ON THE EXCHANGE RATE PASS-THROUGH INTO INFLATION IN ROMANIA – A DISCUSSION

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Abstract

The significance of the exchange rate for Romania' macroeconomic policies raised the level of interest related to the study of relationships between the exchange rate and the other macroeconomic variables, and particularly inflation, given the realities of a small open economy. Given the country's membership to the European Union and the declared intention to adopt the Euro, Romania has to fulfil the Maastricht criteria for nominal convergence. At present, these criteria are met only in terms of the fiscal deficit and public debt, while the other criteria remain to be complied with, including here the inflation rate. Our paper's objective is to discuss the influence of the exchange rates on one of the most followed macroeconomic variables – the inflation rate –, using the concept of exchange rate pass-through, and to provide an assessment of Romania's macroeconomic conditions with respect to exchange rates and inflation, with an eye over the eventual fulfilment of Maastricht criteria needed for Euro adoption. We conclude that although Romania has achieved an all-time low annual inflation rate of 1.55% at end of 2013 Q4, and the forecasts until 2015 are optimistic regarding inflation targeting, a higher volatility in the exchange rate, as observed towards the end of 2013, which can encourage a higher degree of exchange rate pass-through into inflation, coupled with expected populist measures in an electoral year (2014) might endanger the central bank's objective to maintain inflation within the announced target of 2.5%.

Keywords: Exchange rates, inflation rate, exchange rate pass-through, Romania

Introduction

Romania's membership to the European Union (EU) has opened the door to numerous challenges induced by the country's economic and financial integration with the other members of the EU and, eventually, by the adoption of the common currency, the Euro. Before Euro adoption Romania is required to comply with the nominal and real convergence criteria, based on the stipulations of the Maastricht Treaty. According to this Treaty, nominal convergence depends on inflation rate, long-term interest rate and exchange rate dynamics, as well as on fiscal deficit and public debt. At present Romania fulfils Maastricht criteria for nominal convergence only in terms of the fiscal deficit and public debt, while the other criteria remain to be complied with. From an administrative point of view, similar to the actions of the other new Member States of the EU, Romanian authorities have established coordinating bodies for the adoption of the common currency, such as the Inter-ministerial Committee for Euro adoption (since 2011), which coordinates the country's preparations for Euro adoption and includes the Prime-minister, the Minister of Public Finances, other ministers and managers of governmental bodies, and representatives of private sector organisations and trade unions. Country officials, including here the representatives of the Romanian central bank, have set 2015 as a target year for Euro adoption, but this is, in our view, a more than optimistic goal.

The exchange rate is a critical variable in a small and open economy, which influences the real economy and may be used as a valuable tool to foster nominal and real convergence. Therefore, the relationships between the exchange rate and other macroeconomic variables need to be understood, building on the assumption that the exchange rate dynamics has something to say about inflation rates, interest rates, economic growth and a country's international competitiveness. The significance of the exchange rate for Romania' macroeconomic policies raises the level of interest related to the study of relationships between the exchange rate and the other macroeconomic variables; such a study may consider, on one hand, the various bi-univocal channels of influence of exchange rates over the other macroeconomic variables, and, on the other hand, the concrete economic policy actions that lead towards macroeconomic stability.

On the other hand, the exchange rate is highly sensitive to the evolution of other macroeconomic indicators; it is affected not only by the current state of the economy, but also by the expectations of economic agents about future macroeconomic developments. The expected outcomes of the upcoming elections, the decisions taken by central bankers, or oil prices are just a few factors that influence the exchange rate. As expected, the exchange rate is a highly volatile economic variable and it dynamics is carefully monitored carefully, even the smallest changes representing the subject of TV news or economic newspapers.

Currently, Romania has a managed floating currency regime that aims mainly at smoothing out fluctuations in the exchange rate. The Romanian central bank does not preclude the leu exchange rate movements, but it reduces the amplitude fluctuation. In attaining its monetary policy objectives the central bank uses the exchange rate as a nominal anchor, while in its choice of action on the exchange rate the central bank must strike a balance between reducing inflation and avoid a real appreciation of the domestic currency, which would lower the country's external competitiveness.

Our paper's objective is to discuss the influence of the exchange rates on one of the most followed macroeconomic variables – the inflation rate –, using the concept of exchange rate pass-through, and to provide an assessment of Romania's macroeconomic conditions with respect to exchange rates and inflation, with an eye over the eventual fulfilment of Maastricht criteria needed for Euro adoption.

Exchange rates and inflation – a discussion

Inflation level and dynamics influence the purchasing power of the currency, while the exchange rate is the ratio of the purchasing power of two currencies; according to the Purchasing Power Parity, changes in the exchange rate between two currencies depend on the difference between the inflation rates of the two countries (e.g. inflation differential).

The exchange rate pass-through is commonly defined as the response of domestic prices, including consumer, production and import prices, and sometimes the prices set by local exporters, to the exchange rate. More specifically, Goldberg and Knetter (1997) understand by exchange-rate pass-through "the percentage change in import prices caused by the variation of 1% in the exchange rate between an importing and an exporting country". This definition refers to the impact that exchange rate changes have on import prices. Given that a large proportion of imported goods enter directly into consumption and some are used to manufacture consumer goods, any change in import prices will have an impact on consumer prices.

This topic has been the focus of international economic literature for a long time. In the context of increasing economic openness of most developed economies and of large fluctuations in nominal exchange rates, understanding the determinants of transmission of exchange rate changes in the prices of traded goods has become very important.

The extent to which exchange rate changes are reflected in changes in prices gained interest especially after 1970 when inflationary shocks caused by the sudden increase in oil prices led to the fall of the Bretton Woods monetary system. In inflationary environments, and particularly in high inflationary environments, central banks' concern on how the exchange rate variation is reflected in increased prices has increased due to a vicious cycle that manifests: the currency depreciation can feed price increase, and this will lead to increased inflation expectations.

The degree of exchange rate pass-through into inflation is important for the choice of monetary and exchange rate policy. A low level of pass-through gives a central bank higher independence in conducting its monetary policy and makes it easier to implement a direct inflation targeting framework. Countries with a high share of imports in domestic consumption are more likely to have a higher degree of exchange-rate pass-through; for them, imports, with a higher share in the consumption basket, explain a larger part of price increase. Moreover, if there is a new process of exchange rate pass-through, changes in prices of imported goods can result in a much larger change in the consumer price index. For example, an increase in import prices leads to requests for wage indexation, which generate subsequent increase in inflation. The second wave of exchange rate pass-through is more likely to occur when monetary authorities respond late to shocks generated by imported goods' prices.

Another factor that influences the exchange rate pass-through is the exchange rate volatility: the higher it is, the more cautious importers will be regard to changing prices, preferring to adjust their profit margins until market developments become favorable. Consequently, exchange rate pass-through should be lower in countries with a higher volatility of the exchange rate (Ca'Zorzi et al, 2007), as well as in countries with a higher volatility of aggregated demand (McCarthy, 1999).

A depreciation of the currency is expected to be reflected in increases in prices of imported goods. If the depreciation is fully reflected in the prices of imported goods, the exchange rate pass-through to prices is complete, while incomplete pass-through reflects the partial transmission of exchange rate changes into prices (Goldfajn and Werlang, 2000). The size and speed of exchange rate pass-through depend on factors such as expectations regarding the time length of currency depreciation, the cost of price adjustment and the level of aggregate demand. Understanding the process of exchange rate pass-through is important because the size of pass-through is a good estimator for the potential transmission of the international macroeconomic developments to a domestic economy.

The pass-through effect takes place through three channels: (1) a direct channel through prices of imported goods in the consumer price index (CPI); (2) an effect through prices of imported intermediate goods; and (3) an effect through price setting and expectations that include expected responses of monetary policy (Garcia and Restrepo, 2001).

Empirical studies show that the prices of imported goods do not respond fully to exchange rate changes, and this is due to deviations from the law of one price, which states that in perfect markets with no transaction costs or trade barriers where goods are perfect substitutes the price would be the same, regardless of the market where the good is traded. Most of these studies have demonstrated an incomplete transmission of exchange rate changes in the case of imported goods in most countries - a 1% change in the exchange rate leads to a lower variation of import prices inflation. The literature presents several reasons to explain this phenomenon: (i) in some countries, imports denominated in the domestic currency have a significant share in total imports and a change in the exchange rate has little impact on import prices and therefore on consumer price inflation (Campa et al., 2005); (ii) the existence of asymmetries in the effect of exchange rate movements on inflation: a depreciation of domestic currency has a greater impact on prices than an appreciation, as traders are reluctant to reduce prices of goods (Cozmanca and Manea, 2010); (iii) price rigidity – for both depreciation and

appreciation of the domestic currency, traders prohibit changing prices denominated in domestic currency as long as they are convinced of the permanence of this change (Figueiredo and Gouvea, 2009); (iv) in industrialized countries, most traders are hedging exchange rate risk, which means that the appreciation or depreciation of the domestic currency does not influence prices (Huang and Brahmasrene, 2010).

Although many economists have argued that a reduction in the coefficient of transmission of exchange rate changes on inflation has a positive influence on the economy as it leads to a decline in inflationary pressures from abroad, other authors (Edwards, 2006) state that this argument ignores the role of relative prices and the effectiveness of the exchange rate to mitigate asymmetric shocks.

The relationship between exchange rates and inflation in Romania

Exchange rate pass-through into inflation is a major problem in Romania, especially considering the recent depreciation in the nominal value of the national currency (leu). In recent years, Romania recorded a downward trend of inflation and exchange rate volatility decreased. With the decline in inflation, the degree of exchange rate pass-through diminishes.

Economic stability and the increase in the transparency of the National Bank of Romania monetary policy raised the credibility of the central bank regarding the prospects of disinflation and lower exchange rate volatility. The effects of this stability were reflected by the decrease in the risk premium included in the prices charged by economic agents. The increasing competition in the consumer market, including that of imported goods, decreased the profit margin of producers, which had the effect of diminishing the influence of exchange rate on inflation. The presence of foreign investments in Romania led to a better management of the exchange rate, which resulted in decreased sensitivity of prices to the movements in the exchange rate.

The decline in the exchange rate pass-through has practical relevance due of the central bank's decision to move to inflation targeting in 2005. Historically, since 1990, the exchange rate was used as a nominal anchor for monetary policy. Once inflation targeting as a monetary rule was adopted, the attention towards the exchange rate has diminished considerably. In recent years the central bank’s interventions on the foreign exchange market to influence the exchange rate in line with the bank’s objectives, decreased both in number and volume. Under these circumstances the decline in the exchange rate pass into inflation is beneficial because the high volatility of the exchange rate that can occur over short periods of time will not necessarily influence the inflation target set by the central bank.

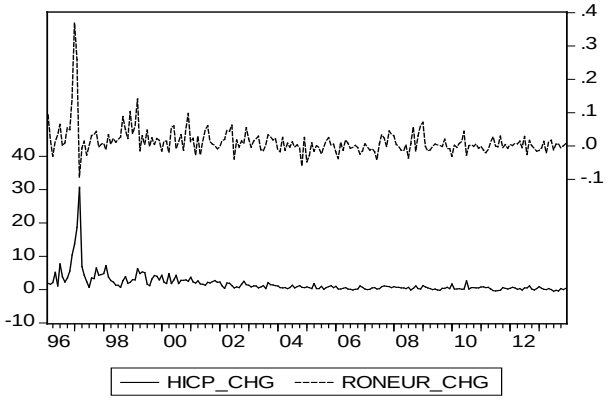
From a macroeconomic perspective Romania had to solve two major problems in the years after 1990: lowering inflation and fostering economic growth. Romania has had many difficulties in restructuring the economy and achieving macroeconomic stabilization, which impeded the country to obtain similar results with the other Central and Eastern European countries.

Within the group of transition economies from Central and Eastern Europe, Romania was the country with the highest inflation after 1990, but it has made remarkable progress in achieving disinflation. Figure 1 shows the dynamics of the inflation rate measured by monthly changes in the Harmonized Index of Consumer Prices (HICP), as well as the monthly changes in the exchange rate of the Romanian currency (leu) against Euro (or ECU, before 1999). It is easily observable that the significant reduction in inflation has been accompanied by a lower volatility of the exchange rate, thus diminishing the potential of high exchange rate pass-through into inflation in Romania.

Quantifying the size and speed with which the exchange rate is transmitted into inflation is necessary for the formulation of monetary policy decisions taken by the central bank, especially after the adoption of inflation targeting. In Romania, the exchange rate was

used as the main intermediate target of monetary policy for an extended period. Since 1999, the central bank acted to fulfil the objectives related to cumulative disinflation and maintaining a sustainable external position. To achieve these objectives, the central bank used the exchange rate as a nominal light anchor depending on specific purposes.

Figure 1. Monthly changes in HICP and RONEUR exchange rate, 1996-2013

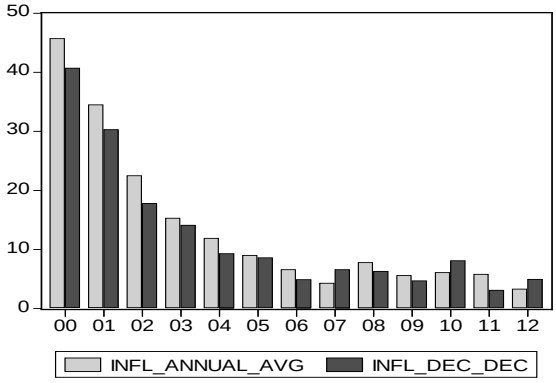


Source: EUROSTAT

Since 2001, Romania has adopted a successful combination of macroeconomic policies aimed at improving internal and external stability, lowering inflation and increasing international reserves. In August 2005, after sixteen months of preparation, National Bank of Romania adopted a new monetary policy rule, namely inflation targeting. During 2006, the disinflationary process continued, and the inflation rate recorded a substantial reduction – it actually stayed within the target for the year. The year 2007 saw the lowest annual inflation from 2000 to 2011, i.e. 4.8%, but inflation grew in 2008 7.8% p.a. and in 2009-2011 inflation fluctuated around 6% p.a. During the first and second quarter of 2012, the inflation rate continued its pronounced downward trend, reaching a new low level of 1.79% per month at the end of May, thus falling by 1.35 percentage points below the level at the end of 2011 and 1.21 percentage points below the centre point of the target range of 3% set for the year. Unfortunately, from June 2012 inflation rate shows a new uptrend and in September 2012, amid drought, it reached 5.33%.

By the end of 2012 the central bank attempted to maintain inflation in the upper band of 4%, but without success. Still, the annual inflation rate of 4.95% at the end of the year is below the projected inflation rate of 5.13%. If we consider the average annual inflation rate, we observe that at the end of 2012 Romania had a better position (3.3%) compared to the previous year (5.8%). Figure 2 shows the realised inflation rates between 2000 and 2012, calculated both as annual average and December to December change in the Consumer Price Index.

Figure 2. Realised annual inflation rate for Romania, 2000-2012

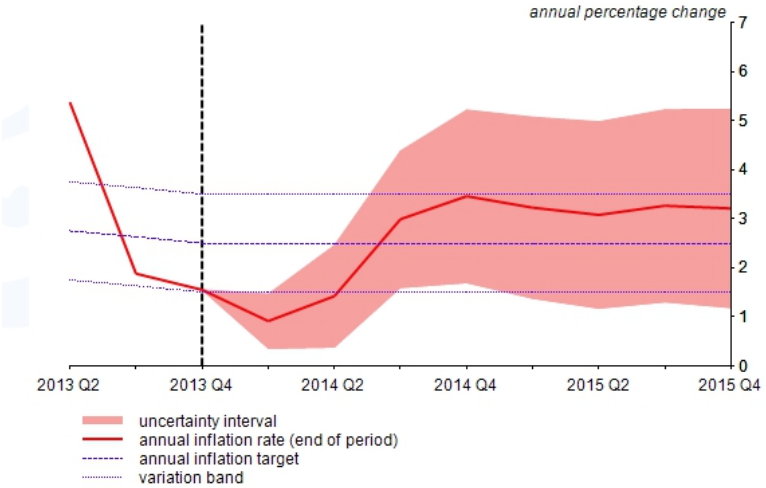


Source: National Bank of Romania Database

The news for 2013 were very good in terms of inflation, as the annual inflation rate measured using CPI rate reached an all-time low of 1.55 percent at end-2013 Q4, falling close to the lower bound of the ±1 percentage point variation band of the 2.5 percent target. The main factors that explain this evolution are the absence of pressures from prices of the agricultural and food products, as well as energy prices and the relatively stable exchange rate. Figure 3 shows the forecasts of the National Bank of Romania until 2015, according to the Report on inflation for February 2014. At the same time, it is worth pointing out that 2014 will be a difficult year in terms of inflation targeting, since it is an electoral year and politicians will be tempted to use various populist tools to attract votes, disregarding the need for macroeconomic stability.

As mentioned above, the relative stability of the Romanian currency exchange rate was a critical factor for prices' stability in 2013. Figure 4 depicts the monthly exchange rate of the leu (RON) against Euro between 2000 and 2012 and compares it with the evolution of other currencies from Central and Eastern Europe – Czech koruna (CZK), Hungarian forint (HUF) and Polish zloty (PLZ).

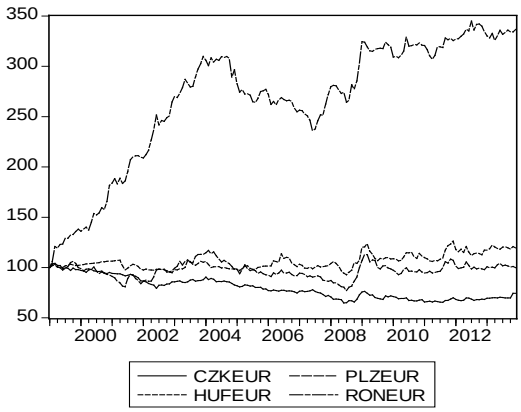
Figure 3. Inflation projections for Romania, 2013-2015



Source: National Bank of Romania

When we compare the Romanian currency evolution between 2000 and 2012 with the evolution of the other CEE currencies, we observe that over this period Euro appreciated on average on a monthly basis against RON by 0.67%, which was the highest change size for all four currencies – the Euro appreciated on average only by 0.9% against the Hungarian forint, but it depreciated against the Polish zloty by a tiny 0.0009% and against the Czech koruna by 0.16% on a monthly basis.

Figure 4. Monthly exchange rates against the Euro for CEE currencies, 2000-2012

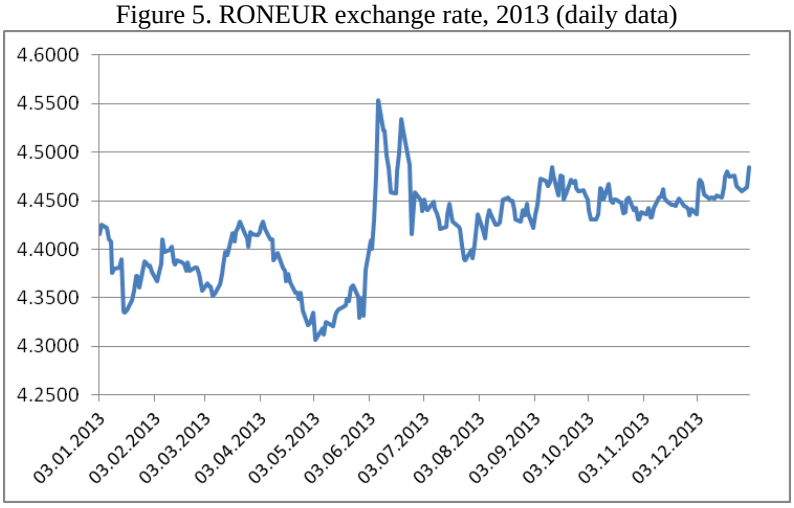


Source: EUROSTAT

At the same time, the Romanian currency's volatility, measured by the monthly standard deviation of the exchange rate change, was second to the volatility recorded by the Polish zloty – 2.52% against 2.80%, while the volatility of the Hungarian forint exchange rate against the Euro was 2.38% and of the Czech koruna against the Euro was even lower, only 1.71% on a monthly basis.

Figure 5 shows the daily values of the RONEUR exchange rate in 2013 and we can easily observe the spike in the Euro in June/July 2013, accompanied by increased volatility, as well as the upward trend of the Euro towards the end of the year, following the Fed's unexpected decision to start tapering its bondbuying programme as of January 2014.

Figure 5. RONEUR exchange rate, 2013 (daily data)



Source: National Bank of Romania

Conclusion

The exchange rate pass-through may be defined as the response of domestic prices to the changes in the exchange rate. The degree of exchange rate pass-through into inflation is important for the choice of monetary and exchange rate policy. In recent years, Romania embarked into a process of diminishing inflation, which influenced the degree of exchange rate pass-through into inflation. A higher economic stability, accompanied by an increase in the transparency of the National Bank of Romania monetary policy raised the credibility of the central bank regarding the prospects of disinflation and lower exchange rate volatility. Although Romania has achieved an all-time low annual inflation rate of 1.55% at en of 2013 Q4, and the forecasts until 2015 are optimistic regarding inflation targeting, a higher volatility in the exchange rate, as observed towards the end of 2013, which can encourage a higher degree of exchange rate pass-through into inflation, coupled with expected populist measures in an electoral year (2014) might endanger the central bank's objective to maintain inflation within the announced target of 2.5% and a variation interval of ±1%.

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