THE EURO AREA CRISIS IMPACT ON CANDIDATE COUNTRIES[1]

Assoc. Prof. Anca Tanasie Ph. D
University of Craiova
Faculty of Economics and Business Administration
Craiova, Romania

Abstract: Since 2007, the economic and monetary situation in the euro Area has been seriously affected by the developments generated by an ongoing crisis. The status and evolution of candidate countries took a sudden turn, criteria fulfillment had to be reconsidered, stability became an issue and the Euro adoption has been put into a different perspective. Current candidate countries, including Romania must approach the Euro Area membership in more restrictive and rigorous manner. This paper aims to present a brief assessment of recent developments concerning the Euro adoption process.

JEL classification: F33, F36, E42

Key words: crisis; Euro; Romania; monetary convergence

1. INTRODUCTION

Recent economic developments through-out the Euro Area and the EU as a whole, have projected a new perspective on central and Eastern European transition economies aspiring to economic stability and growth as part of a stable single currency area. Common macroeconomic indicator thresholds, fiscal and budget discipline, limited and healthy debt margins or controlled price indexes seemed to be the variables of the Euro accession. They still are, only now, they are being put into perspective, beyond the simple numerical targets. The source of the disequilibrium has also been questioned and put to the basis of recent problems as split between the financial and the real side of the economy. For quite some time, the financial side, such as liquidity issues, plastic money or the crediting has been considered as the important, but still, less than capital determinant of current instabilities. The real economy side and its components as cause of the crisis would have been even more serious. In determining Euro's role in assuring stability and in correctly assessing the enlargement perspectives, we need to clearly locate the source, the unfold of the crisis in Europe, but also alternative scenarios. This may in term help us argument why the Euro has helped limiting the impact of the global crisis, or even strengthen control mechanisms inside the Euro Area. As far as Central and Eastern European economies are concerned, for some of them, the crisis has been the perfect reason for delaying the Euro adoption, for others, it has pointed out the strengths and weaknesses, the regulatory mechanisms in place and their functioning, the extent of the fiscal discipline and so on. Such an

analysis should also prove whether the one for all monetary policy is a suitable instrument once we agree upon the fact that a monetary response to a partially financially generated crisis is the appropriate one. What about the real side of the economy? Could that also be mend by monetary means? Is that enough?

2. LITERATURE REVIEW

The crisis impact of transition economies and their Euro adoption has been a largely debated matter, comprising different perspectives, employing different instruments and wishing to support different views. Most approaches focus on the uniqueness of the crisis from the point of view of the discrepancies or the contradictions generated by the common monetary policy in combination with different fiscal policies. Anand et al. (2012) argument in favour of the rather structural source of the crisis in the Euro Zone and less in favour of the financial side as unique source. That is an important issues for transition economies, as source for asymmetric shocks and for future correlations in terms of real convergence. Real convergence appears to no longer be an integration criterion, but a purpose in itself once the EU member state in the no-opt-out clause aims macroeconomic stability. Even if as pointed out by Regling et al. (2012) the new member states are in control of their euro framework (by calibrating their path toward the fulfillment of the criteria set by the Treaty), but must also take into account uncertainties in economic performance. And even the perspective of the ERM II seems uncertain for countries such as Romania and Bulgaria given actual circumstances. Also, the architecture of the Euro Area has been targeted by criticism. Eichengreen (2009) even debated over the "advisability of establishing the single currency has been rekindled by suggestions that monetary union was responsible for or, at a minimum, aggravated the crisis".

Independent from the source, the shape or the evolution of the crisis, questions are being raised concerning the evolutions in terms of leaving the Euro Area or its enlargement. The theoretical hypotheis for that is a real and legaly established on in the treaties at the basis of the EU architecture, even if practical exclusion instruments have not been established. Recent literature is in favour rather of the enlargement process than of the exclusion one. Greece has been such as example, also from the nagtive precedent creation point of view. Nitsch (2004) has proven for a large sample of cases suggests that more open economies are less likely to exit monetary unions, and even further, Eichengreen (2009) argues that exit from the euro area is exceedingly unlikely. The other perspective – of the acceding countries is marked by the paradox of creating a more attractive single currency. That is mainly due to the fact that, even if not provided with the most flexible response to macroeconomic disequilibrium, the Euro and the common monetary policy have represented stability elements supported by new financial support instruments and by the new improved financial regulatory system.

In analyzing Romania's accession into the Euro Area, we envisaged a rather hypothesis according to which, al central and eastern European countries have had an independent monetary policy before the Euro adoption. Also, Romania's share of the EU GDP is a rather low one, compared to size – as Romania is the 7th in the EU according to population, but it is also an open economy and somewhat similar in structure to fellow candidates and also previous member states such as Slovakia. The inclusion of the external sector in the integration equation, by means of an open economy criteria explains part of the evolution of such small economies before and

after the Euro area membership. Asymmetric shocks generally generate inside larger economies and tend to contaminate smaller ones. According to recent literature, this has been applied for the Slovakian case in a DSGE model by Zeman and Senaj (2009). We chose to apply a two country model – the candidate country – Romania and the Euro Zone. This is based on previous simulations implemented by Obstfeld and Rogoff (1995) – concerning monopolistic, Pytlarczyk (2005) – German economy versus the rest of the world, Breuss and Rabitsch, (2008) for the Austrian economy or at the Banco de Espana by Andres et al., (2006). The IMF developed in 2004, The Global Economy Model (GEM), BCE - New Area Wide Model - NAWM – Christoffel, Coenen, Warne (2008), based on its predecessor Area Wide Model, but also on Euro Area and GLobal Economy model (EAGLE) Gomes, Jacquinot, Pisani (2010) – a four-country model.

3. ANALYSIS

One of the main basic conditions of the analysis is that in assessing real and nominal convergence of candidate economies as indicators of monetary integration, the two economic areas – candidate country and single currency area – they must have similar structure, thus allowing the analysis of generating and producing domestic and external asymetrick shocks, but also the effects inside an economy. This is also the case for Romania and the Euro Zone. The model operationalization involves both the ante and the post – accession period and is based on the production of final and intermediary goods of firms, administrations and households. It also employs domestic and external variables given the extended perspective according to Senaj M. , Výškrabka M. , Zeman J. – National Bank of Slovakia model developed in - MUSE: Monetary Union and Slovak Economy model 1, NBS Working paper 1/2010:

$$
C_t = \left[\omega_c^{\frac{1}{\mu_c}} (C_t^D)^{\frac{\mu_c-1}{\mu_c}} + (1-\omega_c)^{\frac{1}{\mu_c}} (M_t^C)^{\frac{\mu_c-1}{\mu_c}} \right]^{\frac{\mu_c}{\mu_c-1}}
\tag{1}
$$

Where μ_c is the substitution elasticity between domestic and imported goods, ω_c is the share of intermediary goods used in production, ponderea bunurilor intermediare utilizate în producție, C_t^D represents the value of intermediary goods – the out-put of domestic firms i, iar M_t^C represents the value of intermediary goods produced by foreign firms i* (Senaj M et al 2010).

$$
C_t^D = \left[\left(\frac{1}{n}\right)^{\frac{1}{\sigma_d}} \int_0^n (C_t^D(i))^{\frac{\sigma_d-1}{\sigma_d}} \, di \right]^{\frac{\sigma_d}{\sigma_d-1}}
\tag{2}
$$

Where σ_d, σ_{d*} represent the substitution elasticities between domestic goods and foreign ones, and the other way around. According to the prices of domestic and foreign goods, firms may choose the optimal combination, and thus, out-put becomes (Senaj M et al 2010).

$$
C_t^D(i) = \frac{1}{n} C_t^D \left(\frac{P_t^D(i)}{P_t^D}\right)^{-\sigma_d}
\tag{3}
$$

$$M_t^C(i^*) = \frac{1}{1-n} M_t^C \left(\frac{P_t^{D^*}(i^*)}{P_t^{D^*}}\right)^{-\sigma^*_d} \tag{4}$$

Where

$$P_t^D = \left[\frac{1}{n}\int_0^n P_t^D(i)^{1-\sigma_d} \, di\right]^{\frac{1}{1-\sigma_d}} \tag{5}$$

and

$$P_t^{D^*} = \left[\frac{1}{1-n}\int_n^1 P_t^{D^*}(i^*)^{1-\sigma^*_d} \, di^*\right]^{\frac{1}{1-\sigma^*_d}} \tag{6}$$

Thus, the production function becomes

$$C_t^D = \omega_c C_t \left(\frac{P_t^D}{P_t^C}\right)^{-\mu_c} \tag{7}$$

And the price index is:

$$M_t^C = (1-\omega_c) C_t \left(\frac{P_t^D}{P_t^C}\right)^{-\mu_c} \tag{8}$$

If S_t is the nominal exchange rate – RON against 1 EUR, the price of a consumed unit becomes (Senaj M et al 2010):

$$P_t^C = \left[\omega_c (P_t^D)^{1-\mu_c} + (1-\omega_c)(S_t P_t^{D^*})^{1-\mu_c}\right]^{\frac{1}{1-\mu_c}} \tag{9}$$

We may also compute the nominal wage and the aggregate wage index, as following (Senaj M et al 2010):

$$W_t = \left[\frac{1}{n}\int_0^n W_t^{nom}(j)^{(1-\sigma_w)} \, dj\right]^{\frac{1}{1-\sigma_w}} \tag{10}$$

$$P_t^D = \left[\tau_d \left(\left(\prod{}^C\right)^{(1-\gamma_p)} \left(\prod{}_{t-1}^C\right)^{\gamma_p} P_{t-1}^D\right)^{1-\sigma_d} + (1-\tau_d)(P_t^D)^{1-\sigma_d}\right]^{\frac{1}{1-\sigma_d}} \tag{11}$$

The model parametrization involves two stages – one for the stochastic determination and the other for the structural paramenters and the shocks standard deviation (Senaj M et al 2010). Calibration is preferred to estimation in determining stability time intervals. For each of the countries, we use a set of six variable: real GDP (X), real consumption (C), real investments (I),Short terme – 3 months – interest rate – (R), GDP deflator (L). Also, we use government expenditure in order to estimate the autoregresiv process of the according variable. The Euro area is the one containing 17 member states and data is provided by the Eurostat by the last quarter of independent

monetary policy. The economic and financial crisis has contaminated part of the data used, but, still, we kept them in order to provide a complete, not patial image and in order to have the necessary number of observations as high as possible. We shall present here simulations and data for Romania.

Table no. 1 Simulation results for Romania against the Euro Area

	Romania	Euro-Area
I/X	0,227	0,165
C/X	0,61	0,60
Im/X	0,33	0,22
ImI/X	0,2	0,001
ImC/X	0,18	0,003
G/X	0,18	0,20
TB/X	0	0
n	0,01	0,99

Source: author's computing

4. CONCLUSIONS

Simulation on the above model indicate a set of valuable conclusions in terms of crisis effects on acceding economies such as Romania in terms of shock reactions and transmission. Results point towards a similar price and wage change for Romania and the Euro Area, with an un-change probability of 0.82 for Romania and even lower – 0.79 for the Euro Area. The prices indexation degree is higher for Romania than for the Euro area, and according to the Taylor Rule estimation, Romania exibits a high degree of inertia. The interest rate adjustment degree is below 1. There is a rather high sensitivity of consumption prices and a lower one for the out-put gap. Standard deviation of the four comparable structural shocks – consumption preference, investment, technology and monetary shocks - is significantly higher for Romania than for the Euro Area, also being given the difference in size and thus the different inertia. The conclusion according to which exogen shocks are more volatile in Romania is concordant with the high data volatility and the affecting of the economic and financial crisi period.

Generally, when a candidate country becomes part of the monetary union, the exchange rate transmission chanel is closed and thus the effect on foreign investments is higher. Mthe exchange rate strategy employed does not directly generate a growth effect or an increase in welfare and as a slowing growth in imports is experienced, the degradation of the trade balance is less visible.

The real interest rates decrease due to the fact that the nominal rates remain unchanged, inflation increases determining at the same time an increase in private spending and a compensation of the negative effect on welfare. Inflation reflected on consumption prices is rather high and effects on consumption and employment are according but in a different sens.

Concluding, the exchange rate plays an important role in the Romania's monetary integration pattern. While the interest rate has increased, the exchange

rate tended to apreciate, especially if the model does not include cost elements that might pressure import prices. Domestic consumption has been substituted to import based one, exports have experienced a decrease in performace, and the consumption level has also decreased degrading the situation for the last time interval of the analysed period.

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