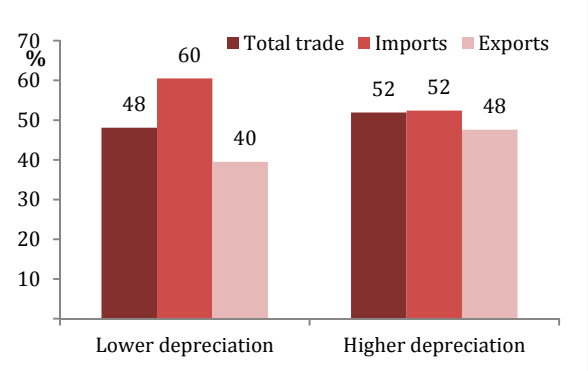
Meanwhile, imports structure indicates the weakness of domestic production, including export production. Figure 4 shows that a large proportion of importing products is accounted by production materials, fuels, machinery and equipment, and it increased from 65% of total imports in 2004 to 78% in 2015. This implies that exports production in particular and industrial production in general, highly depend on imports. It also indicates a lack of subsidiaries industries for domestic production.

Figure 2.1: Exports and imports performance



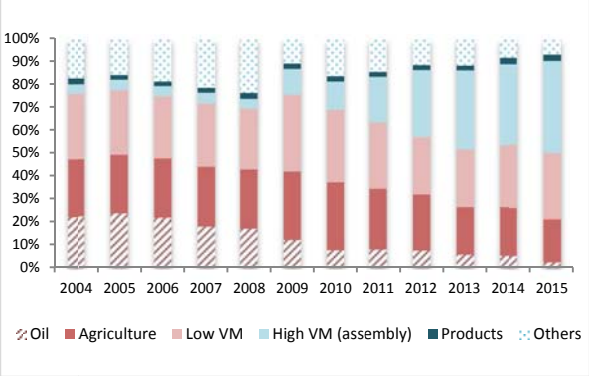
Source: GSO

Figure 2.2: Trade flows with largest partner in 2015



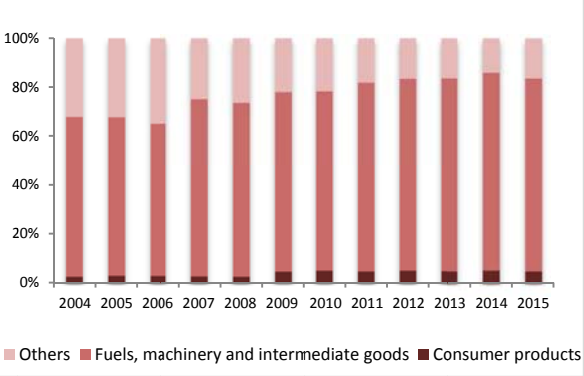
Source: GSO

Figure 2.3: Structure of exports



Source: GSO

Figure 2.4: Structure of imports



Source: GSO

2.1 Exchange rate regime

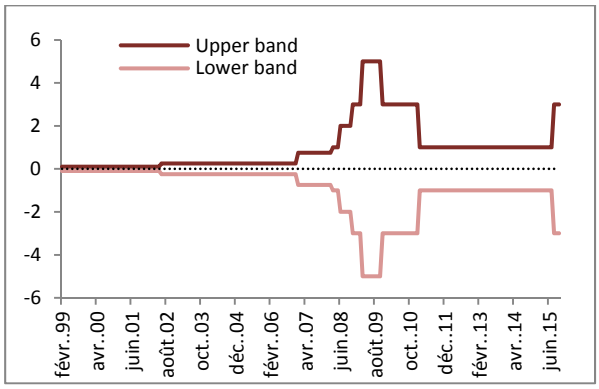
Since 1999, trading in the interbank market had to take place at exchange rates within ranges stipulated daily by the State Bank of Vietnam (SBV). Only the SBV, state-owned banks, joint-stock banks, joint-venture banks, and branches of foreign banks could participate in the interbank market. The official exchange rate (OER) has been set based on the daily average exchange rate in the interbank market during the previous business day. Participating banks must quote rates no more than the allowed trading band compared previous day's official rate.

The trading band has been adjusted many times to intensify the flexibility of market exchange rate. There were two periods that the band fluctuated the most. The first one was in 2009 due to global financial crisis (the band was widened to±5%), the second was in 2015, under a lot of pressure from international market and decision of Fed raising Fed funds rates.

In addition, VN has experienced many types of exchange rate structures, from pegging within horizontal bands in 1999 to managed floating without pre-announced in 2002, conventional peg in 2006, and stabilized arrangement from 2008 onwards.

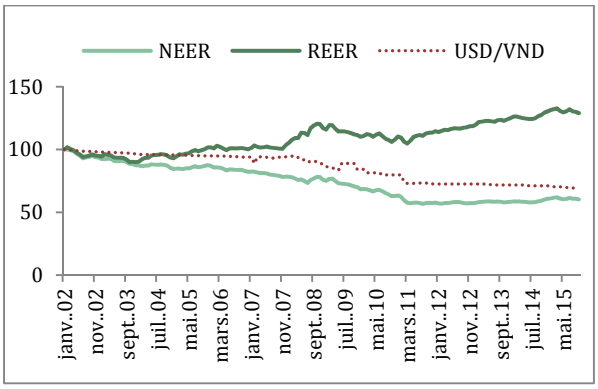
Although SBV announced the exchange rate anchor based on a basket of currencies since 1999, the International Monetary Fund (IMF) has only recognized this since 2012. However, in practice, the Nominal Effective exchange rate is strongly driven by the bilateral exchange rate against USD. The distance between REER and NEER is becoming further and further, indicating that the official exchange rate may not reflect exactly how strong the currency is. With increasing REER, it seems that Vietnam is suffering a loss of competitiveness.

Figure 2.5: Allowable bands around OER %, 1999-2015



Source: Author's summary

Figure 2.6: NEER, REER and nominal exchange rate



Source: SBV

Table 2.1: Vietnam's exchange rate regimes

Pegged exchange rate within horizontal bands	Managed floating with no pre-announced path for the exchange rate	Conventional pegged arrangement	Stabilized arrangement	Other managed arrangement	Stabilized arrangement	
1999-01	2002-05	2006-07	2008	2009	2010-11	2012-15
Exchange rate anchor	IMF-supported or other monetary program	Exchange rate anchor (vis a vis US. dollar)				Exchange rate anchor (a basket of currencies)

Source: IMF

Section 3

Theoretical Framework

This part mentions a number of channels through which exchange rate may pass its effects on to the economy (Figure 3.1).

3.1 Cost channel

The direct cost channel (or inflation channel) can be explained that if there is nominal currency depreciation (Vietnam dong becomes weaker), imported consumer goods become more expensive. For simplicity, it is supposed that there is no change in profit margins of foreign exporters and domestic importers, which eventually results in higher price of foreign goods in domestic markets.

Besides, a depreciation of currency also makes imported intermediate goods more expensive, leading to higher cost of production and higher price of finished goods.

On the other hand, because foreign goods more expensive, demand for exports and domestic substitutes increase, resulting in a rise in price of domestically produced goods.

Together, these channels can give a rise to the consumer price.

3.2 Competitiveness channel

Cheaper domestic goods make them more competitive, which increases the level of activity in favour of exports, thus bringing higher growth.

3.3 Terms of trade channel

In contrast to the competitiveness channel, in terms of trade, weaker domestic currency hurts the purchasing power of the country (that it requires more exported units to buy an imported unit), therefore negatively affects growth

3.4 Policy channel

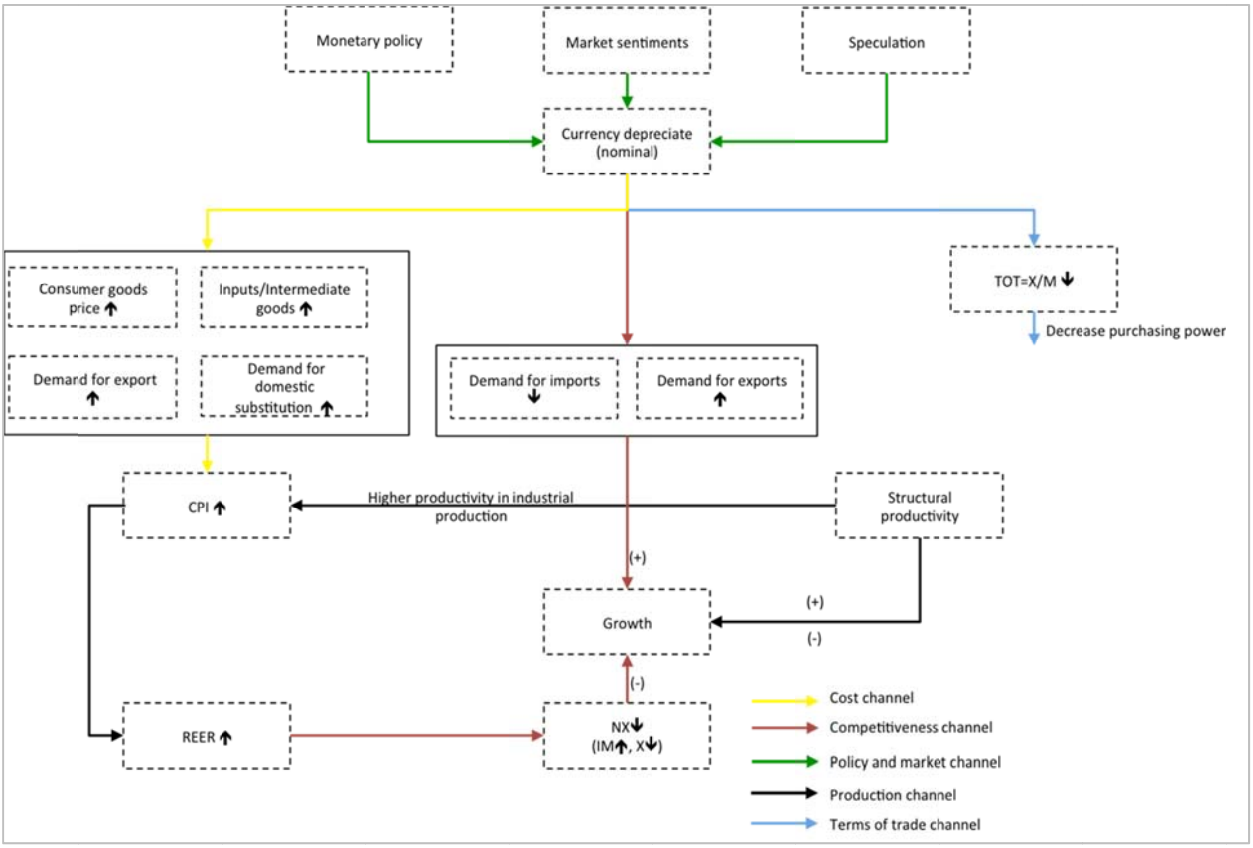
This channel includes factors such as policy decision, market sentiments, or speculations that can drive the exchange rate movements and hence indirectly affect the economic performance.

3.5 Productivity channel

This channel is developed based on Balassa-Samuelson effect. According to that, technological progress leads to higher productivity in commonly traded goods.

Because of higher productivity, wage in traded sector increases. It is assumed that wages traded and non-traded sectors are equal, and productivity in non-traded sector is changing slowly, so the price in non-traded sector will be increasing to ensure equal wage distribution. This will lead to higher price level in higher-productivity country and finally, such country will have to face higher real exchange rate.

Figure 3.1: Exchange rate channels



Source: Author's development

Section 4

Data and Methodology

4.1 Data

So in order to implement the study, a number of variables are considered including exports, imports, trade balance, exchange rate, productivity; consumer price index, oil price, fed fund rates and a dummy variable of real exchange rate with break point at September of 2008. Data series is collected from 2004 to 2015.

With some series such as, exports, imports, CPI, production and trade balance, seasonal adjustments are applied. All series are in log transformation to obtain growth and avoid heteroskedasticity.

The data will be tested before entering the model. Two tests are conducted, including: (i) unit root test and (ii) Granger – causality test. The result from unit root test shows that all variables are integrated order one (I(1)) and need to be first differenced for stationary. Following that, I used Granger-causality test. The result indicates that there is a number of causality relations found. Therefore, my endogenous variables are exports, imports, production and real effective exchange rate; I also include a number of exogenous variables including consumer price index, Fed fund rate, oil price and a dummy variable.

Table 4.1: Variables

Variables	Unit	Mean	Median	SA	Sources of data
Industrial production/labour (IP)	Thousand USD	718.09	712.15	Yes	General Statistics Office of Vietnam
Consumer price index (CPI)	Index	109.43	103.44	Yes	
Exports volume (X)	Million USD	6796.03	5406.55	Yes	
Imports volume (IM)	Million USD	7361.39	6948	Yes	
Net exports (NX)	Index	0.898	0.885	Yes	Defined by X/IM ratio
Real effective exchange rate (REER)	Index	111.41	111.64	No	State Bank of Vietnam
Exchange rate vis-à-vis USD (ER)	USD per VND	18410.22	17948.5	No	
Crude oil price (OIL)	USD/barrel	69.13	70.24	No	Federal Reserve Bank of St. Louis
Fed Fund rates (FFR)	%	1.46	0.31	No	
Dummy variable of REER					With structural break at point 2008M9

Table 4.2: Pre-conditional tests

Variables		Unit root test	Granger – causality test
CPI	Endogenous	I(I)	- IM causes CPI**, X***, REER** - CPI causes X** - REER causes X***
X		I(I)	
IM		I(I)	
REER		I(I)	
IP	Exogenous	I(I)	
NX		I(I)	
ER		I(I)	
OIL		I(I)	
FFR		I(I)	

4.2 Methodology

4.2.1 SVAR

The SVAR system which taking account into the presence of contemporaneous effect of endogenous variables within the system, is expressed as follows:

$$Ay_t = \alpha + \beta_1 y_{t-1} + \beta_2 y_{t-2} + \cdots + \beta_p y_{t-p} + B\varepsilon_t \quad (4.1)$$

where $y_t = (y_{1t}, y_{2t},\ldots, y_{nt})'$ is a nx1 matrix denoting the system of endogenous variables; $\varepsilon_t = (\varepsilon_{1t}, \varepsilon_{2t},\ldots,\varepsilon_{nt})'$ is a nx1 matrix of structural shocks. Note that elements of matrix ε_t are uncorrelated (they have different causes)[1], which means

$$\varepsilon_t \sim i.i.d.\left(\begin{pmatrix}0\\0\end{pmatrix}, \begin{pmatrix}\sigma_1^2 & 0\\ 0 & \sigma_2^2\end{pmatrix}\right) \quad (4.2)$$

A is a squared matrix containing the contemporaneous effects of endogenous variables on each other. B is a squared matrix that reflects the contemporaneous effects of structural disturbances on variables in the system.

$$A = \begin{bmatrix}1 & a_{12} & . & a_{1n}\\ a_{12} & 1 & . & a_{1n}\\ . & . & . & .\\ a_{12} & a_{1n} & . & 1\end{bmatrix}; B = \begin{bmatrix}b_{12} & 0 & . & 0\\ 0 & b_{22} & . & 0\\ . & . & . & .\\ 0 & 0 & . & b_{nn}\end{bmatrix} \quad (4.3)$$

Although equation (4.1) is useful for disentangling effects of individual shocks, the only way to estimate the system is to transform (4.1) into a reduced form of VAR:

$$y_t = A^{-1}\alpha + A^{-1}\beta_1 y_{t-1} + A^{-1}\beta_2 y_{t-2} + \cdots + A^{-1}\beta_p y_{t-p} + A^{-1}B\varepsilon_t \quad (4.4)$$

where $y_t = (cpi, reer, im, x)$ denotes the system of endogenous variables and $\varepsilon_t = (\varepsilon_{cpi}, \varepsilon_{reer}, \varepsilon_{im}, \varepsilon_x)$ captures the structural disturbances

[1] Bernanke (1986), page 5

(4.2) can be rewritten as:

$$y_t = \mu + \varphi_1 y_{t-1} + \varphi_2 y_{t-2} + \cdots + \varphi_p y_{t-p} + e_t \quad (4.5)$$

where $\mu = A^{-1}\alpha$; $\varphi_p = A^{-1}\beta_p$; $e_t = A^{-1}B\varepsilon_t$ or A$e_t = B\varepsilon_t$

We have the variance/covariance matrices of innovations and structural shocks as follows:

$$E(e_t e_t') = \Sigma = A^{-1}B\varepsilon_t(A^{-1}B\varepsilon_t)' = A^{-1}B\varepsilon_t\varepsilon_t'B'(A^{-1})' = A^{-1}B\Sigma_\varepsilon B'(A^{-1})' \begin{bmatrix} \sigma_1^2 & \sigma_{12} & . & \sigma_{1n} \\ \sigma_{21} & \sigma_2^2 & . & \sigma_{2n} \\ . & . & . & . \\ \sigma_{n1} & \sigma_{2n} & . & \sigma_n^2 \end{bmatrix} \quad (4.6)$$

$$E(\varepsilon_t\varepsilon_t') = \Sigma_\varepsilon = \begin{bmatrix} \sigma_1^2 & 0 & . & 0 \\ 0 & \sigma_2^2 & . & 0 \\ . & . & . & . \\ 0 & 0 & . & \sigma_n^2 \end{bmatrix} \quad (4.7)$$

Within an SVAR system with n variables, the total of unknown parameters in matrix A $(n^2 - n)$, matrix B(n^2) and variance/covariance matrix of structural disturbances (n) are $2n^2$; the number of known estimates or distinct elements of variance/covariance matrix of innovations are $\frac{n(n+1)}{2}$.[2] Therefore, the model is just-identified if the number of additional restrictions are $2n^2 - \frac{n(n+1)}{2} = \frac{n(3n-1)}{2}$

Following Sims (1986) and Bernanke (1986), I use theories and practice to derive restrictions.

Upon its own shock, CPI is supposed to response to shocks of imports and exports by channels. REER is affected by CPI shocks in accordance with the definition and shock of itself. Imports respond to changes in REER while exports are affected by changes in imports and exchange rate movements.

According to that, matrices A and B are as follows:

$$A = \begin{bmatrix} 1 & 0 & a_{13} & a_{14} \\ a_{21} & 1 & 0 & 0 \\ 0 & a_{32} & 1 & 0 \\ 0 & a_{42} & a_{43} & 1 \end{bmatrix} \quad B = \begin{bmatrix} b_{11} & 0 & 0 & 0 \\ 0 & b_{22} & 0 & 0 \\ 0 & 0 & b_{33} & 0 \\ 0 & 0 & 0 & b_{44} \end{bmatrix} \quad (4.8)$$

Impulse response functions

We consider the VMA representative of a SVAR system at time (t+s)

[2] See Bernanke (1986)

$$\begin{pmatrix} y_{1t+s} \\ y_{2t+s} \\ y_{nt+s} \end{pmatrix} = \begin{pmatrix} \gamma_1 \\ \gamma_2 \\ \gamma_n \end{pmatrix} + \begin{pmatrix} \psi_{11}^0 \psi_{12}^0 \psi_{1n}^0 \\ \psi_{21}^0 \psi_{22}^0 \psi_{2n}^0 \\ \psi_{n1}^0 \psi_{n2}^0 \psi_{nn}^0 \end{pmatrix} \begin{pmatrix} \varepsilon_{1t+s} \\ \varepsilon_{2t+s} \\ \varepsilon_{nt+s} \end{pmatrix} + \begin{pmatrix} \psi_{11}^1 \psi_{12}^1 \psi_{1n}^1 \\ \psi_{21}^1 \psi_{22}^1 \psi_{2n}^1 \\ \psi_{n1}^1 \psi_{n2}^1 \psi_{nn}^1 \end{pmatrix} \begin{pmatrix} \varepsilon_{1t+s-1} \\ \varepsilon_{2t+s-1} \\ \varepsilon_{nt+s-1} \end{pmatrix} + \cdots +$$

$$\begin{pmatrix} \psi_{11}^s \psi_{12}^s \psi_{1n}^s \\ \psi_{21}^s \psi_{22}^s \psi_{2n}^s \\ \psi_{n1}^s \psi_{n2}^s \psi_{nn}^s \end{pmatrix} \begin{pmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{nt} \end{pmatrix} \quad (4.9)$$

where $\psi_{ij}^s = \frac{\partial y_{it+s}}{\partial \varepsilon_{jt}}$ denotes the response of the i[th] element of vector y_{t+s} on the LHS at time (t+s) to the shock on the j[th] element of vector ε_t at time t.

4.2.2 VECM

Starting with the reduced form of VAR:

$$y_t = A_1 y_{t-1} + \cdots + A_p y_{t-p} + e_t \quad (4.10)$$

The model can be rewrite as:

$$y_t - y_{t-1} = (A_1 + A_2 + \cdots + A_p - I) y_{t-1} - (A_2 + A_3 + \cdots + A_p)(y_{t-1} - y_{t-2})$$
$$- \cdots - A_p (y_{t-(p-1)} - y_{t-p}) + e_t \quad (4.11)$$

After some algebra, (4.11) be comes:

$$\Delta y_t = \theta_1 \Delta y_{t-1} + \cdots + \theta_{p-1} \Delta y_{t-(p-1)} + \pi y_{t-1} + e_t \quad (4.12)$$

where $\theta_i = -\sum_{j=i+1}^{p} A_j \; for \; i = 1,2,\dots,p-1 \; and \; \pi = -(I - A_1 - \cdots - A_p)$

θ_i captures short-run adjustment; and π contains relationships among levels in long-run

Matrix $\pi(nxn)$ can be written as:

$$\pi = \alpha \beta' \quad (4.13)$$

where α is a (nxr) matrix capturing error correction coefficients; β is an (nxr) matrix describing the coefficients of cointegrating relationships (r is rank of matrix π)

Error correction term (π) measures how far we are from the equilibrium in previous period.

Section 5

Empirical results

5.1 Results

Responses of Vietnam's imports and exports to a shock of REER are demonstrated in Figure 8. According to that, movements in real exchange rate do not have significant effects on imports and exports.

Figure 5.1: Response of Vietnam's trade flows

Figure 5.1a
Response of Vietnam's imports to Shock of REER

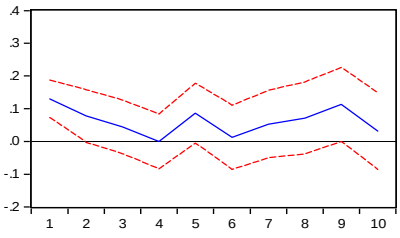
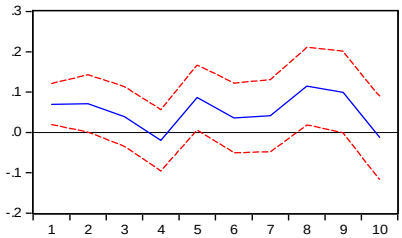


Figure 5.1b
Response of Vietnam's exports to Shock of REER



For robustness checking, the model is re-specified by: (i) Adding of the variables controlling foreign demand of the United States, Japan, Korea and China, which are among largest trading partner of Vietnam.[3] Since the frequency of data is monthly, GDP data cannot be used. Instead of that, industrial production is taken into account; (ii) Adding dummy variables controlling changes in exchange rate mechanism of Vietnam; and (iii) Re-modelling on a sub-sample of period from 2005m1-2012m12 (96 observations).

However, the results are very consistent across different specifications. This leads to the crucial question that whether real exchange rate actually does not have much influence on variations of trade flows or it is only a specific case of Vietnam.

Table 5.1: Robustness checks

No.	Measures	Response of exports	Response of imports
1	Controlling foreign variables	Unchanged	Unchanged
2	ER regimes dummies	Unchanged	Unchanged
3	Sub-sample (2005m1-2012m12)	Unchanged	Unchanged

To extend the overview of real exchange rate shock's impacts on trade behavior, the model is replicated on data of the United States, Japan, Korea and China.

[3] Countries are selected based on trade weights and the availability of data series on industrial production.

In all cases, the results are statistically significant, providing evidence that there is strong relationship between real exchange rate and trade flows. However, it is not true for Vietnam.

Figure 5.2: Responses of US trade flows to Shock of REER

Figure 5.2a
Response of US imports to Shock of REER

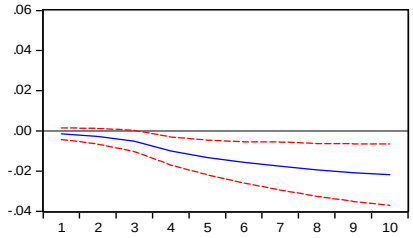


Figure 5.2b
Response of US exports to Shock of REER

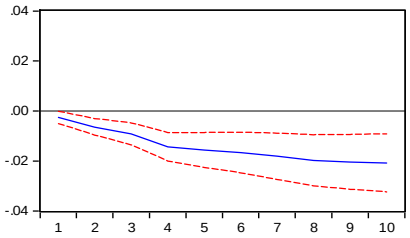


Figure 5.3: Responses of Japan's trade flows to Shock of REER

Figure 5.3a
Response of Japan's imports to Shock of REER

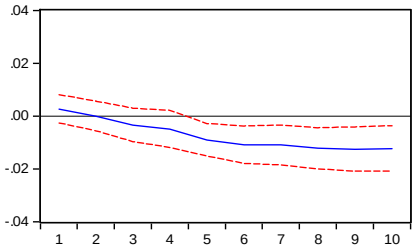


Figure 5.3b
Response of Japan's exports to Shock of REER

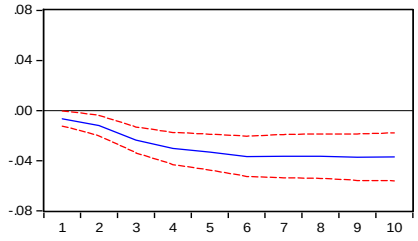


Figure 5.4: Responses of Korea's trade flows to Shock of REER

Figure 5.4a
Response of Korea's imports to Shock of REER

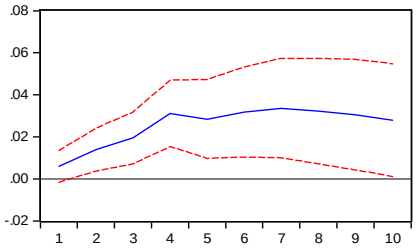


Figure 5.4b
Response of Korea's exports to Shock of REER

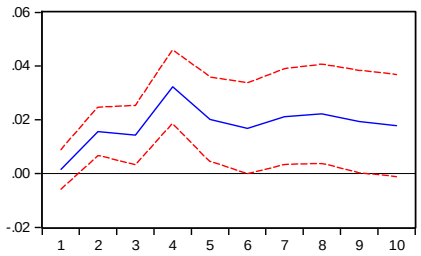
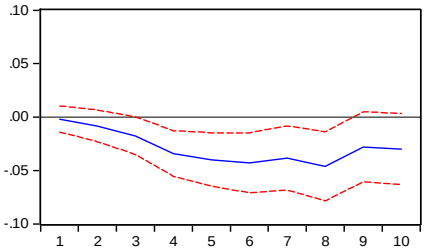
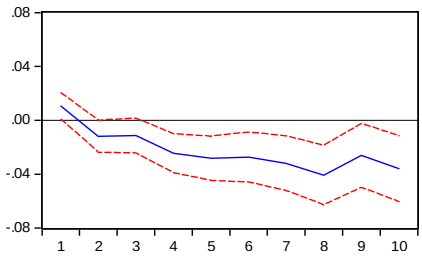


Figure 5.5: Response of China's trade flows to Shock of REER

Figure 5.5a
Response of China's imports to Shock of REER

Figure 5.5b
Response of China's exports to Shock of REER





In addition to SVAR, this paper also uses a VECM framework in order to capture the long-run effects to trade in Vietnam, given that the variables are I(1). This framework is applied for two sets of variables, nominal and real value of trade flows.

The results from VECM indicate that there is no long-run causality from exchange rate to real exports and imports. In terms of nominal value, exchange rate has only long-run effect on exports but not on imports. In terms of real value, exchange rate is not a determinant of real exports and imports in long horizon. These results confirm that imports stay unaffected by the change of exchange rate either in short or long horizon, while at the same time it only influences the price-component included in nominal exports.

Table 5.2: VECM outputs

	Real X	Real IM	Nominal X	Nominal IM
Lags	12	12	12	12
Long-run equation	LX(-1) - 2.889*LCPI(-1) + 7.700*LREER(-1) - 1.503*LIM(-1) +1.226)	LIM(-1) + 1.921*LCPI(-1) - 5.122*LREER(-1) - 0.665*LX(-1) - 0.816)	LX(-1) 2.544*LCPI(-1) + 5.096*LREER(-1)- 3.251*LIM(-1)-5.763	LIM(-1) - 0.783*LCPI(-1) - 1.568*LREER(-1) - 0.308*LX(-1)+ 1.773
CE coefficient	-1.000	0.536	-0.070	-0.044
p-value	0.002	0.321	0.002	0.577
Significant	Yes	No	Yes	No
Conclusion	No LR relation	No LR relation	LR relation	No LR relation

Implications

Does exchange rate appear to be useful in supporting trade in global markets?

The effect of exchange rate on exports and imports conventionally is through relative prices. The purpose of countries when devaluating their currencies is to keep exporting goods cheaper relatively to foreign goods. The role of exchange rate to trade is not only an intervention tool but also seen as a strategy for export-led growth model. This trend has been popular since the last century.

In countries such as Germany and Japan, instead of nursing policies shielding domestic infant industries from foreign competition, they chose to focus on export side through a devaluation of exchange rate and taking advantages of technology transfer through greater openness.

1970s is considered an era of export-led growth strategy, experiencing a substantial transition of economies around the world. However, beside a few outstanding successful stories found in Germany, Japan, Hong Kong, South of Korea, Singapore, Taiwan, and Thailand, there were more cases on the downward side, especially in Latin America and Africa.

From outstanding examples, it can be seen that along with devaluation, successful countries also realize that foreign technology acquisition can play a more important role to complete electronics and manufacturing industries. Earlier Germany and Japan, and later four Asian tigers (Hong Kong, Singapore, S. Korea and Taiwan) have shown that much of their success is encouraged and attributed by FDI and foreign technology transfer as well as their ability to apply such technologies more efficiently than other competitors.

Besides, domestic protection is eliminated and competitiveness is facilitated. The US, Germany, and Japan are among good examples for their refusion of protecting domestic companies, as only competitiveness can create motivation for development. Focusing on comparative advantages is also an important factor. Although in a world of free-trade, comparative advantages are expected to produce trade surpluses with some partners, while also bring out deficits with others, it would be erroneous if countries loose their markets even in areas that they have comparative advantages.

On the other hand, development of innovation systems is necessary for countries to absorb foreign technology, facilitating the diffusion of initiates. Additionally, access to capital at low rates allows manufacturers to dramatically increase their capacity.

Why exchange rate does not affect real trade flows in Vietnam?

In Vietnam, in the last three decades, there has been a greater integration into the world economy. The authority has also pursued export-led growth strategy with many supporting policies relating to trade, including exchange rate management. However, exchange rate tool seems not to be fully effective. It is not necessarily due to the management of the tool itself but perhaps due to other conditions.

The question is why devaluation is effective in some countries while it is not in other countries, including Vietnam. It could be due to (1) Lack of subsidiaries industry; (2) slow technology transfer; (3) initially low price; and (4) loosely domestic market management.

(1) Lack of subsidiaries industy

Over the last 15 years, Vietnam's export sector is increasing speedily, so is import sector. As mentioned above, Vietnam's production and exports heavily depend on imported intermediate goods. As a result, a targeted exports facilitation strategy by

exchange rate intervention is not as effective as expected. This is reflected in insignificant impact of low exchange rate on net exports.

Recently, Vietnam's companies have recognized the importance of developing a subsidiaries industry for the country. However, SMEs in subsidiaries industry are facing limited access to credit. The constraints are subjected to banks' regulations on risk assessments.

(2) Slow technology transfer

Over the last decade, FDI is one important source for ELG strategy in Vietnam. The government in its effort to attract FDI, has facilitated foreign firms or joint ventures through tax incentives and other supporting policies for this sector. However, giving FDI sector too many priorities causes "crowding out" effect to domestic sector, and squeezes domestic firms since they cannot be as competitive as global companies. In fact, FDI does not appear to be as effective as expected in Vietnam. While other competitors in ASEAN are successful in attracting FDI and gradually acquiring technology transfer, it is not the case of Vietnam due to a lack of subsidiaries industry and huge gaps of know-how and skilled labors.

(3) Initially low price

Besides, prices of many exporting goods of Vietnam are already very low but their market shares are still not improved; hence the effort to lower exports prices actually cannot boost the foreign demand. The reasons for low price of Vietnam's products in the world markets can be explained as:

(i) Low market position

Low market position remains a serious issue for Vietnam's exports. Although being in the top of rice exporters, the country's global market share is only 7% (Table 5), totally dominated by India (32%) and Thailand (23%). Moreover, Vietnam is a price taker and its product price stays significantly lower than that of foreign counterparts (Figure 13). This could occur due to either low quality or brand-less products.

(ii) Low value added products

Although the percentage of manufacturing sector in exports is dramatically increasing over the past ten years (Table 6), its contribution to GDP has changed very slowly (Table 7). In addition, the fact that the country has to import a majority of intermediate goods for processing and then re-export, may distort the result. According to Nordas (2004), there is only 14% of value added in textile industry, one of the main export area of Vietnam, the rest is devoted for imported intermediate goods. Besides, the global market share for Vietnam's clothing and textiles only accounts for less than 3% (Table 8).

(iii) Limited participation in global value chains

Domestic firms' participation into the global value chain is limited. By 2015, only 36% of total domestic firms are integrated into export-oriented production networks. The corresponding numbers for Malaysia and Thailand are 60% and 21% respectively. The proportion of Vietnamese SMEs participating in global supply chain is just 21%, much less than in other countries (Figure 14).

Because of these reasons, a devaluation of VND is not only ineffective in facilitating exports but also reduce the incentives for improving quality of domestic manufacturing sector in the context of slow technology transfer. This in turns, will eventually lower the market position of Vietnam's products and keep Vietnam in a vicious circle of low quality-low market position-low price.

(4) Loosely domestic market management

Finally, the exchange rate devaluation efforts cannot make up for the deficit of trade balance due to low comparative exports and increasing imports volume as the result of loosing domestic market for foreign companies. It is unambiguous that efforts to lower exchange rate does not make much sense in case Vietnam's domestic market is largely occupied by foreign companies with strategies to expand their own domestic products to other markets.

For example, after successful transactions of the sale of Metro Cash & Carry and Big C supermarket chains in Vietnam to Thailand's companies[4] in 2016, it is supposed that around 50% of Vietnam's local market share will be hold by Thais businesses. This also means that Vietnam will have to face a more fierce competition from Thailand imports. In the next years, it is expected that there will be much more Thailand's products in Vietnam's retails market.

In short, issues such as brand less product, low quality, uncompleted manufacturing procedure, limited value chains, high dependence on external intermediates and a lack of sustainable trade strategy are the main barriers for effectiveness of exchange rate on trade performance in Vietnam. Therefore, the impact of exchange rate adjustments on trade in Vietnam is arguably to come after such prerequisites.

Nevertheless, the question is whether Vietnam should pursue this ELG strategy in the future. There is no denying that ELG strategy has brought a Miracle era for a number of countries, resulting in high economic growth, income and living standard. However, ELG is approaching its limitations. Earlier countries pursuing this strategy can obtain surplus for a long time while later country may encounter difficulties if they continue to follow this strategy further. Many countries now are seeking a new model for development and no longer consider ELG as their strategy (China). In such

[4] TCC Land International Pte. Ltd (buyer of Metro C&C) and Thai conglomerate Central Group (buyer of Big C)

context, Vietnam should consider carefully whether to use exchange rate one of main intervention tools to facilitate trade or there will need a new and more sustainable strategy for economic growth in general and for trade in particular.

Table 5.3: Global market share of rice (2015)

India	31.8
Thailand	22.7
US	10.3
Vietnam	7
Pakistan	5.2
Other	23

Source: WTO

Table 5.4: Manufacturing in exports (%)

	1991-1995	1996-2000	2001-2005	2006-2010	2011-2015
China	80.3	86.7	90.5	93.1	93.8
Germany	86.5	85.4	85.5	82.7	83.5
India	73.8	76	74.3	64.8	63.2
Indonesia	48.8	50.1	52.1	41	37.3
Japan	95.7	94.3	92.7	89.5	88.8
Korea	93.1	91.4	91.7	88.8	86
Philippines	47.6	88.9	90.4	79.6	74.8
Singapore	78.8	85.1	83.8	74.7	70.1
Thailand	69.8	73.3	75.6	75.3	74.2
The US	77.1	81.4	80.8	72.7	62.8
Vietnam		44	50.1	57.2	71.3

Source: WDI

Table 5.5: Value added of manufacturing in GDP (%)

	1991-1995	1996-2000	2001-2005	2006-2010	2011-2015
China	33.1	32.3	32	32.3	30.9
Germany	24.6	22.5	22.4	22.2	22.7
India	15.9	15.5	15	15.5	17.4
Indonesia	22.6	26.2	28.3	26.2	21.3
Japan	23.7	21.6	19.7	19.5	18.6
Korea	24.9	25.6	27.6	28.8	30.9

Philippines	23.9	23.3	24.4	22.4	20.7
Singapore	25.8	24.8	26.6	23	19.5
Thailand	27	27.4	29.2	30.5	28.2
The US		16.2	13.8	12.9	12.6
Vietnam	14.7	16.7	18.7	18.7	17.8

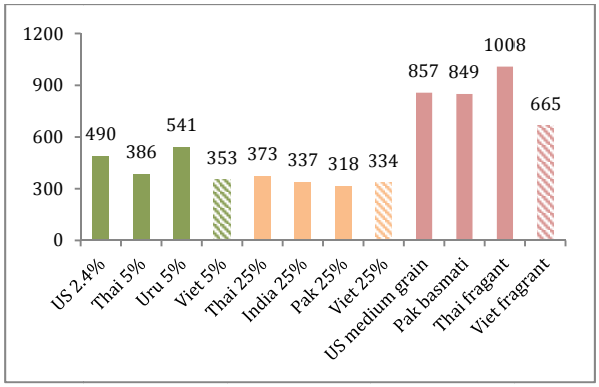
Source: WDI

Table 5.6: Global market share of textile (2013)

China	37.1
EU	24.8
India	4.7
Turkey	3.6
Bangladesh	3.3
USA/Canada	3
Vietnam	2.9
S.Korea	1.8
Other	18.8

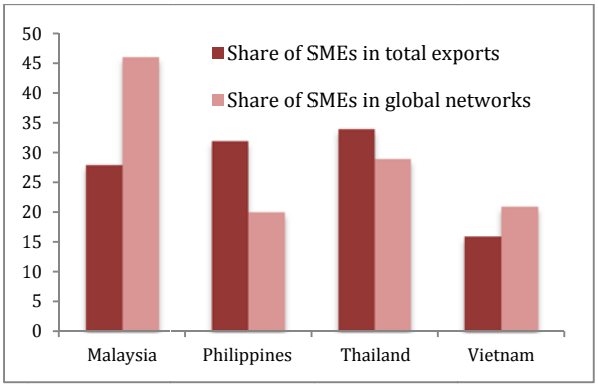
Source: WTO global trade statistics

Figure 5.6: Rice price in 2015 USD/tonne



Source: FAO

Figure 5.7: Share of SMEs in total exports



Source: ADB

Section 6

Conclusion

There is no denying that ELG strategy has brought a Miracle era for a number of countries, resulting in high economic growth, income and living standard. However, ELG is approaching its limitations. Nevertheless, the question is whether Vietnam should continue to use exchange rate as a tool for boosting trade within ELG strategy framework in the future.

Earlier countries pursuing this strategy can obtain surplus for a long time while later countries may encounter difficulties if they continue to follow this strategy further. Many countries now are seeking a new model for development and no longer focus on ELG strategy (China). In such context, Vietnam should consider carefully whether to use exchange rate one of main intervention tools to facilitate trade or there will need a new and more sustainable strategy for economic growth in general and for trade in particular.

Empirical results above indicate that effectiveness of exchange rate adjustments is very limited on trade flows in real terms in short-run. For longer horizons, changes in exchange rate only affect nominal exports, which means Vietnam's competitiveness is mostly from low price and this is not a sustainable advantage.

Given that, intervention by exchange rate to promote trade performance should not be considered as key method due to its ineffectiveness and unexpected effects on other issues such as public debt.

Instead of that, Vietnam should focus more on sustainable trade development strategy and pay attention into local consumption. This can be achieved by improving its participation into the global value chains and supply chains.

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