The Impact of the Real Exchange Rate on Output and Inflation in Vietnam

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Summary

Although Vienam's *Doi moi* (renovation) was initiated in 1986, it was only in 1989 that Vietnam embarked on a comprehensive reform process towards a market economy. The aims were to stabilize the economy, stimulate exports and investments, and enhance economic growth. Many measures have been taken, especially in removing administrative controls and introducing greater autonomy and competition into production and business. The reforms have shown successes and Vietnam has been so far considered as one of the most active economy in the region.

Exchange rate regime of the country has also been under critical reform. In 1989, the official exchange rate was considerably devaluated and there was a unification of official and market exchange rates. Since then, many measures have been implemented to make the exchange rate regime more market-based. The exchange rate has been considered by the government as an important macroeconomic instrument for ensuring low inflation rate and a stable financial system, promoting exports, controlling imports, and enhancing economic growth. To assess the soundness of the reform policies in the exchange rate regime, it is worthy to analyses the impact of the changes in exchange rate on macroeconomic indicators.

So far, a few studies have been conducted in specifying the impact of exchange rate on economic activities in Vietnam. The majority of them have merely described the exchange regime with some verbal comments. Among existing empirical studies, some have limited their research to the possible impact of devaluation on the trade balance by simply checking the Marshall-Lerner condition (see, for example, Le and Tran, 1995; Pham and Nguyen, 1999). Vo *et al.* (2000) employs a simply single equation to examine impact of real devaluation on output and shows that devaluation of real exchange rate increases output in both the short and long run. Nguyen and Kalirajan (2006), using monthly data from 1991 to 1999 and vector autoregression approach, investigate the impact of nominal effective exchange rate on inflation in Vietnam and find that the impact

of nominal devaluation on inflation is positive but insignificant.

To the best of our knowledge, there are no published studies on the impact of the real exchange rate changes on both output and inflation in Vietnam and other transition economies. Moreover, the relationships between the real exchange rate and output and inflation are recently important and controversial topics for developing countries. Majority of the econometric analyses for developing countries indicate that devaluation was associated with a reduction in output and an increase in inflation (see, for example, Kamin and Roger, 2000, for Mexico; Odusola and Akinlo, 2001, for Nigeria; Berument and Pasaogullari, 2003, for Turkey). However, Klau (1998) investigating this issue for twenty-two Sub-Saharan countries and find that the real devaluation increases both output and inflation. For an economy in the transition like Vietnam, understanding the characteristics of the above mentioned relationship will be helpful not only in assessing the soundness of economic policies but also in setting up these policies in the years to come.

The purpose of this paper is, therefore, to examine the impact of changes in real exchange rate on output growth and inflation in Vietnam. We base our findings on the theoretical framework of the core model suggested by Kamin and Rogers (2000). The vector autoregression (VAR) model is applied to estimate impulse response functions and variance decompositions for output and price level in order to determine how output and price respond to a shock to the real devaluation, and what proportion of output and price level variance can be explained by the real exchange rate. The impact of real exchange rate on output and inflation are also investigated through testing Granger causality.

In addition to the introduction and the conclusion, this paper consists of five sections. In section 1 we look at the historical of exchange rate arrangement in Vietnam. Section 2 reviews some previous empirical studies. Section 3 considers the theoretical explanations about relationships between the real exchange rate and output as well as the real exchange rate and inflation. Section 4 provides empirical methodology and data. And section 5 analyses the empirical results.

The study contributes some interesting finding. When the data of the whole period from 1992 to 2005 is used, both bivariate and multivariate models reveal that there are Granger causality relationships running from the output and the price level to the real exchange rate. However, when the change in the exchange rate regime is taken into account, there exists the dual causality in the relationship between the real exchange rate and the price level before 1999 and that between the real exchange rate and the output level after 1999. The results also show that current inflation and output growth are mostly explained by its past movements. A real devaluation has positive impact on both output and

inflation. However, the devaluation shock accounts for a higher proportion in the variation of the output level than that of the price level. A positive shock of real exchange rate may affect the price level and the output growth through its impact in raising money supply and an improving trade balance. The impact of changes in the U.S. interest rate, an external shock, on the variables of interest is also examined. This has never been tackled with in previous studies for case of Vietnam. The finding is that U.S. interest rate does affect the movements of real exchange rate and price level in Vietnam in the future.

We find that devaluation can promote exports and industrial production in the short run, but an increase in net exports and output will create pressure for appreciation. Moreover, impact of real exchange rate on output is positive but not statistically significant in the long run. These suggest that competitiveness should be improved mainly via other factors such as the effort of enterprises or structural and institutional reforms rather than exchange rate adjustment.