

Remittances and Competitiveness: A Case Study of Vietnam

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Abstract—The paper examines impact of remittances on the real effective exchange rate which undermines Vietnam's competitiveness. The results showed Vietnam facing a symptom of Dutch disease impacted by the huge remittances. Our findings indicate that a ten percent increase of remittances led to appreciate three percent of the real effective exchange rate by which Vietnam's competitiveness is undermined.

Index Terms—Remittances, real effective exchange rate, competitiveness, Dutch disease, Vietnam.

I. INTRODUCTION

Remittances are an important financial inflow for many developing countries. In recent years the remitted amount to developing countries, including Vietnam, have increased sharply and exceeded inflows of official development assistance and other types of capital inflows.

Hence it is not surprising that remittances have become increasingly interesting to many researchers and economists. Most of their research focus on the positive impacts of remittance on growth, reducing poverty, balance of payment or education and health care.

In this paper, however, we are concerned with the macroeconomic impact of remittances. Huge remittances can lead to the overshooting of a country's exchange rate and hurt its competitiveness, a phenomenon known as the Dutch disease. The overvalued exchange rate makes the country's exports relatively expensive, imports cheaper, and thus puts pressure on the country's current account. The additional demand arising from remittances raises prices in the non-tradable sector while the prices can not move much in the tradable sector in a small open economy. This shifts resources from industry and agriculture (tradable sectors) to services (non-tradable sector), making the country's tradable sector less competitive.

Remittances to Vietnam have reached \$ 12,25 billion in 2015, from \$ 3,8 billion (2005) and \$ 0,12 billion (1990). Remittance to Vietnam has been the most important financial inflow after the FDI flow (Fig. 1). It therefore is relevant to investigate whether remittances cause REER appreciation in Vietnam in the last two decades. To do so this paper will apply an annual macroeconometric model to study the impact of the remittances on the real effective exchange rate and competitiveness

The following section presents a literature review. The Section III provides the trend of remittances inflow, real effective exchange rate and balance of trade performance in Vietnam. The Section IV presents an empirical study of

remittance and the real effective exchange rate. Finally the conclusion and policy application are presented in the Section V.

II. LITERATURE REVIEW

In the literature it is argued that a significant capital inflow may lead to an appreciation of the real exchange rate which will undermine the competitiveness of the export sector, the so called the Dutch disease effect. There is evidence that remittance may have a similar effect [1]-[3].

An increase in the inflow of remittances, first of all, increases the supply of foreign exchange on the exchange markets and may thus lead to an appreciation in the nominal exchange rate. Moreover, the jump in remittances is followed by an increase in spending by the households receiving the transfers. The spending effects will be on both traded and on non-traded goods. Because the supply of non-traded goods is constrained by the available resources in the economy in the short-run, excess demand will increase the price of non-tradables goods whereas the increased demand does not affect the price for tradable goods which are set in the international market leading to an appreciation of the real exchange rate.

The remittances increase also leads to a resource shift. A rise in the relative price of non-tradables makes production in this sector more profitable compared to tradable sector. As a result production expands in non-tradable sector resulting in increased factor demands. Responding to higher factor prices in the non-tradable sector, there is a shift of resources from the tradable to non-tradables goods sector raising real wages and other factor costs of the tradables sector. Because of these spending and resource movement effects, the inflow of remittances can erode the competitiveness of the tradables goods sector causing an appreciation of the real exchange rate.

The interacting effect of remittances inflow and real exchange rate may differ in the long term compared to the short term. The appreciation of the real exchange rate and deterioration of the country's competitiveness because of remittance flow may be offset if such flows boost capital accumulation by augmenting saving and investment in the long term which can increase the production of both tradables and non-tradables where the relative increase will vary from country to country depending on the structure of the economies. Whilst many of the current empirical literature provide evidences for the short-term effect of remittance and real exchange rate, there are almost none which tested the long-term relationship. In this paper we endeavour to investigate the long term relationship between inflow of remittance and real exchange rate in Vietnam

The real effective exchange rate (REER) is defined as the

relative price of traded goods to non-traded goods produced as in the domestic economy:

$$REER = \frac{P_t}{P_{nt}} = \frac{P_d}{P_f}$$

where P_t is the domestic currency price index of traded goods and P_{nt} is the domestic currency price index of non-traded goods (Montiel and Hinkle, 1999 and Montiel, 1999). It is also defined as the relative price level of domestic (P_d) to foreign price (P_f). A decline in REER implies a real exchange rate appreciation and an increase in the opportunity cost of the production of tradable goods (Bourdet and Falck, 2006). An appreciation of real exchange rate is understood as a deterioration of the country's external competitiveness given unchanged relative price of trading partners. Conversely, a high REER means real exchange rate depreciation and an improved international competitiveness.

Econometric testing confirms the existence of the Dutch disease effect. Reference [1] uses co-integration analysis to assess the long-term relationship between remittances and the real exchange rate in Cape Verde and their basic model shows that a ten per cent increase in remittances leads to an appreciation of the real exchange rate of 1.2 per cent. Reference [3] pool annual data for 13 Latin American and Caribbean countries and find that a doubling of remittances per capita raises the real exchange rate by 23 per cent. Also [2] find a significant impact of remittances on the real exchange rate. They use panel data for 109 developing and transition countries and using GMM estimation methods conclude that an increase in remittance lead to an appreciation of the real effective exchange rate. Their results suggest that a one percentage point increase in the remittances/GDP ratio leads to an appreciation of the real effective exchange rate of between 20 to 40 per cent (depending on the regression model used). They also regress the composition of output (ratio of traded over non-traded output) on remittances and find one percentage point increase in the remittance to GDP ratio leads to one percentage point fall in this output ratio: remittances have therefore a persistent impact on resource allocation. These studies suggest that the Dutch disease effect is significant and often substantial.

The effect of remittance on the real exchange rate is an important channel through which external competitiveness is reduced

It should be recognized that competitiveness is a complex concept. The World Economic Forum publishes an annual competitiveness ranking of countries which is based on 12 aspects such as Institution, Infrastructure, Macroeconomic Stability, Health and Primary Education, Higher Education and Training, Goods Market Efficiency, Labour Market Sophistication, Technological Readiness, Market Size, Business Sophistication and Innovation. However, in this paper we focus on the impact of remittances on competitiveness through the real effective exchange rate. We may assume that many of the aspects are determined by long-term processes and will change only slowly and are not much influenced by fluctuation in remittance.

III. REMITTANCE, REER AND TRADE BALANCE IN VIETNAM

Vietnam is one of the significant migrant sending countries in Asia. An estimation of the number of overseas Vietnamese ranges from 4 million to 5 million over 90 countries. Major concentrations are found in the USA, European countries, Australia and some Asian countries. Remittances have been a major financial flow to Vietnam over the last two decades. They have been rising sharply since 1990s and in recent years annual inflows accounted for 6 percent of GDP in 2015 (Table 1). Vietnam ranked the top 10th and the 11th of remittance recipient countries over the world in 2013 and in 2015 respectively. In Asia Pacific, Vietnam's remittances remain the third largest one, after China and the Philippines. In 2015 the remittances to Vietnam reached to 12,25 \$ billion or higher 100 times compared to the amount of remittances in 1990. Annual average growth remains 39% in last two decades, it is higher than any macroeconomic indicator performance. Up to now the accumulative remittances reaches 104 billions USD, equal to 50% of Vietnam's current total GDP.

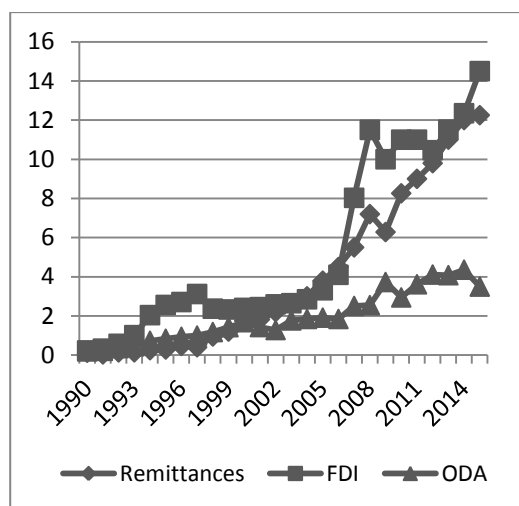


Fig. 1. Remittances, FDI and ODA Sources: IMF.

The Fig. 1 showed that remittance remained highly stable, even during the crisis in 1997 and 2008. The remittances remain high and it financed a lack of Vietnam's balance of payment during these crises. The remittances have become the second most important source of financial inflow after the FDI inflow and far exceed ODA flow. Even though the remittances are higher than the FDI inflow period 2004-2006 due to a significant increase of the remittance. Being such a substantial source of foreign exchange, remittances possibly generate some effects on Vietnam's exchange rate. This raises the possibility of the economy facing the so-called Dutch disease. Table 1 showed there are opposite directions between the remittance flow and the REER index. While the remittance is increasing overtime, the REER index gradually fell during the period 1990-2015 (except from period 2001-2004). There is a gap between REER and NEER due to large inflation differences. It witnessed higher inflation in the country compared to its major trading partners. This inflation puts the country's export sector under increasing pressure.

IV. EMPIRICAL STUDY

A. Selected Model

The real effective exchange rate (REER) is considered a major determinant of a country's competitiveness. It is the relative price of domestic to foreign goods. An appreciation of the REER reduces the profitability of the export oriented sector of the economy by raising their relative cost and by making the non-tradables relatively more expensive. Following [4], [5] the real effective exchange rate can be considered as a measure of relative prices of the tradable and non-tradables, determined by various macroeconomic fundamentals driving the internal and external equilibrium. These fundamentals explain the medium to long-term behaviour of the real exchange rate. A country's real exchange rate can be estimated using various measures and macroeconomic models and the choice of the appropriate measure depends on the question under the study. In this study we are mainly concerned with whether or not remittances have affected the country's competitiveness. For this we employ real effective exchange rate and examine its interaction with remittances and other factors driving in real exchange rate.

We take OLS regression model to test the impact of our selected annual variables on Vietnam's real effective exchange rate by using time series annual in Vietnam from 1990 to 2015. Following the literature on drivers of REER, our model can be written:

$$REER_t = \beta_0 + \beta_1 * Rem_t + \beta_2 * M2_t + \beta_3 * FDI_t + \beta_4 * ODA_t + \beta_5 * GOV_t + \beta_6 * Inf_t + u_t$$

Where the REER represents the country's competitiveness as a dependent variable. Rem (-) represents remittances inflow (share of GDP), FDI and ODA (+/-) represents the foreign direct investment and official development assistance (two taken as share of GDP). GOV (+/-) represents the public expenditure to GDP. M2 (+/-) reflects money supply (monetary policy) and Inf represents annual inflation. β is the parameter to be estimated and u_t stand for the errors

B. Choice of Variables

We take REER based CPI index defined as the nominal effective exchange rate (NEER) index adjusted for relative changes in consumer prices. The REER is calculated as weighted mean of 12 countries which are major trading partners with Vietnam.

Remittances are taken as a share of GDP. As discussed above, the remittances may cause the real exchange rate to appreciate. The remittances play a role in the determination of a country's exchange rate.

Foreign Direct Investment (FDI) and Official Development Assistance (ODA) as share of the GDP are the indicators of the country's financial inflow. We do not include portfolio investment in our model due to lack of data during the research period. Following [2], [6]-[8], we expect Dutch disease effects for ODA inflows. The ODA inflow to a developing country is often directed at the improvement of institutional and human capital as well as various infrastructure projects. Much of the resulting increase in demand on the non-tradables, leading to higher

prices and an appreciated real exchange rate. Nonetheless, these investments may foster higher productivity and increase competitiveness in the long term, which may alleviate or even reverse the previously induced Dutch disease effects. The competitiveness enhancing impact of FDI crucially depends on the nature of foreign investments. Investments made in export and import competing sectors lead to improved physical and human capital, technology and technical knowledge spillovers and higher productivity, which should ultimately lead to a more competitive economy. On the other hand, if foreign investors gain access to domestic assets through hasty privatization, and the investment amounts to little more than change of asset ownership, the investors may not care to substantially invest in the acquired assets' future and the investments may not result in higher productivity. FDI may well cause the REER to appreciate in such a case.

Government expenditure in developing countries is predominantly spent on non-tradables (principally on public sector salaries), contributing to real exchange rate appreciation. On the other hand, if public spending involves a high share of imported goods, the country's trade balance is adversely affected, necessitating depreciation in exchange rate. However if public money is well spent on infrastructure, development and maintenance of public institutions and human capital improvement, the country's productive sector strengthens and the short-term appreciation in the REER dampens in the long term. The impact of public spending on the REER can better be studied using government spending on the non-tradables. This variable is however unavailable and in its place, total government spending as a share of the GDP is deemed a suitable alternative.

M2 represents money supply (monetary policy). There is some evidence that monetary policy influences a country's real exchange rate. For example, money growth, being a nominal variable, is usually not considered among the determinants of the REER. However, several studies, including [2], [9] count it among REER's important drivers. Excess money growth puts upward pressure on prices of non-tradable goods and is associated with inflationary tendencies and appreciation of the real exchange rate.

Inflation (CPI) is considered a determinant of change of real exchange rate. Inflation show sign of negative impact on the real exchange rate. Higher inflation lead to price of goods and services becoming more expensive in term of international market. In other words, the real effective exchange rate is appreciated and this induces weaker competitiveness.

C. Result of the Empirical Study

We take the OLS regression model with annual time series from 1990-2015. It is run by STATA program. The results is shown in Table 2. Our regression result were quite interesting. All the independent variables are statistically significant at 5 and 10 percent level except for the ODA variable. R squared is relatively high 0.8918. It means the REER can be explained by 89,18% all independent variables.

The findings given in Table II show that Rem (remittances), FDI and ODA parameters have negative signs. Remittances and FDI are statistically significant at 5 and 10

percent level respectively, while ODA is insignificant. Remittances show signs of Dutch disease causing of appreciation of the real exchange rate and this undermines Vietnam's competitiveness in the long run. The effect of FDI on the REER, however, appears to be much weaker than those of the remittances.

Government spending, Money supply and Inflation have positive sign impact on REER and all three factors are statistically significant at 5 and 10 percent levels. This means fiscal policy and monetary policy have effect on REER and the country's competitiveness.

Our findings on the impact of remittance on the real exchange rate confirms other studies that established the Dutch disease impact of remittances. Our estimated result of this Dutch disease effect is comparable to that found in the literature. As noted in section 2, [1] found that a ten percent increase in remittances led to a real exchange rate appreciation of 1.2 percent. Reference [3] estimated that a doubling of remittances led to an appreciation of 23 percent. In our results an increase of remittances of 10 percent leads to an appreciation of the real effective exchange rate by 3 percent. In the literature on remittances and Dutch disease it is suggested that the impact of remittances on real exchange rate is the main channel by which remittances can undermine the country's competitiveness in the long run.

V. CONCLUSION AND POLICY APPLICATION

Remittances inflow to Vietnam have supported millions of Vietnamese to come out of poverty and improves health and educational attainment, especially for recipient household in the rural area. This paper has shown that the Vietnamese economy exhibits symptoms of Dutch disease as a result of huge remittances inflows in long term. The remittances have negative sign of the REER. A increase of remittances induce a appreciation of the real effective exchange rate which undermines the country's competitiveness in the long run. The results confirmed that

the remittances to Vietnam have, over two decades, caused a shift in resources allocation through consumption of non-tradable goods and services. This additional demand for non tradable goods and services has pushed up the price level and made local production relatively expensive. The harmful effects of remittances on the country's competitiveness are opposite to what we find for the government spending and money supply. The real exchange rate appreciating effect of remittance is more significant than the one caused by other financial flows because unlike foreign capital inflows, remittances are the outcome of a gradually developing social process and are not prone to sudden stops or reversals. Therefore their REER affecting tendency can be dealt with only partly through temporary monetary and fiscal measures. The loss in external competitiveness, in this case, needs to be remediated via improvements in internal competitiveness. More attention is required for channeling remittances towards the productive sector. In the absence of adequate investment opportunities, much of the remittances are spent on consumption. By providing favourable investment places to Vietnamese oversea and promoting small to medium enterprises, these remittances can be harnessed in a way that improves the country's productivity and competitiveness.

In terms of macroeconomic adjustment, the country needs to rethink its monetary policy in light of the increasing importance of remittance receipts. References [10] stated that a country's optimal monetary policy for a remittance-dependent economy is different from the one for an economy with no significant remittances. The result shows a judicious fiscal policy is needed to control further impacts of remittances. Improving labour productivity through skill enhancement programs and making the taxation regime leaner and more transparent can be steps towards this goal. Finally the results imply that a cooperation between the monetary policy and fiscal policy is needed to absorb the huge remittances to Vietnam and reduce its negative impact on the real exchange rate and competitiveness.

APPENDIX

TABLE I: REMITTANCES, REER, NEER AND BALANCE OF TRADE IN VIETNAM

Year	Remittances (in \$ bil)	Rem/GDP (%)	REER (Index)	NEER (Index)	Trade Balance (in \$ bil)
1990-94	0.136	1.24	115.83	49.64	-0.654
1995-99	0.661	2.49	107.60	59.05	-2.269
2000-04	2.275	5.67	111.41	64.16	-3.194
2005-10	5.924	6.80	100.82	82.29	-11.346
2011	9.000	6.64	94.58	108.42	-9.840
2012	9.800	6.29	88.73	108.47	0.780
2013	11.000	6.42	84.38	107.73	0.010
2014	12.000	6.44	79.69	103.92	2.000
2015	12.250	5.99	79.36	103.40	-3.540

Sources: IMF, ADB and the author's calculation

TABLE II: THE RESULT OF REGRESSION MODEL

	Coefficient	t-statistics
Remittances (Rem)	-0.0303478**	-2.47
Government expenditure (GOV)	1.224356*	2.06
M2 money supply (M2)	0.1768359*	2.00
Inflation (Inf)	0.2425145**	2.44
Foreign Direct Investment (FDI)	-0.0152902*	-2.02
Official Development Assistance (ODA)	-0.0073453	-0.28
Cons	4.408482	33.22

R-squared: 0.8918

Dependent variable: REER

Number of observations: 26 (1990-2015)

Significant level for coefficients:

*** denote $p \leq 0.01$; ** denote $p \leq 0.05$; * denote $p \leq 0.10$

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