

## DOMESTIC AND EXTERNAL FACTORS OF CURRENCY CRISES

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**Abstract.** *The aim of this paper is to explain the essence and basic causes of currency crises in the last decade of the twentieth century. In doing so, we will not dwell on the description of the crisis of individual countries. We will analyze the aggregate (essential) factors which determine and encourage the development of currency crises. Research shows that poor macroeconomic policies and adverse external shocks are the most important and the most common factors of currency instability. These are the following determinants which are often associated: long retention of appreciated exchange rate, the bad conduct of monetary policy in a fixed exchange rate regime and the negative impact of speculative capital.*

**Key words:** *currency crises, exchange rate, speculative capital, expansionary monetary policy, monetary stability.*

### INTRODUCTION

Currency crises are crises afflicting many economies with major problems from the standpoint of internal and external macroeconomic imbalances. In explaining currency crises, we highlight that they are very harmful for the economy because these crises lead to inflation, financial and economic disorders and reduce the value of the national currency. Therefore, in studies of currency crises special emphasis is on determinants (causes) which encourage its expansion.

Currency crises usually occur as a result of government efforts to maintain overestimated value of the domestic currency (Burda and Viploš, 2012, p. 389). It happens primarily in countries that have a fixed exchange rate regime. Developing countries with unfavorable structural characteristics are more susceptible to the functioning of currency crises. The problems deepened with the desire of speculators to profit from foreign currency trading. It is often said that speculative pressures, as an external factor, increase the likelihood of an outbreak, i.e. the development of currency crises.

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First-generation crisis models are mentioned most often in the theoretical considerations, which are linked to Krugman (1979). These models are linked to a situation where it is impossible to achieve both internal and external balance by using expansionary monetary policy. The only effect of expansionary monetary policy is reflected in the reduction of foreign exchange reserves (in order to defend the fixed exchange rate), and speculation in the foreign exchange market due to the loss of confidence in the fixed exchange rate.

In practice, they are usually linked with developing countries, such as Argentina, Mexico, Brazil, Russia, Southeast Asian countries ("Asian tigers"). They were the result of misguided macroeconomic policies, as well as the rational expectations of speculators. In almost all the crises of the nineties of the last century in Latin America, East Asia, Russia, effects of speculative capital were present. Latin America is a striking example of synergy of all factors of emergence of currency crises that are mentioned in the study, while East Asian countries were faced with a financial crisis that was not the result of inadequate monetary policy. In the case of these countries it was observed that the currency crisis quickly caused the financial (banking) crisis, which is usually marked by the liquidity crisis. The liquidity crisis and the withdrawal of speculative capital work towards the formation of a deep economic crisis.

To prevent the development and transfer of currency crises in the financial and real sector, several solutions are used. One of the measures involves the sale of foreign exchange reserves of the central bank. Then, the devaluation of the national currency and the third proposes a reduction in interest rates that will act as an incentive in attracting foreign capital. Here it should be pointed out that the sale of foreign exchange reserves in the foreign exchange market is only a short-term solution, while reducing interest rates together with the increase in the exchange rate can lead the country into a state of hyperinflation.

## 1. BAD ECONOMIC POLICY AS A BASIC CAUSE OF CURRENCY INSTABILITY

### **1.1. Too long retention of appreciated exchange rate in the regime of fixed exchange rate**

Many countries are trying to prevent the creation of inflationary pressures by overvaluing national currency. It is the role of the exchange rate as a nominal anchor. In order to neutralize the high rates of inflation, the exchange rate is often held to unrealistic levels. It should be noted that in the short term exchange rate fixing is an important instrument of macroeconomic stabilization. However, in the long term (due to the inflationary sensitivity of an economy) comes to an appreciation of the real exchange rate which causes a reduction in the competitiveness of domestic exports. From this stems the external imbalance due to a decrease in exports, while the nominal exchange rate will rise.

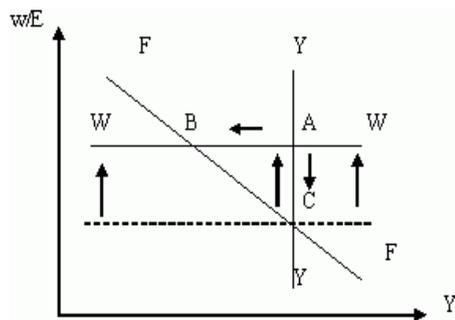
Furthermore, an unfavorable balance of trade causes devaluation and monetary instability (inflation), which is quite contrary to its original goal of strengthening currencies. Given the dominance of purchasing power parity as a major determinant of the exchange rate, price increase causes the re devaluation of the national currency (Câmara and Vernengo, 2004).

In developing countries, in the process of macroeconomic stabilization, exchange rate policy as a nominal anchor is often applied (Miljković, 2008, p. 350). On the one hand, internal balance is achieved in a very short term by drastic reduction in the inflation rate. On the other hand, there are negative consequences of the loss of competitiveness of the

domestic economy if they too defend a fixed exchange rate. so-called inflation-devaluation spiral appears which introduces country into complete collapse (Dornbusch, 1996). Therefore, we propose a solution that includes an exit strategy, i.e. abandonment of the fixed exchange rate system. Also, if some countries have more durable higher inflation rates than the currency dominant countries in the world, they are not able to apply the fixed exchange rate regime which would be constantly defended (Ćirović, 2000, p. 82).

Dornbusch's work exhaustively explains how anti-inflation strategy by fixing exchange rate may cause a currency crisis. The work is called "Latin Triangle" keeping in mind the situation in many Latin American countries (Brazil, Chile, Mexico), not limiting the analysis only to the case of these countries.

Horizontal axis shows the level of output, while the vertical one real wages (nominal wages adjusted for the effects of inflation), respectively, the real exchange rate. The curve  $YY$  is the level of domestic product at optimum employment. To the right of it there is excessive employment and lack of employment, to the left. The curve  $FF$  is the curve of current account balance, while  $WW$  curve represents the real wage in the national currency that ensures social peace in the country. Right above the curve of  $FF$  there is a current account surplus, while under the curve  $WW$  appear lower wages than the "optimal". Accordingly, point  $C$  symbolizes the simultaneous internal and external balance, while other points are the points of imbalances.



**Fig. 1** Latin triangle  
Source: Dornbusch, 1996.

In conditions of hyperinflation, many countries, in the process of macroeconomic stabilization (which is desperately needed in this case), introduce a fixed exchange rate. This often involves an enormous appreciation of the national currency. Inertia in the growth of nominal wages in the fixed exchange rate regime causes an increase in real wages, which shifts the real wages upward, so that more simultaneous equilibrium does not exist, and a triangle is underway. If the economy reaches the point  $A$  there will be social peace and optimal employment, but will be in the balance of payments deficit. This is because the constant habit of increasing wages contributes to inflation that reduces the real exchange rate and makes it uncompetitive economy, so the decrease in exports and an increase in "cheap" imports cause the deficit of the current balance of payments. The question is whether this situation is sustainable. Of course it is not. It continues, as a rule, as long as a short-term borrowing abroad is possible. When foreign exchange reserves are exhausted, then a currency crisis comes. To avoid such an outcome, it is possible to carry out a devaluation of the national currency, which will gradually lead the economy from point  $A$  to point  $C$ . In terms of the requirements for achieving positive effects of devaluation on the balance of payments, at this point would be to achieve a balance of current account and the economy will remain at the level of full employment. The only problem is the lower wages in foreign currency due to an increase in the nominal exchange rate. Social unrest, which will obviously follow, returns the economy to point  $A$ , opening

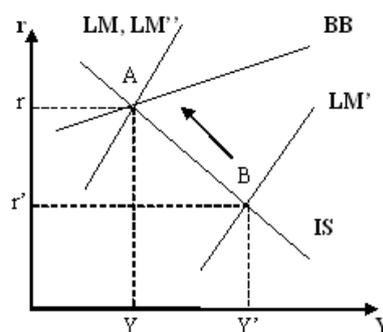
the possibility for the manifestation of inflation-devaluation spiral. The alternative is a deflationary adjustment of the balance of payments including reducing aggregate demand and employment, through the measures of restrictive fiscal and monetary policy. It is the unpopular measures that are the condition for aid from the International Monetary Fund. If the economy crosses from point A to point B, which is logical in terms of reduction of absorption, this situation brings with it certain consequences. There will be involuntary unemployment, which is solved by devaluation of the national currency, which is an instrument for increasing the price competitiveness of exports. Reducing the price of exports in foreign currency and increasing import prices in domestic currency, enables increasing production, exports and consequently, employment.

As an example of this, we will give Argentina, which in 1989 implemented reforms that were related to privatization, trade liberalization, deregulation and the implementation of the currency board regime, which proved to be very successful. The International Monetary Fund insisted on the currency board regime, which is broken down inflation in the short term. However, this policy precisely involves the appreciation of the real exchange rate and leads to a crisis in the middle, especially in the long term. Unsustainability of such exchange rate policy caused the current account deficit and the attacks on the currency. Namely, the one chosen exchange rate regime is not an optimal solution for all time (Miljković, 2008, p. 412).

However, if the central bank does not increase domestic loans in order to maintain the original level of foreign exchange reserves (keeping in mind that foreign exchange reserves with loans to domestic entities make up the money supply), this can lead to contraction of the money supply. In this case, the interest rates become very high and international investors increase demand for domestic assets, so the foreign exchange reserves quickly recharge (Burda and Viploš, 2012, p. 499).

### 1.2. Improper conduct of monetary policy in a fixed exchange rate regime

Another important factor for currency crises is linked to the inappropriate conduct of economic policy (especially monetary) in terms of a fixed exchange rate. In explaining this problem, we analyze the situation where there is imperfect capital mobility, fixed exchange rate regime, while the country's central bank guides expansionary monetary policy. This will be displayed using the "famous" Mundell-Fleming model.



**Fig. 2** Mundell-Fleming model under conditions of imperfect capital mobility, fixed exchange rate and an expansionary monetary policy

Figure 2 shows the Mundell-Fleming model, which assumes that the central bank is pursuing expansionary monetary policy in a fixed exchange rate regime. Each point on the IS curve implies equality of investment and savings, while each point on the LM curve represents equality of supply and demand in the money market. BB curve shows the point where the balance of payments is in equilibrium. It does not move because the whole analysis is performed in terms of a fixed exchange rate and under the assumption that monetary policy measures do not directly affect the balance of payments.

Equilibrium is reached in the point A. This point shows the combination of interest rate  $r$  and the total output  $Y$  for achieving simultaneous internal and external macroeconomic equilibrium. The internal equilibrium of the economy means situation without involuntary unemployment and inflation, while the external equilibrium reflects the balance of payments balance.

If the central bank decides for the conduct of an expansionary monetary policy, the LM curve will shift to the right and down to the level of LM. Expansionary monetary policy implies that the central bank increases the money supply and/or reduces the interest rate. These are the two main variables of monetary policy. Expansionary policy is conducted usually by reducing the required reserves, reducing the benchmark interest rates and the purchase of securities on the open market (Marković, 2014). The model also assumes that the money supply consists of foreign exchange reserves and domestic corporate loans.

The increase in the money supply in this model was induced by increasing the sum of domestic credit. By increasing the money supply, the balance moves and now the economy is at point B. The interest rate is reduced due to the increased supply of money, while aggregate output (production) increases due to increased spending (primarily investment, due to reduced rates of borrowed capital). Lower interest rates lead to an outflow of capital from the country and increased production increases consumption and imports, especially in less developed economies that are dependent on imports. So, at this point expresses the balance of payments deficit, so there is no balance. As the monetary authority is obliged to maintain external balance and to defend exchange rate, the central bank brings out the foreign exchange reserves. Since the foreign exchange reserves are decreased (as a component of the money supply), it is clear that the money supply reduces returning the economy to point A. The money supply is the same; the interest rate and gross domestic product are the same, while foreign exchange reserves are only decreased.

Based on all the above, the view that the central bank should not use expansionary monetary policy to solve the problems of economic development of the country with fixed exchange rate may be accepted. Such monetary policy of the central bank will return like a boomerang in the form of an increase in the inflation rate which is difficult to control if, so-called inflationary spiral of exchange rate and price is opened (Todorović, Marković, 2013, p. 128).

## 2. DESTRUCTIVE EFFECT OF SPECULATIVE CAPITAL TO MONETARY STABILITY

Many economists believe that speculative capital movements are the main initiator of currency crises. Others say that they only support the further expansion of the currency crisis. Either way, in modern conditions of financial globalization they represent a significant (external) factor of currency crises.

Developing countries represent a fertile ground for attracting and operation of speculative capital due to their greater absorptive power of capital (Marković, 2013, p. 109). Often, the currency crises are defined as speculative pressures on the foreign exchange market. If these countries report high rates of inflation, there is a cumulative appreciation of the real exchange rate. The deterioration in price competitiveness of the domestic economy in world commodity markets affect the formation of the increased deficit of the current balance of payments, which is a necessary condition for the increased inflow of foreign capital (Ćirović, 2000, p. 410). Thus, the overvalued exchange rate causes a balance of payments deficit, which is a signal to foreign capital that will probably come to the devaluation of the national currency. Often this reduces the deficit by increasing interest rates, which is a double-edged sword. This is because the policy of high interest rates covers the current account deficit and controls inflation, but also increases the possibility of higher short-term capital inflows (hot money) with speculative intentions and characters.

Talking about the effects of speculative capital, we consider the causes of currency crises through its negative effects on the exchange rate. This is because such movement of capital can have a stabilizing effect, too. For example, in the case of excess of supply over demand of foreign currency, the exchange rate falls (in direct notation). Speculators may have the expectation that the exchange rate will rise in the coming period, and therefore, they can decide to purchase them. They do it because they earn interest on the difference between the buying and selling price of foreign exchange (exchange rate). This situation is similar to speculation with other products. As soon as the price of a good is lower (assuming the same quality) an increase in demand for it is normally expected. Thus, with increasing the demand for foreign currency, speculators prevent a significant drop in the exchange rate, and maintain it at a relatively stable level.

However, in most cases, speculative capital is not going down that road. The negative effects of speculation in the foreign exchange market in particular are present in a fixed exchange rate regime. Let us start from the assumption that the country has fixed exchange rate regime and that the balance of payments deficit is caused by a decrease in exports. In this case, the inflow of foreign currency is lower (because the export charges in foreign currency). This leads to an increase in pressure on the exchange rate; each increase in the exchange rate necessary leads to price increases to a certain percentage, depending on the stronger or weaker exchange rate pass-through to inflation (see Markovic and Markovic, 2014).

In the system of fixed exchange rates an antagonistic relationship is formed between the monetary authority (central bank) and foreign exchange dealers (speculators) who occasionally attack the currency parity when estimate conditions for exchange rate changes (Ćirović, 2000, p. 26). Then, the short-term speculative capital is transferred from weaker to stable, as a rule, stronger currencies. The central bank has two obvious solutions to the new situation:

- To sell foreign currency from foreign exchange reserves and/or
- To borrow abroad in the short term.

In the sixties of the twentieth century, the monetary authorities in most countries were able to defend the exchange rate by means of these measures because the capital was available to a large extent and they were able to easily borrow abroad. But, the question is whether this is possible in modern conditions. Countries with balance of payments problems have lower credit rating due to the lower probability of repayment of debt, interest rates are higher which worsens the conditions of borrowing and foreign exchange reserves are still limited.

If the central bank defends the exchange rate, then it will come out as a winner in the short term. However, if speculators win, loss of confidence in the fixed exchange rate of a currency crisis will occur. Specifically, the central bank can defend the exchange rate due to the balance of payments deficit. But when speculators recognize the long-term external imbalances, they are becoming aware that the devaluation of the national currency will come inevitably. Speculators then increase the demand for foreign currency expecting further growth rate, while the central bank increases the supply of foreign exchange by reducing foreign exchange reserves. In fact, when they feel that the moment of discharge of foreign exchange reserves is closer, they increase the purchase of foreign currencies expecting the sudden devaluation (the case of Mexico and some Asian countries) (Jevdović, 2013). If the central bank does not defend a peg against a foreign currency, currency crisis becomes inevitable, accompanied by high rates of devaluation and inflation.

The impression is that the currency crises, due to adverse external shocks, occur only in those countries with a fixed exchange rate regime. However, a system of flexible exchange rates is not immune to speculative attacks, especially in developing countries with large quantum of foreign capital. Less suspicion towards worsening performance of the national economy can lead to a drastic increase in the outflow of capital. As soon as there is a suspicion i.e. lack of confidence in monetary stability in the country by foreign investors, there comes a sudden withdrawal of capital from the country. Stable public finances, wage flexibility and a healthy banking system are the guarantee of the stability of prices and exchange rates, as well as the entire economy.

Speculators, to make a profit, must choose the right time to buy and sell foreign currency, bearing in mind the expected moment of manifestation of a currency crisis. If they start too early to buy foreign currency, they may not earn anything because the central bank may initially defend the exchange rate, while the losses are likely to occur due to the payment of costs of conversion. Conversely, if speculators start buying too late, after the currency has been devalued, they will end with a loss (Burda and Viploš, 2012, p. 498).

## CONCLUSION

Every crisis has distinct characteristics and factors that encourage its development. These factors may be the result of misguided macroeconomic policies (monetary and foreign exchange, primarily), or those that originate from the environment. According to our research, we can clearly observe common, usually present interrelated causes of recent currency crises:

- Long retention of appreciated exchange rate,
- Inadequate conduct of monetary policy under fixed exchange rates and
- Speculative capital movements (its devastating effect).

In a fixed exchange rate regime, monetary authority is committed to defending the value of the national currency. The central bank must intervene through a reduction in foreign exchange reserves to increase the supply of foreign exchange, although it is aware that there is a real appreciation of the exchange rate and that it is not sustainable in the long term. Since foreign exchange reserves are not an inexhaustible source of financing balance of payments imbalances, it is quite obvious that the rescue of a fixed exchange rate becomes impossible after a certain period of time. In this case, the monetary authority is faced with the impossibility of defending a particular level of the exchange rate and this

leads to inflation (hyperinflation usually) because of high rate of devaluation of the national currency. Then, the currency crisis is being largely present.

Also, anyone conducting expansionary monetary and credit policy in terms of a fixed exchange rate, and in order to stimulate economic activity, is being inefficient. In the medium and long term this policy cannot be maintained in order to stimulate economic growth. The economy returns to its original equilibrium, and foreign currency reserves decrease. Since they are not unlimited, inexhaustible source, reactions of speculators are possible.

Due to prediction of the devaluation of the national currency in the future, many players decide to sell, and then purchase foreign currency, and so the central bank has enormous problems in defending the established level of the exchange rate. In these conditions, the market becomes very sensitive, while the thought of devaluation by some agents causes the actual reaction of market participants towards the sale of the domestic currency. The monetary authority spends available foreign exchange reserves, and then, in most cases "brutal adjustment" will appear. Speculators know that the exchange rate will not take place in these circumstances. Every crisis ends with the transition to a floating exchange rate (due to the inability to defend the established level), with hyperinflation and a high rate of currency devaluation.

On this basis, we conclude that many of the causes of currency crises are intertwined, and they cannot be considered separately because of their common and simultaneous action.

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### DOMAĆI I SPOLJNI FAKTORI VALUTNIH KRIZA

*Cilj ovog rada sastoji se u objašnjenju suštine i osnovnih uzroka valutnih kriza u poslednjoj deceniji dvadesetog veka. Pri tome, nećemo se zadržavati na opis kriza pojedinačnih zemalja. Analiziraćemo agregatne (suštinske) faktore koji uslovljavaju i podstiču razvoj valutnih kriza. Istraživanje pokazuje da loša makroekonomska politika i negativni eksterni šokovi jesu najznačajniji i najčešći činioci valutne nestabilnosti. Radi se o sledećim determinantama koje su često povezane: predugo zadržavanje apresiranog deviznog kursa, loše vođenje monetarne politike u režimu fiksnog deviznog kursa i negativno dejstvo špekulativnog kapitala.*

*Ključne reči: valutne krize, devizni kurs, špekulativni kapital, ekspanzivna monetarna politika, monetarna stabilnost*