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FUNDAMENTAL DETERMINANTS OF VIETNAM'S EQUILIBRIUM REAL EFFECTIVE EXCHANGE RATE AND ITS MISALIGNMENT

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Abstract

This research tries to find the degree of misalignment of VND by estimating short run and long run equilibrium effective real effective exchange rate (EREER) of VND. By using Engle-Granger (1987) two-step cointegration approach, we identify that trade openness, government expenditure, domestic credit and net foreign assets are important determinants of REER of VND. In general, the REER of VND fluctuates around its long-run equilibrium and the misalignments movement can be classified into 3 periods: in 2000-2003, VND is undervalued; in 2003-2007, VND is overvalued; and in 2007-2010, VND fluctuates dramatically in overvalued tendency. Based on our findings, we suggest some recommendations for reducing nominal and real exchange rate gap and narrowing misalignments, creating a stable exchange rate, promoting long run competitiveness of the economy and attracting the investors.

1. Introduction

The equilibrium real exchange rate (EREER) is one of important macroeconomic concepts. EREER is defined as the value of the REER consistent with a simultaneous attainment of internal and external equilibrium (Zulfikar, 2005) and IMF encourages keeping the actual REER close to EREER. The reason is that REER overvaluation can also undermine export competitiveness and weaken the external position, while an undervalued exchange rate may create inflationary pressures. In addition, the maintenance of real exchange rate close to the equilibrium level also prevent the countries from currency and banking crises and its huge cost to real economy emanating from balance sheet effect.

In recent years, especially after becoming the member of WTO, while the trade balance of Vietnam is permanently deficit, nominal exchange rate has a tendency

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to increase. This raise some questions about the internal and external equilibrium of exchange rate: (i) whether the VND is overvalued; (ii) which are determinants of REER; and (iii) whether the current trend of REER of Vietnam is consistent with EREER? To answer these questions the paper is organized in three parts. The first part introduces different exchange rates, different approaches of EREER, and empirical evidences of EREER models in various developing countries. The second part includes model specification, empirical results and interpretation. The last part summarizes the findings and policy recommendations.

2. Theoretical framework

2.1. Definition of exchange rate

The bilateral nominal exchange rate (NER) between two currencies is defined as the price of one unit foreign currency in domestic currency terms (Hinkle et al. 1999).

RER is defined as the ratio of the domestic price of tradable to non-tradable goods within a single country (Hinkle et al., 1999).

$$RER = \frac{P_t}{P_n} = NER * \frac{P_t^*}{P_n}$$

Where NER represents for nominal exchange rate between two currencies in index form; P_t and P_t^* represents domestic and international price of tradable respectively; P_n represents for price index in home country.

NEER and REER are defined respectively as follows:

$$NEER_t = \prod_{t=1}^k NER_{it}^{w_{it}}$$

$$REER_t = \prod_{t=1}^k RER_{it}^{w_{it}}$$

Where RER_i denotes real exchange rate of home currency against foreign currency i denotes various currency in the basket, w_i denotes weights attached to currency i , t denotes time periods.

2.2. Theoretical review

According to Peter (2007), there are six different approaches of estimating equilibrium exchange rate: purchasing power parity, purchasing power parity adjusted for Balassa-Samuelson and Penn effects, two variants of the macroeconomic balance framework, assessments of the competitiveness of the tradable goods sector, assessments based on estimated exchange rate equations, and assessments based on general equilibrium models. Every approach has its own pros and cons. In this research, we use the second because it is often designed for developing countries, like Vietnam.

Following this approach, REER is determined by:

- Trade openness, defined as the ratio of total trade (imports + exports) to GDP, measures the degree of trade liberalization. It is used as proxy for commercial policy. The trade openness increases when commercial policy becomes more liberalized. Edwards (1994) and Elbadawi (1994) show that an increase in trade openness depreciates the REER because trade liberalization makes future consumption of tradable goods become cheaper; this makes domestic consumers to substitute non-tradable for tradable, then worsen trade balance. As a result, trade liberalization will reduce REER (REER is expressed by price of one unit domestic currency). Conversely, Maeso Fernandez (2006) and Miyajima (2007) indicate that if economic growth leads to increase trade activities without trade liberalization or protectionism release and undistorted external account, real exchange rate will appreciate.
- Terms of trade are the ratio of the price of a country's exports to the world price of imports. The variable is used to represent for international economy environment of a country. The impact of terms of trade on REER is theoretically ambiguous, depending on the substitution and income effect (Melecky & Komarek, 2005). A downward movement of terms of trade in one hand has a positive substitution effect on REER due to increase in the prices of imports. In the other hand, decrease in terms of trade also cause negative income effect on REER which may lead to downward pressures on the prices of all goods. If substitution effect dominates income effect, REER increase. Conversely, REER decrease.
- Productivity difference (PROD). Balassa-Samuelson effect (Balassa, 1964; Samuelson, 1964) analyzes that productivity improvements will generally be concentrated in the tradable and non tradable sectors. If productivity grows faster in the tradable than non-tradable sector, this will put upward pressure on wages in the non-tradable sector and lead to higher relative price of nontaxable. The result is an appreciation of REER for the country, which would be able to sustain the higher relative productivity gain without losing external competitiveness. Feyzioglu (2007) also concludes that a positive productivity shock improves trade balance which requires the real exchange rate to appreciate to keep the balance of payment at equilibrium. Studies by Dibooglu and Kutan (2001) and Choudhri and Khan (2004) provide empirical support that productivity differential is an important determinant of real exchange rate. For estimation, PROD in the model is defined as per capita real GDP (Drine & Rault, 2001; Goh & Kim, 2006; Yang et al., 2007).

- Government consumption is used as proxy for fiscal policy and is defined as the ratio of total government expenditure to GDP for estimation. The effect of this variable on REER belongs to the composition of tradable and non-tradable goods in government consumption. If government consumption contains a larger share of non-tradables, then the increase in government consumption will cause pressure on domestic demand, price and lead to appreciation of REER. Conversely, if large proportion of government consumption contains is tradable goods then the increase in government consumption will worsen the current account, and thus lead to depreciation of REER.
- Domestic credit is defined as the ratio of domestic credit to GDP, being used as an indicator for monetary policy. Domestic credit increase when the central bank implements expansionary policy, causing upward pressure on domestic prices (mostly on non-tradable goods), leading to increase in tradable goods. As a result, imports increase, worsening trade balance, causing REER to depreciate.
- Net foreign asset include the domestic currency value of (i) gross net official international reserves (including gold, foreign exchange, the country's reserve position in the IMF, and holding of SDRS); (ii) liquid foreign liabilities (including short-term liabilities to foreign monetary authorities – that is, deposits of foreign central bank – and swap facilities, overdrafts, and country's use of IMF credit); and (iii) any other foreign assets and liabilities of the monetary authorities such as inconvertible and medium- and long-term items. In principle, $\Delta NFA = - \Delta RES \Leftrightarrow \Delta NFA = \Delta CAB + \Delta KI$. According to James (2010), the impact of NFA on REER is considered from two perspectives. From a portfolio balance perspective, a current account deficit or worsening thereof will require financing from international investors who will demand higher yields which can only be achieved by exchange rate depreciation if interest rate is taken as given. Therefore, decline in NFA by way of increased foreign currency liability should lead to increase in REER. The alternative reason is that debt attained to finance current account deficits will attract interest payments. It is only by way of an improved trade balance that premiums can be afforded. This will require a depreciation of the domestic currency in order to increase competitiveness, improve the trade.

2.3. Empirical evidence

Among equilibrium real exchange rate model, the model of Edward (1988) is considered to be the most typical and applied widely for many developing countries. Edward (1988) defines EREER as the relative price of tradable to non-

tradable goods that, for given sustainable or equilibrium values of other relevant variables, results in the simultaneous attainment of internal and external equilibrium. EREER in Edward's model is determined by terms of trade (TOT), trade openness (OPEN), public expenditure (GOVEX), technical progress (PROD) and capital flows (CAPINF) (Table 1).

Although other following researches conclude that EREER can be explained by fundamental macro-economic variables, there is no standardized model for all developing economies. Depending on specific circumstances of each country, variables in EREER model can be substituted, added, or eliminated in comparison to obtain the best model explaining the movement of EREER. Some previous models of various authors are summarized in table 1.

Table 1. Previous EREER models

Author	Published year	Countries	Model
Edwards	1988	Developing countries	REER=(TOT, OPEN, GOVEX, PROD, CAPINF)
Elbadawi	1998	Developing countries	REER=(TOT, OPEN, GOVEX, PROD, ODA, RESV, NKI, NFI)
Motiel	1999	-	REER=(TOT, OPEN, GOVEX, PROD, EXSUB)
Zulfiqar Hyder và Adil Mahboob	2005	Pakistan	REER=(TOT, OPEN, GOVEX, RIGDP, REMG, CAPINF, PROD)
Plamen Iossifov và Elena Loukoiano	2007	Gana	REER=(TOT, OPEN, FBY, NFY, PROD)
Ting Ting Su	2009	Trung Quốc	REER=(TOT, OPEN, GOVEX, PROD, M2)
James S.J.Robinson	2010	Jamaica	REER=(TOT, NFA, PROD, NGD, IRD)

Note: ODA: Official development assistance, RESV: international reserve, NKI: net foreign capital inflows, NFI: net foreign income, EXSUB: export subsidies, RIGDP: real investment, REMG: worker's remittances, FBY: financial balance, NGD: net government debt differential, IRD: Interest Rate Differential

3. Model specification, empirical results and interpretation

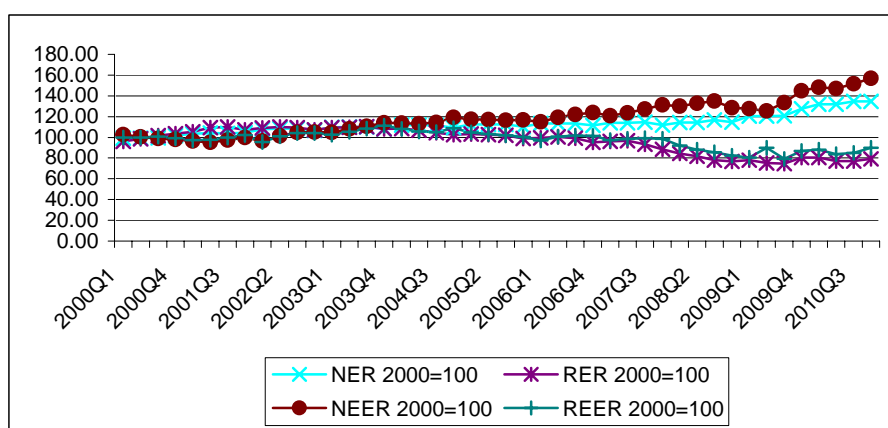
3.1. Model specification, estimation results and interpretation of REER

Based on the theoretical model of equilibrium real effective exchange rate determination developed by Edwards (1988), Elbadawi (1998), and Montiel (1999), the form of REER equation customized in this study is presented as follows:

$$REER_t = \alpha_0 + \beta_1 OPEN_t + \beta_2 TOT_t + \beta_3 GOVEX_t + \beta_4 PROD_t + \beta_5 DC_t + \beta_6 NFA_t + \varepsilon_t \quad (1)$$

Where REER is calculated as geometric weighted average of bilateral exchange rates between Vietnam Dong (VND) and 17 major currencies (including China yuan, Singapore dollar, Japanese yen, South Korean won, Thai baht, Malaysian ringgit, Hongkong dollar, Us dollar, Indonesia Rupiah, German mark/euro, Australia dollar, British pound, France /euro, Russian Ruble, Philippines peso, Taiwan dollar, Neitherland/euro), adjusted by relative consumer price. The weight of each currency in the basket is its trade share with Vietnam. Total trade share of countries in the basket account for 85% - 90% foreign trade of Vietnam each year.

Figure 1: Movements of exchange rates



Note: increase in REER reflects VND appreciation

Source: Authors' calculations

Figure 1 indicates that, in the studied period, NER and NEER increase by 40% and 20% respectively while RER and REER decrease by more than 20% and 10% respectively. Apparently, there are strong appreciations of both RER and REER, especially from the end of 2003 to 2010. REER depreciates a large amount in comparison to that of trade partners, leading to reduction of competitiveness and rise of trade balance deficit. One reason is that nominal exchange rate of VND is overvalued and the other in Vietnam falls in higher inflation in comparison to other main trading partners.

The remaining variables are described in table 2.

Table 2. Variables description

Variables	Meaning	Definition	Period	Expected impact	Data source

REER (independent)	Real effective exchange rate	$REER_t = \prod_{i=1}^k REER_{if}^{w_{if}}$	2000(1)- 2010(4)		Calculated by authors on IFS's and SBV's data
OPEN	Trade openness	Export+Import/GDP	2000(1)- 2010(4)	+/-	Exports and imports is from GSO, GDP is from Bloomberg
TOT	Terms of trade	Merchandise terms of trades index	2000- 2010	+/-	UNCTAD
GOVEX	Government expenditure	Total government expenditure/GDP	2000- 2010	+/-	Total government expenditure is from ADB
PROD	Productivity difference	Real GDP/Population	2000(1)- 2010(4)	+	Calculated by authors on IFS's data
DC	Domestic credit	Domestic credit/GDP	2000(1)- 2010(3)	-	Domestic credit is from IFS
NFA	Net foreign assets	Net foreign assets/GDP	2000(1)- 2010(3)	-	Net foreign asset is from IFS

Note: IFS: international Financial statistics, SBV: State bank of Vietnam, GSO: general statistics office, UNCTAD: United Nation Conference on Trade and Development

Source: Authors' collection

After checking the time series properties by testing the stationarity of all variables, we find that they are non-stationary at their levels but stationary at first difference, I(1). This character allows us to estimate the impact of fundamental variables on REER in short- and long-run by using Engle-Granger (1987) two-step cointegration approach.

In the first step, equation (1) is estimated by ordinary least square (OLS). We take logarithm form for all variables because of their skewness to the right. The result are reported in table 3. All diagnostic tests of the estimation regression suggest that it is a well-behaved model (no autocorrelation, homoskedasticity, normality of residuals and parameters stability. The residuals generated the estimation model are stationary at their level, confirming that there exists cointegrating relationship between REER and fundamental macro-economic variables.

Table 3. Long-run determinants of REER

	Coefficient	T-stat	P-value
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C	6.154078	15.38627	0.0000
LOPEN	0.293067	4.900072	0.0000
LGOVEX	0.929327	3.577291	0.0010
LNDC	-0.237587	-8.491252	0.0000
LNFA	-0.107662	-3.863899	0.0004

Note: $R^2=0.84$; R^2 adjusted=0.82; F-stat=50.32, Prob=0.0000, Mean Dependent var = 4.579, SD dependent var=0.0867, AIC =-3.682; SBC=-3.4772, DW=1.4311

Source: authors' calculation

According to estimation results, all coefficients of variables have expected sign and significance at 1 percent, except TOT and PROD. GOVEX has strongest positive impact on REER, 1 percent increase in GOVEX causes REER to increase by 0.92 percent. OPEN has rather small positive impact on REER, 1 percent increase of OPEN cause REER to increase by 0.29%. DC and NFA have negative influence on REER, 1 percent increase in DC and NFA cause REER to decrease 0.23% and 0.1% respectively.

As finding cointegration relationship between REER and fundamental variables, we proceed second step to explore short-term dynamics of REER through the estimation of error correction model (ECM). With 2 optimal lags selected by AIC (Akaike information criterion), SC (Schwarz information criterion) and HQ (Hannan-Quinn information criterion), ECM estimation result is reported in Table 4, which confirms that DC and NFA have no impact on REER while the impact of OPEN and GOVEX are considerably. GOVEX and OPEN have positive and negative impact on REER at 1 lag and 2 lag respectively. Besides, the estimated regressions also satisfied diagnostic tests, including no autocorrelation, homoskedasticity, and normality of the residuals and parameters stability.

Table 4. Short-term dynamics of REER

Dependent variables of D(LREER)	Coefficient	Standard error	T-stat	p-value
EC	-0.7512	0.1477	-5.0846	0.0000
D(LOPEN)	0.3560	0.0797	4.4670	0.0001
D(LOPEN _{t-1})	0.0267	0.0149	1.7953	0.0815
D(LOPEN _{t-2})	-0.2517	0.0763	-3.2976	0.0023
D(LGOVEX)	0.6913	0.3748	1.8443	0.0739
D(LGOVEX _{t-1})	-0.4853	0.3567	-1.3604	0.1827
C	-0.0059	0.0054	-1.1046	0.2771

Note: $R^2=0.62$; R^2 adjusted=0.55; F-stat=9.34, Prob=0.0000, Mean Dependent var = -0.002, SD dependent var=0.04, AIC =-4.0957; SBC=-3.8091, DW=1.89

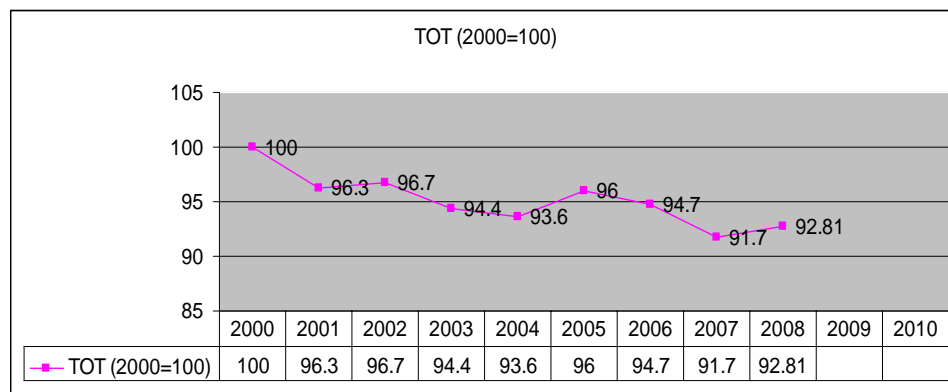
Source: Authors' calculation

The coefficient of the error correction term estimation is -0.75, smaller than one which not only indicates the stability in the long-term cointegration equation but also reflects the gradual convergence of the exchange rate toward long-run equilibrium. The estimation coefficient implies that, when fundamental macro-economic variables in previous period cause REER to increase (decrease), VND in current period will tend to depreciate (appreciate) about 75 percent toward equilibrium level. The speed of adjustment of REER is rather higher than that of other developing countries.

The estimation results prove consistent with theory and economic performance of Vietnam in the studied period:

First, according to UNCTAD calculation, terms of trade of Vietnam gradually moves downwards since 2000. However, the annual average change of TOT is very limited at 0.85 percent. This tiny change of TOT implies that it should be hard to find its impact on REER.

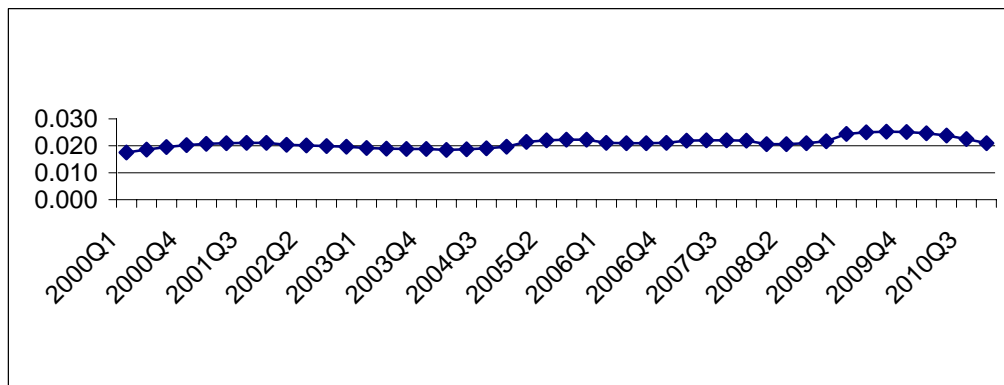
Figure 2. Terms of trade movement



Source: UNTAD

Second, the movement of productivity differential is very stable with little change, about 1 percent (Figure 3). With this movement, it would also be very hard to find the impact of PROD on REER.

Figure 3. Productivity differential movement



Source: authors' calculation on IFS and Bloomberg data

Third, increase in trade volume results in appreciation of REER. In 2000-2010, trade openness of Vietnam increases rather fast and reaches peak at 253 percent in the first quarter of 2008. Because of global crisis in the second half of 2008, trade openness declines and fluctuates around 170 per cent during the rest of period. However, it is not the change in commercial policy toward liberalization to increase demand for tradable goods that plays as an incentive for foreign trade because large composition of exports is accounted by materials for production (Table 5). It is fast economic growth which boosts foreign trade activities that raise trade openness. So, trade openness increase, REER would increase.

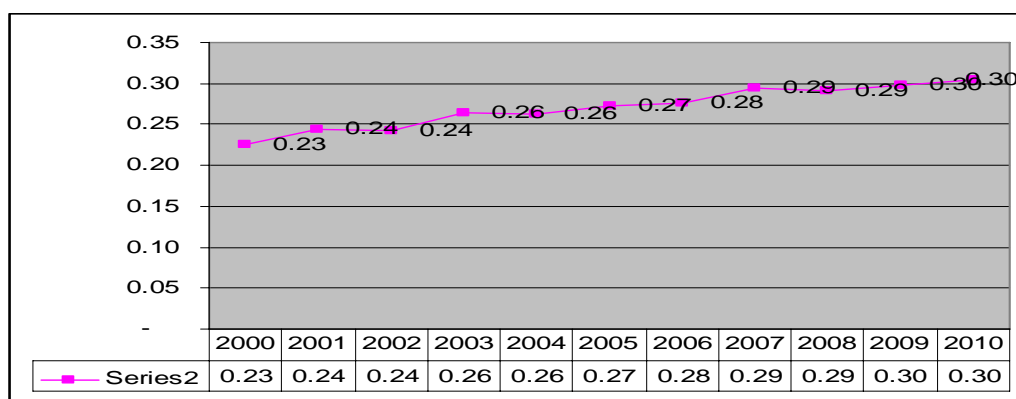
Table 5. Composition of exports (percentage)

Year	2000	2001	2002	2003	2004	2005	2006	2007	Estimated 2008
<i>Production materials</i>	93.8	92.1	92.1	92.2	93.3	91.9	92.2	92.6	93.6
Machinery, equipment, tools, accessories	30.6	30.5	29.8	31.6	28.8	25.3	24.6	28.6	26.6
Fuels and raw materials	63.2	61.6	62.3	60.6	64.5	66.6	67.6	64.0	67.0
Consumption products	6.2	7.9	7.9	7.8	6.7	8.1	7.8	7.4	6.4
Foods	1.9	3.0	2.5	2.4	2.4	3.0	2.8	2.5	n.a.
Medical supplies	2.2	2.0	1.8	1.6	1.4	1.4	1.3	1.2	n.a.
Others	2.1	3.0	3.6	3.8	2.9	3.7	3.7	3.7	n.a.
Inessential goods	34	37	46	49	43	46	47	50	n.a.

Source: GSO

Fourth, in 2000-2010, total government expenditure rises very fast (Figure 4), therefore, it cause significant impact of REER. In theory, the impact of government expenditure on REER depends on composition of tradable and non-tradable goods. As government of Vietnam does not publish information about this, there is no analysis can be done. However, to some extent, the estimation result allows us to inference about the component of government expenditure that large proportion of government expenditure is accounted by tradable goods.

Figure 4. Ratio of total government expenditure to GDP

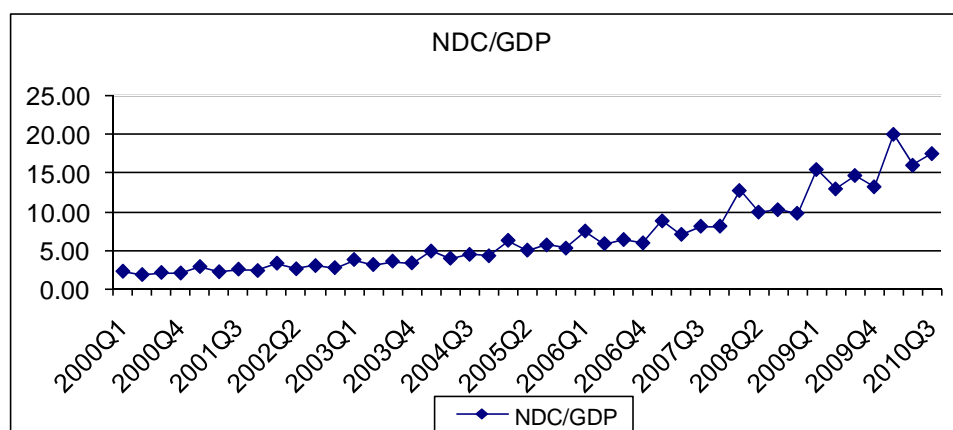


Source: authors' calculation on IFS and Bloomberg data

Fifth, domestic credit rises very fast in the studied period. Especially due to the boom of stock market and real estate market, domestic credit growth in 2007 was double compared to previous year, equivalent to the growth of 2009 thanks to economic stimulus package (Figure 5). Although domestic growth is significant, annually GDP growth is just around average of 6 percent. This raises the problems of capital efficiency and increase in credit risk because of monetary expansion.

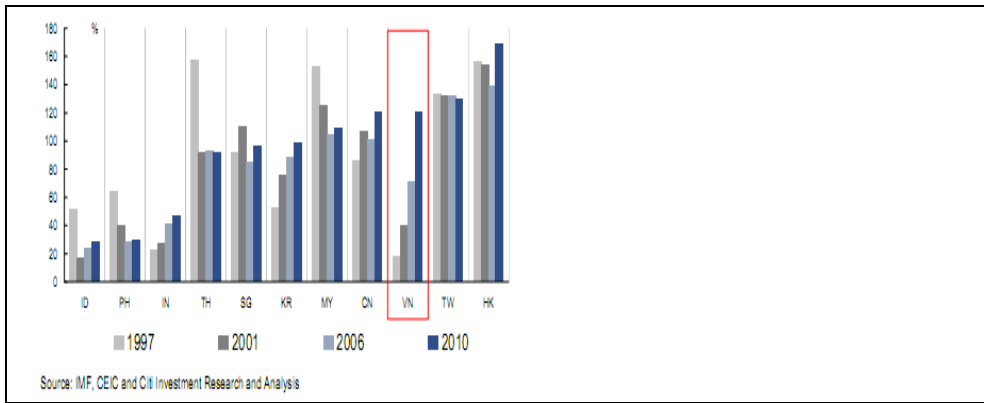
Besides, the ratio of credit to GDP increases more than twice, from 40 percent to 110 percent within 6 years which is rather fast in comparison with that of peer-regional countries (figure 6). This statement is consistent with a study of Kai and Vahram (2001): before 1997 crisis, domestic credit growths of Philippines, Thailand, Malaysia and Korea is rather small, while those of Vietnam, Indonesia and China is from 15-33 percent; after the crisis, China, Malaysia, Philippines and Vietnam expand credit, among them Vietnam maintain this growth at a high level over 30 percent.

Figure 5. Ratio of domestic credit to GDP



Source: Authors' calculation on IFS and Bloomberg data

Figure 6: Comparison of bank credit to GDP



Source: Johanna Chua, 2011

Sixth, in recent years, Vietnam’s balance of payment has fluctuates dramatically. Typically, FPI inflows increases suddenly in 2007, then decreases shapely in 2008 and falls into deficit at more than 8 billions USD in 2009, and more than 3 billions USD in 2010. The change in balance of payments leads to change in net foreign asset.

Table 6. Structure of change in M2 (Billions VND)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010*
$\Delta M2$	80236	56899	49369	82082	121114	158306	232020	425572	273886	470317	414433
$\Delta NFA / \Delta M2$ (%)	42.5	38.5	-0.4	17.0	12.0	28.5	41.7	28.8	6.8	-24.8	-11.8%
$\Delta NDC / \Delta M2$ (%)	57.5	61.5	100.4	83.0	88.0	71.5	58.3	71.2	93.2	124.8	111.8%

* first 9 months of the year 2010

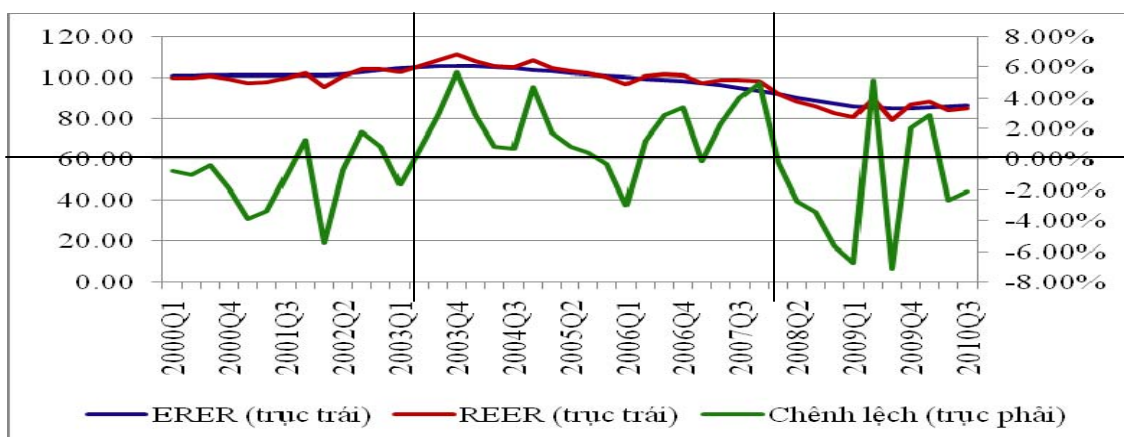
Source: IFS and author’s calculations

Regardless the decline in 2002 and 2009, NFA increase on average is bout 25 percent per year, contributing about 27 percent to the total growth of money supply each year. Increase in NFA causes REER to depreciate (Table 6).

3.2. Estimation and interpretation of EREER and its misalignment

The equilibrium exchange rate is derived from the long-run real exchange elasticity after the transitory components in the fundamental macro-economic variables have been filtered out. Then the misalignment can be defined as the relative difference between the estimated equilibrium rate and the observed real effective exchange rate. By using the Hodrick–Prescott (1984) filter methodology to smooth the movement of fundamental variables and long-run cointegration equation obtained, we get the EREER and misalignment of REER depicted in figure 8.

Figure 8: REER, EREER and its misalignments



Source: Authors' calculations

To examine the contribution of each fundamental variables on REER changes in detail, we divided the studied period into three episodes: 2000Q1-2002Q4, 2002Q4-2008Q2, 2008Q1-2010Q3 (according movement of misalignments) in table 7.

Table 7. Contribution of Economic Fundamentals to REER App.(-)/Dep.(+)

	2000Q1-2002Q4		2002Q4-2008Q1		2008Q1-2010Q3	
	Impact on REER	Contribution	Impact on REER	Contribution	Impact on REER	Contribution
REER change	0.0430		-0.1168		-0.077	
LOPEN	0.6225	1446.2%	0.3865	-330.95%	-0.0206	26.75%
LGOVEX	-0.0814	-189.3%	-0.1004	85.97%	-0.0309	40.17%
LNDC	-0.1887	-438.4%	-0.2436	208.58%	-0.0675	87.72%
LNFA	-0.2278	-529.4%	-0.1892	161.99%	0.0552	-71.72%
UNEXPLAINED		-189%		-26%		17%
SUM		100%		100%		100%

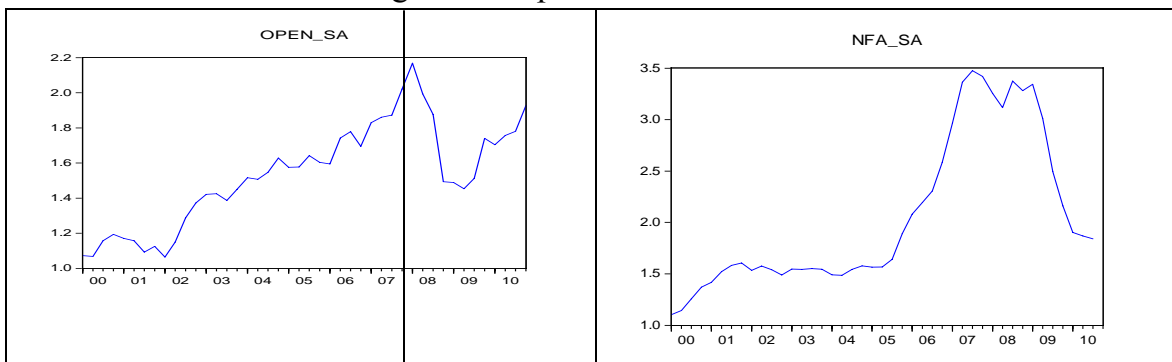
Source: authors' calculations

The negative deviations reflect the appreciation of VND and the positive deviations indicate the depreciation. In the first episode, REER is generally lower than EREER, in the second episode REER have a tendency devaluate compared to EREER, and in the third episode the misalignment fluctuate.

The main reason of depreciation of the first episode is lower inflation differential and dramatically increase in trade openness. The appreciation of the second episode is caused by rise in government expenditures, domestic credit and net foreign assets (Table 7). The variation of misalignment of the third period is caused by fluctuation of openness and net foreign assets (Figure 8) and

appreciated by increase in government expenditure and high growth rate of domestic credit.

Figure 8. Depicts of OPEN and NFA



SA: *seasonally adjusted*

Source: *Author's calculations*

4. Conclusion and policy recommendation

Firstly, REER of Vietnam has moved towards depreciation since 2003 (about 20 per cent to the base year), leading to the decline of trade competitiveness. In this circumstance, it would be harder for policy makers to boost export for the purpose of equilibrate the balance of payment. In order to improve REER of Vietnam, State Bank of Vietnam should not keep low nominal bilateral exchange rate but should intervene in the foreign exchange interbank market to raise nominal exchange rate. Besides, in order to reduce the gap between nominal and real exchange rate, inflation should be controlled at low level.

Secondly, above long-run estimation result indicates that REER is determined by trade openness, government expenditure, domestic credit and net foreign assets. Among them, government expenditure has strongest positive impact on REER; an increase in government expenditure can lead to depreciation of REER. This macro-economic factor can be actively controlled in both scale and structure. Although trade openness have less positive impact on REER, it is harder to control due to dependence of exports on international environment. In the other hands, domestic credit and net foreign assets have impact to reduce REER. While domestic credit can be controlled through monetary policy, net foreign asset can not easily controlled as belong to net inflow capital, especially foreign portfolio investment. Therefore, policy makers interfere precautionly to above mentioned fundamental macroeconomic variables in effort to improve REER.

Thirdly, the positive misalignment of VND is explained mainly from increase in net domestic credit and government expenditure. An alternative to narrow this misalignment is to gradually reduce government expenditure and to strongly tighten monetary policy.

Fourthly, appreciation of REER is caused largely by capital inflows which can be controlled if the sterilization measures of SBV take effect.

Besides, REER of Vietnam is not affected by terms of trade and productivity differentials like the case of other countries. This raises inference about the effectiveness of policy impact and change in economic structure as well. Despite Government of Vietnam has invested tremendous capital into various sectors, especially infrastructure, productivity of the economy change rather small. Moreover, increase in trade openness is not the result of trade liberalization policy but economic growth.

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