

THE INFLUENCE OF ECONOMIC CONDITIONS IN ROMANIA ON THE RELATION BETWEEN INFLATION AND THE RON EXCHANGE RATE

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Abstract: *The exchange rate is a factor that influences economy and is used by some countries to correct certain disequilibria that occurred as a result of the financial crisis which affected many countries that were previously considered to be infallible. The negative effects of the financial crisis can be found in the decrease of the volume of goods involved in international commercial exchanges as a result of the drop in net exports and gross domestic product. The exchange rate regime in Romania is pegged float and the Central Bank intervenes to support the RON exchange rate since significant changes in the exchange rate of a currency “are not good to a small and exposed economy such as Romania’s one”.*

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INTRODUCTION

Anticipating the evolution of a currency is complex and its volatility corresponds to the situations in the macroeconomic environment. Thus, the exchange rate of a currency may be even influenced by rumours, be they confirmed or not, or reactions to declarations made by certain reputed figures in the economic, political or financial field. The difficulties pertaining to the anticipation of the exchange rate show in the emergence of a series of determination models for the exchange rate that are distant to the results obtained in an empirical manner. Although the application of these models was disappointing in practice, many of them continue to be used to explain the behaviour of the exchange rate (Stein, J. L., *The NATREX Model*, Appendix: International Finance Theory and Empirical Reality, in *Fundamental Determinants of Exchange Rates*, Oxford: Stein and Associates, Clarendon Press, 1995, p. 182).

According to Richard Meese and Kenneth Rogoff (1983), macroeconomic variables play a small role in explaining the short-term exchange rate. But on the other hand, market analysts believe that the fluctuations of the exchange rate owe to the developments at the macroeconomic level.

Excessive volatility in the exchange rate is associated to currency depreciation, and low volatility to periods in which the national currency shows an appreciation trend (Kabor, A., Szekely, I., *Foreign Exchange Market Volatility in EU Accession Countries in The Run-up to Euro Adoption: Weathering Uncharted Water*, Economic Systems, vol.28, no.4, 2004, pp.337–352).

Some models that explain the determination of the exchange rate attribute the feature of fundamental factors to certain variables such as currency offer (money supply), the real economic growth (or the change of the gross domestic product corrected with inflation), exchange rates, inflation rate or the external balance of payments (Ahmet, Can Inci, Lu, Biao, *Exchange rates and interest rates: Can term structure models explain currency movements?*, „Journal of Economic Dynamics & Control” no.28, 2004, pp.1595–1624, www.elsevier.com). A great amount of the literature of the field acknowledges the influence that fundamental factors have on a currency’s exchange rate, yet it is also admitted that the intensity of the relation between variables is weak. The poor performance of models that include significant factors does not draw on econometrics (small or irrelevant samples for the entire population), but the irrationality of the participants on the market, economic cyclicality, team spirit and others are also considered; moreover, the last factors are not easy to integrate in an econometric model (Ehrmann Michael, Fratzscher, *Exchange Rate and Fundamentals: New Evidence from Real-time Data*, „Journal of International Money and Finance” no.24, 2005, pp.317–341, www.sciencedirect.com).

Beckmann, Belke and Kuhl argue that there should not be any determination models of the exchange rate that lack the integration of a main factor of influence, considering that the long-term equilibrium relation between significant factors and exchange rates is not commonly accepted (Ehrmann Michael, Fratzscher, *Exchange Rate and Fundamentals: New Evidence from Real-time Data*, „Journal of International Money and Finance” no.24, 2005, pp.317–341, www.sciencedirect.com).

The macroeconomic model influences the national currency’s exchange rate. Against the background of economic growth, perspectives of financial stability, steady prices, low unemployment rate, the currency displays an appreciation tendency. However, the deterioration of the economic environment, the increasing budget deficit, a high unemployment rate, etc. contributes to greater uncertainties for a specific currency.

THE RELATION BETWEEN INFLATION AND THE EXCHANGE RATE IN CENTRAL AND EASTERN EUROPEAN COUNTRIES

The transition period from market economy was characterised by a high inflation which reached the top in the first years. In 1997, in the context of price liberalisation in agriculture and energy, the inflationist phenomenon reached 180%. Restrictive monetary policies lowered price levels to 33% in February 1999. The drop occurred due to significant fiscal deficits and the rapid and continuous rise in salaries, thus leading to the decrease of external competitiveness.

The International Monetary Fund emphasizes the importance of workforce remuneration and the increase of inflation owing to the practice of salary levels that are not correlated to labour productivity growth.

Price liberalisation in Romania was a long and unceasingly postponed process. In 1997, there was a price liberalisation which whose effects led to the increase of inflation. However, some prices continue to be administered or contain subsidies from the state.

Monetary policies adopted proper inflation policies, hence the decrease of the inflation level to 6% in 2006. From that moment on, the central bank has targeted

inflation and managed to create an internal and external environment of stability by preventing and finally stopping the degradation of the purchasing power for the national currency and the increase of international reserves. Thus, Romanian deflation is a result of the rise of volatile prices.

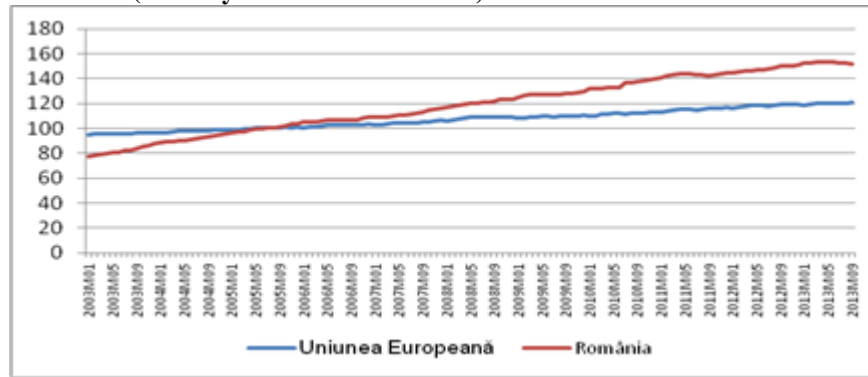
Inflation is considered by some authors that draw on monetarist models of exchange rate determination, a significant factor that influences the exchange rate. For instance, for 1973 – 2000, M. Frommel proved that for three currencies, the inflation differential led to the change of their exchange rates. Moreover, it was shown that inflation was the most important factor in the macroeconomic context (Beckmann, Joscha, Belke, Ansgar, Kuhl, Michael, *The Dollar-Euro Exchange-Rate and Macroeconomic Fundamentals: A Time-Varying Coefficient Approach*, Rev. World Econ., 2010, DOI 10.1007/0290-010-0074-6).

For countries with emergent economies such as the Central European and South-Eastern countries, the exchange rate is a key feature in the policy of central banks to control the evolution of inflation. For those states that aimed at increasing their exports' volume, a more permissive volatility of the exchange rate was preferred, so as to ensure an increased competitiveness of national products. Maintaining competitiveness without compromising stability became the main theme of monetary policy for most states in the region. David Barlow analysed the exchange rate and inflation in Hungary for 1991 – 2002 and proved that, before announcing the crawling pegs in 1995, the depreciation of the national currency responded to the change of inflation, and after 1995, the exchange rate recorded a diminished depreciation trend. Roberto Golinelli and Riccardo Rovelli showed that in 1991, inflation rates in The Czech Republic, Hungary and Poland recorded the following values: 57 %, 35 % and 70 %, respectively. Their value has dropped until 2001 under 8%, the deflationist process influencing the exchange rate of the national currency (Barlow, David, *The Hungarian Exchange Rate Over Transition*, „Economic Systems” no. 29, 2005, pp. 87 – 97, www.elsevier.com).

EMPIRICAL ANALYSIS BETWEEN INFLATION AND THE EXCHANGE RATE FOR ROMANIA

The BNR policy aimed at ensuring steady prices that would contribute to the decrease of inflation 2003–2007. Against the background of the financial crisis, value added tax was increased, the exchange rate was depreciated in the context of expression of an increasingly higher number of prices in the European currency, taxes grew and, at a microeconomic level, serious disequilibria were noticed. All these mutations were reflected in the increase of the inflation rate. Graphically speaking, the evolution of inflation in Romania and the European Union has the following trajectory between January 2003 and October 2013:

Graph 1 Evolution of annual inflation in Romania and the European Union (January 2003 – October 2013) - index 2005 = 100 -



Source: ec.europa.eu/eurostat

The inflation rate in our country is high as compared to other EU countries. In the past years, the appreciation of the exchange rate sustained the deflation in our country, in the context of pay rises in the budgetary system and pensions and budget deficit, mainly by lowering prices to exported products. In the context of recession, present economic conditions contribute to the decrease of inflation and price rises for certain products with a high weight in inflation assessment (energy, fuels) and raising taxes might be influence factors in this sense.

Based on the results obtained, we decided that it was better to use several variables in a model meant to explain the volatility of the national currency starting from basic variables related to the gross domestic product – cumulated volume of imports and exports, external assets, intermediate monetary base M2, as follows:

- *economic openness degree* – this indicator reflects the commercial policy of the state and the likely barriers against it; it is calculated as the relation between cumulated volume of imports and exports in total GDP
- *weight of net foreign assets in total GDP* – against the background of the difficulty to calculate net foreign assets at the level of the financial system, we will analyse the net foreign assets of the banking system reported to GDP;
- *development level of the financial system* – is quantified by means of a series of indicators that supply information on the degree of development and efficiency of the banking system and the capital market, respectively; it may be calculated as weight of the monetary aggregate M2 in total GDP (Altar, Moisă, *Impactul liberalizării contului de capital asupra cursului de schimb și a competitivității economiei românești*, Institutul European din România, Studii de impact PAIS III, pp.43–44).

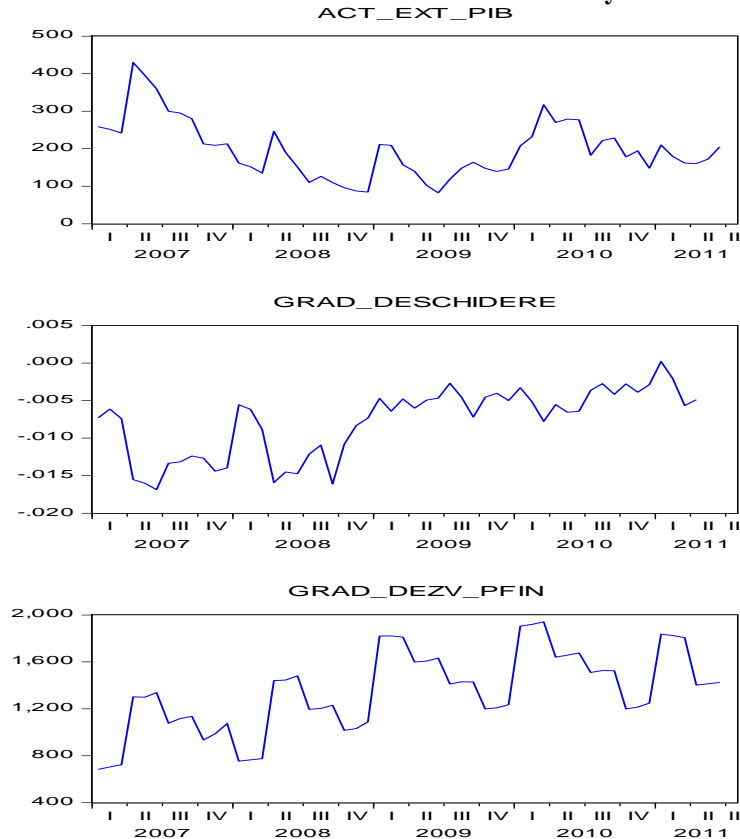
The relation to be obtained from the regression analysis is the following:

$$D(CSM) = -0.001 + 2.345e-009 * D(ACT_EXT) + 4.13E-09 * D(DIF_I) + 0.0319 * D(DIF_R) + 3.679 * D(GRAD_DESHIDERE) + 0.00055 * D(GRAD_DEZV_PFIN) + 0.033123 * D(M_MON) + 4.786e-006 * D(PIB) + 0.000195 * D(ACT_EXT_PIB), \text{ where:}$$

- *csm* – monthly exchange rate average;
- *act_ext* – net foreign financial assets;

- *dif_i* – inflation differential between Romania and the Eurozone;
- *dif_r* – interest rate differential between Romania and Eurozone;
- *grad_deschidere* – openness degree of Romanian economy;
- *grad_dezv_pfin* – development degree of the financial market;
- *m_mon* – monetary base;
- *pib* – gross domestic product;
- *act_ext_pib* – net foreign financial assets as fraction of GDP.

Graphs 2–4 Weight of net foreign assets in total GDP, economic openness degree, and development degree of the financial market in Romania between January 2007 – June 2011



Source: Data processed based on the basic series available on www.bnro.ro and www.insse.ro

Out of all the factors used in the regression analysis, the following are significant: *gross domestic product*, *development degree of the financial market (strong relation)* and *monetarybase (weakerrelation)*, respectively. The determination report points out an approximately 44% influence of the factors included in the model.

At the level of Romanian economy, the exchange rate was influenced by BNR interventions, being an instrument used in stopping inflationist pressure in our country. However, its evolution could not ignore the changes in the level of real economy and

financial market during the present crisis, thus recording a depreciation tendency towards the European currency.

CONCLUSIONS

Protecting a domestic currency with residual monetary sovereignty means that all existent divergences in international institutions and financial markets should be dealt with. This also holds true for a floating exchange rate system, irrespective of the fact that floatability in itself implies a certain protection or not. As a result, it is necessary for the new global financial system to be able to contribute to economic development without determining central banks to go into payment default or an entire currency to be overcome. Governments, banks and enterprises in developing countries should avoid short-term demand loans or short term loans in strong currency. Capital flows to developing countries should preferably come as direct investments or personal capital. Furthermore, developing countries should draft financial regulations to encourage modern national systems and foreign currencies. The International Monetary Fund should focus on its primary function, i.e. providing the main source of liquidity to its members.

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