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COMPARATIVE ANALYSIS OF THE CRITERIA IN THE CHOICE OF AN EXCHANGE RATE REGIME

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Abstract. *The traditional view on the choice of the exchange rate regime a century ago was very simple. It was between specie standards and fixed exchange rates on one hand, and fiat money and floating on the other. The prevalent view was that adherence to specie, standard meant adherence to sound money, as well as fiscal probity and avoiding the transactions costs of exchanging different currencies into each other. The second view on the choice of the exchange rate regime is based on the concept of a nominal anchor. In an environment of high inflation, as was the case in most countries in the 1970s and 1980s, pegging to the currency of a country with low inflation was viewed as a precommitment mechanism to anchor inflationary expectations. This argument was based on the theory developed by Barro and Gordon who discuss the case of a central bank using discretionary monetary policy to generate surprise inflation in order to reduce unemployment. They demonstrate that with rational expectations the outcome will be higher inflation but unchanged employment because the inflationary consequences of the central bank's actions will be incorporated in workers' wage demands. The only way to prevent such time inconsistent behavior is by instituting a precommitment mechanism or a monetary rule.*

There are different criteria for the choice of an exchange rate regime, depending on the aims that the governing authorities set for themselves with the macroeconomic policy of the country. The choice may be based on one hand on the benefits from the integration of the economy to a certain economic block or retaining its monetary independence, while on the other hand – as a starting point is possible to take the nominal anchor concept. Both approaches undergo evolution in accordance with the general economic processes in the world economy.

The *Traditional approach* to the choice of an exchange rate regime is very simplified in retrospective. On one hand, it is a choice between a certain type of standard and the fixed exchange rates, while on the other – between the specified by decree monetary units (fait money) and the floating exchange rates. The prevalent approach is the establishment

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of a standard, which is to guarantee a stable currency, i.e. predictable policy with the purpose of maintaining a constant price level, as well as an independent fiscal policy, i.e. balanced state budget. Thus the transaction costs in the currencies conversion are avoided.

By 1900 most of the countries discontinued the bimetallism and adopted the gold standard. The floating exchange rates and the printed money (fait money) were accepted as criteria of the fiscal and monetary independence. Due to it, they were tolerated in case of wars or financial crisis. Austro-Hungary and Spain, for example, are countries that adhered to similar policy.

Between the two world wars the re-establishment of the gold standard was short-lived. The period before its re-establishment and after its discontinuance was characterized with high fluctuations of the exchange rates. That is why the flexible exchange rate between the wars was associated with destabilization speculation and competitive devaluations. These views were also underlying the principles of the fixed, but subject to reconsideration exchange rates from the Bretton Woods Currency System (BWCS)[1].

The exchange rate mechanism, agreed at that time and signed by many countries after Bretton Woods, combined in itself exactly the par pegged exchange rates, fixed to the US Dollar, while it itself was pegged to the gold, with fluctuation limit of 1% around its parity and a right to change in case of fundamental deviations. The purpose was to build into one currency mechanism the advantages of the gold standard with its stability, and of the floating exchange rate – its variability and the independence of the monetary policy.

The IMF member-states in that period faced enormous difficulties in determining the exact parity, which was to correspond to the balance of payment equilibrium and the overcoming of the currency crisis, which provoked the change of the parities in the first years of BWCC. The built -in contradiction of this currency mechanism laid the foundations of the debate between the adherents of the two extreme forms - fixed and flexible exchange rate. In Milton Friedman the understanding, modern for that period, was presented: the floating exchange rates, as a reaction to the conventional exchange rate theory[2]. According to Friedman the advantages of the floating exchange rates are in the independent stable monetary policy, the isolation from real shocks, the smoother restoration mechanism of the nominal stability, in comparison to the pegged exchange rates.

Mundell further developed the Friedman's analysis, but already related to a world with capital mobility[3]. According to his analysis, the choice between a fixed and flexible exchange rate regime depends on the prime source of the shock – to what extent it is real or nominal, and on the extent of the capital mobility. For an open economy with capital mobility the flexible exchange rate ensures isolation against shock in real economy, such as for example – the change in the export demand or worsening the conditions of trade. Yet the fixed exchange rate is suitable in nominal perturbations in the economy, such as change in monetary demand.

The model of Mundell – Fleming led to two important changes in the theory of exchange rate regime choice: *the impossible triunity or the trilemma and the optimal currency area*. According to the *trilemma* a party may achieve only two from the three desired

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[1] See Bordo M., Exchange Rate Regime Choice in Historical Perspective, NBER WP9654, April, 2003, p. 6.
[2] See Bordo M., Exchange Rate Regime Choice in Historical Perspective, NBER WP9654, April, 2003, p. 6.
[3] See Mundell R., Capital Mobility and Stabilization Policy Under Fixed and Flexible Exchange Rate, Canadian Journal of Economics and Political Science, 29 No4, pp. 475-485.

objectives: independent monetary policy, capital mobility and exchange rate stability, i.e. maintenance of a pegged exchange rate regime. According to this interpretation the gold standard prospered with open capital markets and fixed exchange rates, due to the fact that the monetary independence is not of great significance. It collapsed (between the two world wars), because the monetary policy was oriented to reaching full independence.

Unlike the gold standard, the BWCS exchange rate mechanism had built in pegged exchange rates, i.e. the guarantee for a stable exchange rate and monetary independence, but with the imposition of capital control. This was one of the reasons for its collapse, and more precisely – for the increasing difficulties, which the countries faced when maintaining a fixed exchange rate[4]. The above stated circumstances have necessitated an evolutionary change of the *trilemma in dilemma,* according to which with high capital mobility the choice of an exchange rate regime is limited to the firmly pegged forms – monetary union, dollaralization or currency board and floating exchange rate. Nowadays, the developed countries release the exchange rates of their currencies to float, or participate in a monetary union, such as for instance – EMU.

The second evolutionary change relates to the *optimum currency area* (OCA) as a region, for which it is optimal for a unified currency and common monetary policy to exist[5]. This concept is used simultaneously for drawing of the criteria for a monetary union with fully fixed exchange rates between the union's member-states and with common monetary policy, and for comparison of the fixed and flexible exchange rate regime. The criteria of Mundell, Kenen and McKinnon regarding the estimation for an optimal currency area of a region like Europe include the symmetrical shocks between the countries, extent of openness of their economies, extent of labor mobility and possibility to conduct fiscal transfers[6].

In clarification of the advantages and disadvantages of the two extreme forms on the basis of the OCA theory, the advantages of the fixed exchange rate increase with widening of the extent of integration. According to a research of Frankel and Rose, the criteria for OCA are also useful in the setting up of a currency union, for intensifying the correlation of the shocks by the trade and integration of the countries[7].

The second approach in the choice of an exchange rate regime is based on *the nominal anchor concept*. In the conditions of high inflation, such as the circumstances in the 70^{-ies} и 80^{-ies} of the last century, the pegging of the local monetary unit to a currency of a country with low inflation was accepted as guarantee mechanism in getting the inflation expectations in the country under control. This assumption is based on the theory, developed by Bordo and Gordon, who examined the efficiency of the independent central bank institu-

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[4] See Bordo M., Exchange Rate Regime choice in Historical Perspestive, NBER, WP 9654, 2003, April, p. 22.

[5] See Frankel J., Single Currency is Right for All Countries or at all Times, Princeton Essays in International Finance 215. International Finance Section. Department of Economics, Princeton University, Princeton NJ, p.11.

[6] See 1. Peter Kenen, The Theory of Optimum Currency Areas: An Eclectic View, in Robert Mundell and Alexander Swoboda (eds), Monetary Problems of the International Economy, Chicago: University of Chicago Press., 1969.; 2. See Robert Mundell,The Theory of Optimum Currency Areas, American Economic Review,-51 (September) 1961, pp. 657-661.; 3. See Ronald McKinnon, Optimal Currency Areas, American Economic Review, 53 (September) 1963, pp 717-724.

[7] See Jeffrey Frankel & Andrew Rose, An Estimate of the Effect of Common Currencies on Trade and Growth, Journal of Economics, 2002, 117 (2): 437-66.

tion in getting the unemployment under control at the expense of the increased inflation[8]. They proved that with rational expectations the expected result would be higher inflation, in case of unchanged employment, due to the fact that the inflation consequences of the Central Bank's actions reflect on the workers' wages. The only way to overcome this problem is sought in the building of an institutionalized guarantee mechanism or the adoption of the monetary rule.

WHAT NECESSITATED THE NEED OF A MONETARY RULE?

At the meeting of the World Economic Forum in Davos in 2000, the governor of the Central Bank of one of the Latin American states expressed an opinion about the unfitness of the fixed exchange rates. That opinion was opposed by the professor in Economics with the Columbian University - Robert Mundell[9]. He thought it was of particular significance to make a distinction between pegged and fixed exchange rate.

Any intervention in support of the *fixed exchange rate* results in alteration of the monetary supply. In case of the danger of rising of the local currency, i.e. with asset in the balance of payment, the central bank buys foreign currency against the sale of local, thus the currency reserves of the country grow. As shown in Fig. 1, with *pegged exchange rate* the Central Bank's interventions do not violate its monetary independence. This is due to the fact that its operations are sterilized, i.e. after every increase in the monetary supply through the purchase of foreign currency, it neutralizes that effect by the sale of an equal quantity of securities, denominated in local currency, or by changes in the interest rates, in case that its currency rises. Such strategy is used by the central banks of the USA and the United Kingdom, but in the conditions of floating exchange rates. In other words, the making of changes in the CBC with instruments of the internal monetary policy results in contradiction, which sooner or later provokes crisis. This is the nature of the pegged exchange rates.

The examples for fixed exchange rates, from the classical gold standard to dollarized Panama are numerous. But the question here is somewhat different: Why do currency boards appear again – several countries in transition from CEE use this form as an anchor of their monetary policy. As early as in 1983 it was introduced in Hong Kong, and in the modern world Argentina may serve as an example. According to Robert Mundell, this special form of fixed exchange rates has come back due to the need of a formula for overcoming the contradiction between the pegged and fixed exchange rates. In the modern classification of the exchange rates, the two types of exchange rate regimes are very often accepted as identical. To avoid such confusion, the economists began talking of "currency board".

But how do after all the *two extreme forms* have to be interpreted according to this approach? The correctly formulated dilemma relates to the appropriateness of one of the three monetary rules. *Fixed exchange rate* is to be understood to be fixing to a currency, a

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[8] See Robert Barro & David Gordon, A Positive Theory of Monetary Policy in a Natural Rate Model, Journal of Monetary Political Economy, 91, 1983, pp. 589-610.

[9] See Mundell R, Currency Areas, Exchange Rate Systems and International Monetary Reform, Journal of Applied Economics, Vol III, No. 2, Nov. 2000, M. 217-256.

basket of currencies, the so-called currency targeting. While for a *flexible exchange rate it* is accepted the relief of the exchange rate policy of the nominal anchor burden and transfer over the goods and services' prices, the so called *inflation targeting*, or over a monetary aggregate (*monetary targeting*). In other words, the dilemma between fixed and flexible exchange rate regime is a dilemma between the monetary dependence, in the form of currency targeting and the monetary independence, realized in a short-term period with the assistance of monetary targeting or in a medium-term and long-term plan by inflation targeting.

The fight against inflation represents the major criterion for the differentiation of the three types of targeting – monetary, currency and inflation. The maintenance of price stability according to Alan Greenspan, former Chairman of the FRS is the main task of the monetary policy. In his speech before the US Congress in 1996 he said: "The price stability exists where the economic agents cease to be interested and take into consideration in their decisions the expectations for change in the general price level in the country"[10]. Most of the research economists, such as Bernanke, Mishkin, Achmidt-Hebbel, Brook, Karagedikli, Scrimgeour, Batini etc. accept that it is a question of annual growth of inflation, expressed with very small single-digit values.

The difference between the three types of targeting – monetary, currency and inflation, is found in the way in which the inflation is brought under control, with the commitments of the governing authorities and in the time efficiency of the specific monetary mechanism.

With the monetary targeting the inflation is attacked indirectly. The information about the monitored monetary aggregates is updated within super short time, which allows the governing authorities directly to control the monetary offer, thus also maintaining the necessary fiscal discipline. From technical viewpoint in that type of targeting minimal analytical observations are carried out over the alteration of the real economic growth trend, the money speed and the monetary multiplicators. This type of monetary regime becomes unfit for countries, for which the confidence in their Central Bank is low. A lot of developing countries turn to it due to the full control, which the Central Banks have over the monetary offer.

The second type of targeting is the *currency targeting*. With it, as with the monetary, the inflation is attacked indirectly, assuming the monetary policy of the other country in order to ensure the required confidence. But both with the monetary, and with the currency targeting, it is difficult to achieve correct real exchange rate. If prices in economy are hardly movable, then for the realization of MRS changes in the production itself will be needed. It is possible to overcome the disadvantages by passing to a form of extremely fixed exchange rate or to a freely changeable exchange rate, which is to be combined with the inflation targeting.

The *inflation targeting* ensures direct mastery of the inflation expectations by winning confidence in the Central Bank institution. It is a medium-term strategy of the economic policy of the country, by which its greater variability is guaranteed, lower expenses in case of failure with more liberal short-term price policy. This type of targeting presupposes the existence of the required technical capabilities of the Central Bank, fiscal discipline, a developed financial market and efficient institutional support.

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[10] See IMF, World Economic Outlook, September 2005, World Economic and Financial Surveys.

The choice of a suitable monetary rule depends in the *first place* on the size of the country. Some countries are too small to fix their money units. The Canadian dollar or the Mexican peso may be fixed to the US currency, but the reverse is not possible. In such situation the choice is between the inflation and monetary targeting, in comparison to a monetary aggregate.

The choice between inflation and monetary targeting depends on the inflation level in the country. The monetary targeting is recommendable to be used in the conditions of hyperinflation[11]. The high inflation levels usually are caused by budget deficit, financed by the Central Bank. The stabilization policy depends on the restriction of the monetary expansion.

After the level of inflation drops below 3% per month, the inflation targeting takes a priority position. The monetary targeting is not able to provide financial adjustment in the economy in case of low interest rates. Some leading countries continue to publish data about monetary targeting as a corrective of the conducted policy, instead of other macroeconomic variables. Actually, the monetary aggregates contain important information about the economy of the country as a whole.

With low levels of inflation the choice falls between the inflation targeting, i. e. monitoring of a basket of goods and services, and the currency pegging to a currency or a basket of currencies. With the first type of targeting the country is free to choose for itself the growth of inflation. For the large currency area of the US$, euro and yen, a normal growth is accepted to be the interval of 0-2%.

The stability of the inflation is a very important macroeconomic strategy. But if a higher growth of the inflation in the country is necessitated, then it is better to resort to the possible alternative for the exchange rate fixing.

The macroeconomic situation in Argentina and Chile, compared with each other, is an eloquent enough example in support of the stated thesis. Argentina accounts for the growth of inflation in the USA after the fixing of the exchange rate of the peso to the US dollar and retains it almost for a decade. Unlike it, in Chili the inflation targeting manifests itself quite successfully, a considerable economic growth being also achieved, but the Chilean authorities exercise control over the capital movement permanently.

The capital control is not necessary if the uncertainty around the exchange rate is eliminated, as it is within the Euroarea.

After the above analysis, it is possible to make the following summary, presented in outline in Figure 1. Both approaches examine the types of exchange rate regimes from their own view, but their common image is of significance, in which the theoretical concepts of all researchers have been built, who in no way exclude or reject one another, but only supplement the overall picture of the examined problem. The interdependence between the exchange rate and inflation is determinant. The role of the interest rates is only alluded to in the provisionally set interim variant of the exchange rate regime, respectively interim period, and by the financial history, with the transition of the theoretical thought from "trilemma" to "dilemma".

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[11] See Mundell R., Currency Areas, Exchange Rate Systems and International Monetary Reform, Journal of Applied Economics, Vol.III, No 2 (Nov.2006), 217-256.

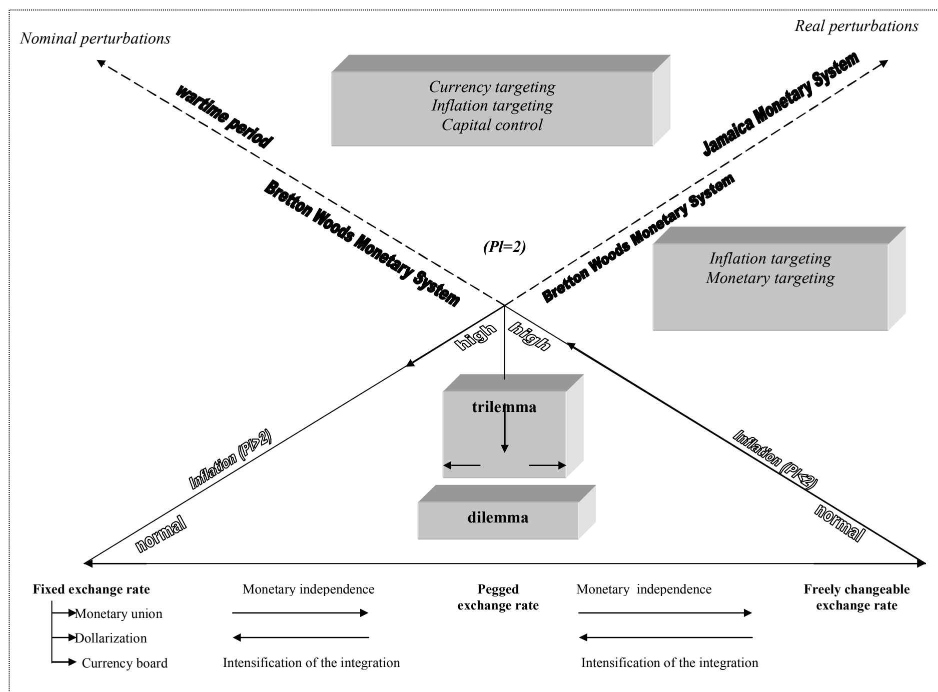

Fig. 1. Benefits from the integration or the nominal anchor rule

The time of the fixed parities of the gold standard, not requiring independent monetary policy due to moderate inflation, passed away and the turn came of the nominal perturbations during the war-time, where according the second variant the monetary targeting became imperative.

The compromise variant of the two extreme forms – from the fixed exchange rate with BWCS to strengthening the influence of the capital flows after the adoption of the Jamaican Currency Mechanism – is identified in the economic theory with the trilemma of Milton Friedman on one hand and with the inflation targeting and capital control of Robert Mendel, on the other.

With the falling of the level of inflation below 2%, there has to be built-in inflation and monetary targeting in the general macroeconomic policy of the country. Such instruments become fact after the strengthening of the monetary independence of the individual countries, by the establishment of a domestic institution, which is to guarantee the low inflation in a short-term and long-term period and to direct the exchange rate policy to the freely changeable exchange rate regime. In this way at the end of the past century and at the beginning of the current, the Friedman's trilemma was built in dilemma, by which the developing countries' problems were overcome, by means of their orientation to membership in a certain monetary unit or by fixing their exchange rate by one of the listed ways, and of the developed – by establishment of freely changeable exchange rate regime.

In contrast, however, to the forms of the fixed exchange rate and the characteristic for the developing countries (including also for those being in transition) nominal perturba-

tions, the freely changeable exchange rate is considered by the theoreticians to be more stable in the real perturbations. What will the new financial picture prove to be after the increasing role of the capital flows movement, is a problem that will show up.

Still, the route of the newly emerging market economies proves to be quite difficult and long. Already known in the financial history is the place of the pegged exchange rates in the interpretation of the financial crisis from the 90^{-ties} of the last century. For example, according to the Friedman's trilemma, the crisis are a signal that there is incompatibility between the liberalized capital operations, the monetary independence and the maintenance of pegged exchange rates, as the situation was with the developed countries in the period of the BWCS and the European Exchange Rate Mechanism in 1992. Many economists consider that the only solution of the arisen case is the two extreme forms of exchange rate regime, i.e. the so-called dilemma. What is more, *the newly arising market economies* are confronted by more specific problems. *In the first place*, in the conditions of the extreme pegged exchange rates as a currency board or dollarization (eurosation), the currency crisis are overcome, but the bank crisis still remain possible[12]. Due to the fact that the central banks of the countries lack the function of lender of last resort, they do not have the required flexibility of the monetary policy with whose assistance to neutralize the impact of the outside real shock. That is also evident from Figure 1. After the establishment of a currency board or proceeding to dollarization, utmost efficiency is achieved in case that currency – nominal anchor, belongs to a country which has tradition in the monetary stability, with which the relevant country is in developed foreign trade relations.

In the second place the problem is for the "original sin" of Eichengreen and Hausmann. The low financial development of the newly emerging market economies, characterized also with the high inflation and lack of financial discipline, does not allow them to mobilize funds in their own currency. That places them in currency and maturity incongruity. In the conditions of currency crisis any minimal devaluation is a cause of serious problems in the balances of payment, and in particular of the external debt of the countries, as it happened in Southeast Asia in the 90^{-ties} and in Argentina in year 2001. In other words, the arisen circumstancese, known in history as an "original sin", create problems even for the newly emerging market economies, whose currencies are in freely changeable exchange rate regime.

The third problem relates to the countries from that group with a floating exchange rate regime. In the conditions of the widespread practice of indexation or in the years of high inflation, any devaluation would not have influence over the real economy along the export lines. According to Michael Bordo, devaluations would have a negative effect, due to the fact that changes in the exchange rate automatically reflect on the price level in the country along the import lines.

The presented cases prove that the interim exchange rate agreements still find their place in the general macroeconomic policy of the countries with newly emerging markets.

[12] See Chane R. & Velasko A., A Model of Financial Crises in Emerging Markets, Quaterly Journal of Economics 117, May 2001, pp. 484-517.

KOMPARATIVNA ANALIZA KRITERIJUMA U IZBORU REŽIMA DEVIZNOG KURSA

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Tradicionalni pogled na izbor režima deviznog kursa pre jednog veka bio je veoma jednostavan. S jedne strane bili su standardi kovanog novca i fiksni devizni kurs, a sa druge strane plivajući kurs. Drugi pogled na izbor režima deviznog kursa bazira se na konceptu nominalnog utvrđivanja. U uslovima visoke inflacije, kao što je bilo u većini zemalja 70-tih i 80-tih godina, vezivanje za monetu zemlje sa niskom inflacijom se posmatralo kao preduslov za utvrđivanje inflatornih očekivanja. Ovo stanovište bazira se na teoriji koju su razvili Baro i Gordon, koji su razmatrali slučaj kad centralna banka koristi diskrecionu monetarnu politiku da bi generisala iznenadnu inflaciju kako bi smanjila nezaposlenost. Oni pokazuju da će sa racionalnim očekivanjima rezultat biti viša inflacija ali nepromenjena zaposlenost, zato što će inflatorne posledice aktivnosti centralne banke već biti uključene u zahteve za nadnicama. Jedini način da se spreči ovakvo nekonzistentno ponašanje je uvođenje monetarnog pravila.