

THE EXCHANGE RATE TRILEMMA IN EUROPE: A CASE STUDY

Assist. Mercea (Handro) Patricia Amalia Ph. D Student
University of Craiova
Faculty of Economics and Business Administration
Craiova, Romania

Abstract: The accession in European Union of ten Central and Eastern European countries, marks the end of the first phase of integration of these economies into Western European economic bloc. In many respects, similarities with developed countries begin to be obvious: opening borders, free capital flows and free people movement, trade development, greater transparency of monetary and fiscal policy, low inflation rates, and macroeconomic stability. The next step - the euro adoption - is both an obligation and a challenge. The debate about „real convergence” and „open economy” sets up the dilemmas for monetary authorities. The result will end into a mix between: real currency appreciation, an increased current account deficit, the accumulation of inflation and international reserve.

This paper provides a theoretical analysis of the potential dilemmas that might faces monetary authorities in these countries during the real convergence process and alternative solutions for this issues.

JEL classification: E42, E43, E44, E58

Key words: monetary policy, exchange rate, inflation, currency union, european integration

1. INTRODUCTION

In may 2004, eight Central and Eastern European (CEE) states joined the European Union (EU). Bulgaria and Romania followed them in 2007. Large capital inflows became a fact of their life for most of these countries over the recent several years. These inflows may represent a „blank check” for these economies, for their conversion into vibrant market economies and their convergence to western european countries.

However, these capital inflows makes CEE countries more vulnerable to the external evolutions and may complicate their monetary and exchange rate policies.

This paper analyzes the potential dilemmas that large capital flows may generate for monetary authorities in CEE countries, starting with very simple fundamentals like impossible Trinity. It is argued that there are real mechanisms that convergence process involves, that may lead to large and erratic capital flows with potential turbulence for the authorities’ stabilisation objectives. While there is no

generale solution for all CEE countries, this paper propose a set of potential way to follow that will help this problems render more manageable.

For countries intending to adopt the euro, monetary and exchange rate policy before the adoption of the euro is very difficult to formulate and will depend enormously on real economy (including the equilibrium rate for real appreciations and various structural features) but also on other factors such as the credibility of the euro interest rate as the target rate.

The same strategy is not appropriate for all CEE countries. As a general rule, a flexible exchange rate with a relatively wide amplitude is likely to expose countries to more vulnerabilities. From borrowers point of view, the flexible rate reduces the motivation of excessive currency exposures. From authorities perspective, less exposure fights against the fear of floating phenomenon with the government's attempt to resist market-driven exchange rate changes. From speculators perspective, fewer interventions in the market reduce appetite for opportunistic speculation.

Under a fixed exchange rate regime, the interest rate arbitrage suggests that if interest rates are high enough to reflect the real capital deficit, there will be large arbitrary capital flows that will generate a tremendous accumulation of international reserves and the accumulation of current account deficit. Countries with average incomes are expected to grow faster than those with high incomes to achieve real convergence because they offer a higher rate of return on capital. In addition, the european environment is characterized by a free and open market. But the domestic financial markets and banking industries in the accession countries are relatively undeveloped and financial intermediation is underdevelopped. Inflation expectations will stabilize and continue to decline, triggering rising money demand. This will lead to the accumulation of foreign exchange reserves and real appreciation of their currencies as a result of rapid productivity growth compared to trading partners in the european market.

Due to long-term interest rates, these countries are particularly attractive for short-term portofolls. Capital inflows are beneficial but they can lead to overheating of the economy and significant external deficits.

2. OBJECTIVES

This paper provide an theoretical analysis for the potential dilemmas that real convergence and catching-up process might expose the CEE countries monetary authorithies. These countries are confronted with large capital inflows in their transformation process towards occidental economie making them more vulnerable to external influences.

In practice, there are several barriers to capital inflows: institutional and regulatory, on the one hand, and risk premiums on the other. As long as interest rate mechanisms have acted as a constraint tool for managing this issue, loosing the monetary authonomy could supplementary complicate the authority decisions. By the other hand, central banks were aware that attempts to raise interest rates over a certain level could lead to massive inflows of erratic capital that undermine institutional constraint. The price of the risk premium seems to be essential to resolve this difficulties. Monetary authorities' options that best manage the vulnerabilities involved in the real convergence and catching-up growth processes towards euro area for the new member states, are the main objectives of this article.

3. METHODOLOGY

From a historical perspective, monetary arrangements in the world have been dominated by different combinations of these three characteristics (free capital flow, pegged exchange rate and monetary autonomy) for different epochs. For example, the advantages of free capital flows and the stability of a fixed exchange rate under the gold standard have been highlighted by the main countries that have acted under the classic gold standard of the nineteenth century. Under the Bretton Woods system, capital mobility has been controlled in many countries as an attempt to maintain both fixed exchange rates and monetary independence.

Currently, the main developed countries have adopted floating exchange rates in order to maintain capital mobility as a solution for trilemma and emerging countries that do not have strong institutions opt for a fixed or an intermediate exchange rate regime as a stable exchange rate foster economic growth through macroeconomic stability, especially in low and open economy countries.

4. ANALYSES

Mobility of capital is reaffirmed, as was the case of 1960s under Bretton Woods system. Closed capital market and fixed exchange rate is no longer an option. Countries have to choose: they can stay fixed and have no monetary autonomy or they can float and recover monetary autonomy. These elections came to the forefront after the Bretton Woods system crashed from 1971 to 1973.

Figure no. 1 highlights stylized solutions for Trilemma. Every corner of the triangle is a viable political choice. Labels on side edges are objectives that can be reached; Cassettes also describe the purposes that need to be sacrificed in order to achieve these goals.

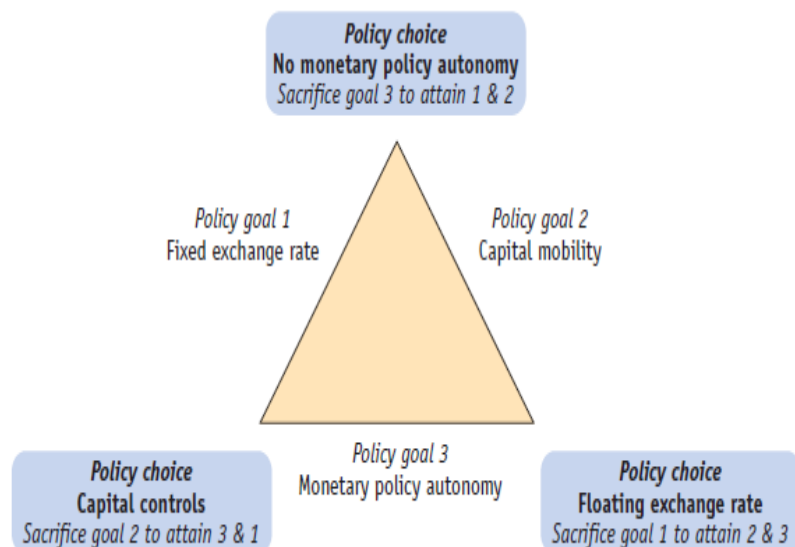


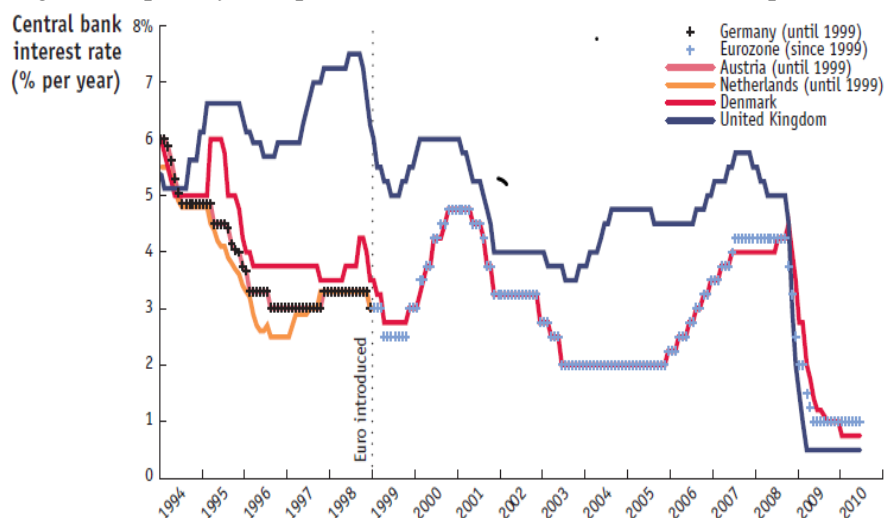
Figure no. 1 The Trilemma Theory

Source: (Feenstra and Taylor, 2012., p.542)

How did the world react? There were a variety of outcomes, and the tools we highlight: (i) the most advanced countries opted to float the course and maintain monetary policy autonomy; (ii) a group of European countries instead, decided to try to keep a fixed exchange rate between themselves, first through the ERM and now by adopting a common currency – euro; (iii) some developing countries have maintained capital control, but many of them (especially emerging markets) have opened their capital markets. Given the "Fear of Floating" perspective, their desire to choose fixed rates (sacrificing monetary autonomy) is much stronger than in advanced countries; (iv) some countries, both developed and emerging economies, stood in the middle: they tried to maintain intermediate regimes; (v) finally, some countries still require some capital controls, rather than embracing globalization.

Under the condition of a high mobility of international capital, based on trilemma, the flexible exchange rate would allow decision-makers to implement independent monetary policy. Starting from the arguments that favor a flexible course: a flexible course system is usually presented by its proponents as an instrument by which depreciation can keep the place of unemployment, and if the external balance is imbalanced, currency appreciation can replace Mundell inflation (Mundell, 1961), it would support the maintenance of monetary independence.

Figure no. 2 summarizes the Trilemma's effect from the perspective of the currency regime adopted by European countries before and after euro adoption.



Source: (Feenstra and Taylor, 2012., p.543)

Figure no. 2 Trilemma in Europe

Feenstra and Taylor (2012) assesses the core interest rates of the selected central banks for the period 1994-2010, using as a reference the evolution of the German mark and the base rates of the euro. During this time, the British made a political choice to float the currency against the German mark and (after 1999) against the euro. This allowed for monetary independence because interest rates set by the Bank of England may differ from those set in Frankfurt. Such independence in the process of monetary policy development was not chosen by the Danish authority which decided to fix the Danish crown on the German mark and subsequently on the euro. The effect was that,

since 1999, the Danish interest rate has moved to an almost exact band of variation and in line with the European Central Bank's rate. Similar forces functioned for Netherlands and Austria. Starting with eurozone joining (1999), the interest rates of these states, closely followed the evolution of the German rate.

4.1 Critical

The analysis of the equilibrium of real interest rates in these 10 CEE countries: Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, The Slovak Republic and Slovenia suggest that the issue of interest rate from the financial arbitrage perspective reflect a large real appreciation of their currency and considerable high interest rates. Table no. 1 highlight the real GDP growth for the transition period of CEE countries already mentioned, and the real exchange rate (RER) appreciation against the deutsche mark, for a period of 10 years (1992-2002).

Table no. 1 GDP growth and Exchange Rates appreciations for 10 CEE countries (cumulative percentage change)

10 CEE countries	Real GDP	RER
1992-2002 (total)	13	85,9

Source: IMF, World Economic Outlook database

These real exchange rates appreciations can be interpreted as a results of: (i) an undervalued currency at the beginning of the transition, (ii) by Balassa Samuelson's conventional effects based on technological differences over the labor productivity and production factors or, simply, (iii) an unsustainable monetary phenomenon. The critical point is that these developments influence the international arbitrage on the interest rate and therefore the connection between exchange rate and interest rate.

The uncovered interest parity (UIP) requires arbitrage in order to transfer the real rates of the country in transition to the real interest rate of target country less the expected real appreciation of the currency in transition. The real interest rate parity reflects the assumption that the real appreciation trend will continue. The results outlined in Table no. 2 indicate that under the conditions of free capital movement there are strong incentives for large capital inflows to enter in CEE countries.

Table no.2. Actual versus Real Interest Rates for 10 CEE countries

Countries, December 1999	Actual Real Interest Rate	Real Currency Appreciation	Parity Real Interest Rate
Bulgaria	-10,8	8,5	-5,8
Czech Republic	-2	4,9	-2,6
Estonia	-6,2	10,1	-7,2
Hungary	3,1	2,4	-0,3
Latvia	3,4	11,4	-8,3
Lithuania	8,8	14,5	-10,8
Poland	4,4	5,8	-3,4
Romania	21,7	4,1	-1,9
Slovak Republic	7,4	4,4	-2,1
Slovenia	-5,1	2,3	-0,1

Source: Schadler 2005 p.73

Note: The parity of real interest rate is determined stand on the average German real interest, December1994-December1999. Short term treasury bill rates are used excepting Czech Republic, Estonia and Slovak republic where are used deposits rates

The flexible exchange rate would allow decision-makers to implement independent monetary policy. But in the case of fixed exchange rate regime, the interest rate arbitrage suggests that if the central bank in the transition country try to set up ex ante the interest rates, high enough to reflect the real capital deficit, there will be large arbitrary capital flows that will generate a tremendous accumulation of international reserves. Capital inflows will end with the accumulation of current account deficit.

Moreover, in the case of maintaining a sufficiently low interest rate to avoid entering these arbitrary capital, the parity of interest rates would be set up below marginal capital productivity. Additionally, the low interest rates would generate investment flows, above domestic savings, and massive expansion of private credit. The results will be a combination of inflation, real appreciation and accumulation of current account deficits. The price of the risk premium seems to be essential to resolving this difficulties.

In the real world, the risk premiums are influenced by a wide range of variables including: (i) the level of development for domestic economy; (ii) political and financial development; (iv) the exogenous conditions of the global capital market;(v) the contagion effects. The implications for monetary policy in the CEE countries can be summarized as follows: (i) the real economic forces that concern production conditions and the path to real exchange rate balances, the independence of the monetary policy of these states, makes them extremely sensitive to the conditions of foreign capital markets; (ii) the exchange rate regime choice does not solve this problem because it is not a nominal phenomenon (iii) under certain circumstances, the risk premium may provide some protection against overwhelming influences on foreign capital markets.

The common elements faced by these countries regarding the external environment are: large capital inflows, affected by changes in market conditions, irrespective of the country's exchange rate regime in transition.

The notion of the flexible exchange rate as a buffer of these external influences may be illusory. On the other hand, the implicit guarantees of the flexible exchange rate could exacerbate the discontinuities in quantifying the risk. Small shifts in global portfolios have profound implications in the Central and Eastern European economies because capital markets are very high compared to their GDP. The theory does not provide simple solutions to these problems, however they could be concentrated in two options: (i) managing capital inflows and (ii) learning to live with them. Foreign exchange policy is important in influencing capital inflows because it produces profound effects in market perception and behavior.

There is empirical evidence to prove that the global financial cycle weakens much of the effectiveness of autonomous monetary policy under the conditions of free movement of capital (Rey, 2015). If in the last decades international macroeconomics has developed "trilemma": capital mobility, independent monetary policies, conditioned by the existence of flexible exchange rates, the global financial cycle transforms the trilemma in a "dilemma". Independent monetary policies are possible if, and only if, the capital account is managed (Rey, 2015). The article briefly outlines a view that capital controls seem to be needed to help a country insulation from global financial cycles

(Rey, 2015). In addition, Christl (2006) suggests that this compromise between monetary independence and exchange rate stability could also be affected by other factors such as central bank independence, administrative capacity, and the depth and liquidity of the foreign exchange market.

An approach between trilemma and dilemma or "2.5-lemma" belongs to Han and Wei (2018) who suggest that without restrictions on capital flows, a flexible exchange rate could offer some autonomy to monetary policy when the central bank the national currency increases its monetary policy rate, but fails to do so, if it lowers its interest rate. Currently, the effectiveness of controls for capital inflows and outflows is considered to be very limited (Ariyoshi et al., 2000).

Given that the rapid process of globalization and financial innovation can also reduce the effectiveness of capital control, the traditional trinity is usually reduced to a compromise between exchange rate stability and interest rates stability. The flexible exchange rate can also have a destabilizing effect as it contributes to the global financial cycle by reducing the perception of credit risk in countries facing massive capital inflows, then to deepen the perception of the crisis when capital flows reverse and the risk of credit eruption (Bruno and Shin, 2015). Global financial cycles are the ones that determine capital movements as well as the credit and asset prices expansion. They are not aligned with the national macroeconomic conditions, but rather with the monetary policy of the major financial centers.

In the context of increasing globalization and global financial integration, the exchange rate responds to the impulses of financial intermediaries on the international market rather than to traditional shocks of domestic supply and demand, it is determined by capital inflows and rarely acts as a shock absorber in the national economy (Gabaix and Maggiori, 2015). Capital flows are pro-cyclical - rising in good times and descending in bad times. In reality, however, the integration of capital markets is often associated with an increase in economic volatility, "flows are pro-cyclical and exacerbate economic fluctuations" (Stiglitz, 2016, p.65). Thus, the financial cycle limits national monetary policies, regardless of the exchange rate regime (Dăianu, 2016).

5. CONCLUSIONS

As a first conclusion, if the domestic authorities cannot adopt monetary policy independence, this attribute must be abandoned, in order to import external stability from other countries. Increased attention has been given to emerging countries that have opened up their financial markets. Regarding the trilemma point of view, the last currency crises reflect a signal - the incompatibility between open capital markets, and the stability of the exchange rate. The "bipolar view" was presented as the only viable options for the currency regime in these countries. Based on this theory, only the extremes solution "hard pegs" or "free floats" is reliable in a world of capital flow, while interim regimes are susceptible to speculative attacks.

There is also an incompatibility between high capital mobility and intermediate regime that become less suitable for open economies. Since monetary policy in this situation can not simultaneously sustain a stable exchange rate and capital outflows or sudden stop in capital inflows, these countries should pursue the strategy of corner solution and to adopt either a rigid fixed regime or a free floating regime.

A second conclusion that emerges is that adherence to a fixed exchange rate under free capital movement and opened capital account lost independence of monetary policy as well as the right to determine independently the interest rate or the exchange rate variability as an policy adjustment tool.

In the case of fixed exchange rate, the interest rate arbitrage suggests that if the bank in the transition country try to set up ex ante the interest rates, high enough to reflect the real capital deficit, there will be large arbitrary capital flows that will generate a huge accumulation of international reserves. Monetary authorities can try to sterilize the monetary impact, but this operation is extremely costly and, ultimately, it will fail. The result of capital inflows will end with the accumulation of current account deficit. Keeping a sufficiently low interest rate in order to avoid the entrance of these arbitrary capital - the parity of interest rates would be set up below marginal capital productivity. Low interest rates would generate investment flows, above domestic savings, and massive expansion of private credit. And here will be a combination of inflation, real appreciation and accumulation of current account deficits. The price of the risk premium seems to be essential to resolving this difficulties. Foreign exchange policy is also very important in influencing capital inflows because it produces profound effects in market perception and behavior.

REFERENCES

1. Ariyoshi et al. Capital controls: country experiences with their use and liberalization, 2000
2. Bruno, V. and Shin Cross-border banking and global liquidity. *The Review of Economic Studies*, 82(2), pp.535–564, 2015
3. Christl, J Regional currency arrangements: insights from Europe. *International Economics and Economic Policy*, 3(3–4), pp.209–219, 2006.
4. Dăianu, D. România și aderarea la zona euro, 2016
5. Feenstra, R.C. *International economics second edition*, 2012 and Taylor
6. Gabaix, X. and Maggiori, M International liquidity and exchange rate dynamics. *The Quarterly Journal of Economics*, 130(3), pp.1369–1420, 2015
7. Han, X. and Wei International transmissions of monetary shocks: Between a trilemma and a dilemma. *Journal of International Economics*, 110, pp.205–219, 2018
8. Mundell, R.A., A theory of optimum currency areas. *The American economic review*, 51(4), pp.657–665, 1961
9. Rey, H. Dilemma not trilemma: the global financial cycle and monetary policy independence. *National Bureau of Economic Research*, 2015
10. Schadler, S. Euro Adoption in Central and Eastern Europe, Opportunities and Challenges, 2005
11. Stiglitz, J. What is wrong with negative interest rates? *Project Syndicate*, 13, 2016
12. Spulbăr, C., Birău, R. “Emerging Research on Monetary Policy, Banking, and Financial Markets”, (2019)