Exchange Rate and Long Run Equilibrium in Transition Economies

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Abstract

The purpose of this paper is to calculate purchasing power parity rates and the real exchange rate using several methods of calculation to estimate long-run equilibrium real exchange rates in transition economies, mainly in Eastern European countries considered in transition, such as Poland. The authors calculate different measures of exchange rate misalignment (absolute and relative deviations from long-run equilibrium). Each measure is calculated using different price indices, which include consumer price indices, GDP deflator, and unit labor cost. The expected values of these variables are used. To calculate the long-run equilibrium, different methods such as an error correction equation and a forward-looking model are utilized, and again, the expected values of the variables are introduced along with new variables. The estimation of the long-run cointegration equation of the equilibrium real exchange rate and the corresponding dynamic error correction specification strongly corroborates the model and produced fairly consistent results across the countries under study. Using appropriated proxies, the estimated long run equations were used to derive indices of the equilibrium real exchange rate. (JEL E41, C5)

Introduction

The real exchange rate (RER) plays a decisive role in the adjustment process in developing and developed countries. The RER may be defined as the relationship between non-tradables and tradable prices for tradables to non-tradables. The RER is taken to be the most important relative price signalling intersectorial growth in the long run.

RER misalignment\(^1\) usually generates severe macroeconomic disequilibrium. For example, RER misalignment negatively effects economic growth,\(^2\) as economic theory suggests. Some authors have pointed out that RER misalignment and mainly RER overvaluation with respect to the equilibrium RER, can be detrimental to an export development strategy [Díaz-Alejandro, 1984]. Others argue the importance of RER stability for export promotion [Caballero and Corbo, 1989] or have found that RER stability had a significant positive effect on private investment [Serven and Solimando, 1991].

However, estimating the impact of misalignment is very difficult. Some authors have provided empirical evidence that misalignment is negatively correlated with real output growth [Edwards, 1988], whereas others failed in finding a significant negative relationship [Cottani, Covello, and Khan, 1990].

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As economic theory suggests, under certain conditions, policies designed to undervalue the nominal exchange rate may promote economic growth through export development. This may be an important characteristic of those Eastern European countries considered as economies in transition since these kinds of policies may be useful for improving domestic market efficiency and economic growth.

In transition economies, exchange rate policies may differ significantly from the long-run to the short-term [Sachs, 1986; Berg and Sachs, 1992]. In situations with high inflation, a pegged exchange rate may be useful until it could be eliminated. At the beginning of the transition, a pegged exchange rate has been effective, but policy should soon move to a more flexible exchange rate system. During this period of time, a fixed rate may be useful to protect domestic industries and to increase the competitiveness of these industries.

This study will focus on Poland, one of the transitional economies. Poland has experimented with different exchange rate systems and four devaluations during the period under consideration from 1991-98.

The paper is organized as follows. The next section will review exchange rate policies during the transition period in Poland, followed by an examination of several methods of calculating power parity rates and the RER. Later, the impact of misalignment upon economic performance including real measurements of export growth is estimated, and the last section provides conclusions.

**Exchange Rate Policies in Poland**

The fall of the Berlin Wall brought about deep changes in the social and economic structures in Poland, as well as in the remaining eastern European countries. During the period under consideration, Poland had different devaluations and different exchange rate systems. At the end of 1989, Poland was experiencing hyperinflation. In January 1990, it experimented with a unification of all exchange rates before the introduction of a fixed rate system, with the exchange rate set at one U.S. dollar per 9.500 zlotys. Due to high inflation, the zloty experimented a devaluation in May 1991, with the exchange rate set at one U.S. dollar per 11.000 zlotys. The currency was fixed to a number of currencies rather than solely to the U.S. dollar. In October 1991, the fixed rate was abandoned and a preannounced crawling peg system was introduced. The crawl was 1.8 percent per month. In February 1992, the zloty was devaluated again at one U.S. dollar per 13.360 zlotys, while the crawl was maintained at 1.8 percent per month. The fourth devaluation during the transition period was in August 1993, when the zloty was devaluated at one U.S. dollar per 13.360 zlotys.

Through 1994, the crawling peg system was maintained, with the crawl reduced from 1.8 percent per month to 1.2 percent per month. During 1995, a crawling band was implemented with a seven percent fluctuation around the fixed central rate. At the end of 1995, the central rate was revaluated at 6.4 percent. This was the first revaluation since the beginning of transition period. In 1996, the glide of the central rate was reduced to 1.0 percent per month. During the first half of 1997, the Central Bank of Poland (NBP) intervened to prevent inflation of the zloty, and during the second half of the year, the zloty depreciated due to capital outflows as a spill over from the Asian financial crisis. Until April 2000, the zloty was pegged against the euro and the U.S. dollar. The exchange rate has been allowed to float after this date.

**RER and Misalignment**

It is difficult to measure the degree of misalignment since it requires a measurement of the equilibrium RER, which is an unobserved variable. Two different approaches will be used