Currency Crisis as the Next Possible Effect of the Imbalance of Part of the World's Economy in the 21st Century. Conclusions for Poland

Piotr Lis

Sławomir Zwierzchlewski

Doctors at the Poznan University of Economics
Faculty of Economics
Department of Economic and Local Government Policy
Aleja Niepodległości 10, 61-875 Poznań
Poland

Abstract

According to the authors, a serious imbalance of part of the world's economy in the 21st century, emphasized in the form of the financial crisis and the subsequent economic and debt crises, is a vital factor facilitating the occurrence of the currency crisis. The authors have identified four major groups of conditions for the emergence of currency crises, i.e. 1) real sphere factors, including company and household debts in foreign currencies, 2) functioning of the financial system, including the quality of supervisory and audit institutions, 3) economic policy, especially the public finance sector debt, the established exchange-rate regime and the level of currency reserves, 4) external factors, including an import of crisis from the neighboring states. An assessment of the above conditions for Poland makes it possible to estimate the risk of the occurrence of a currency crisis as low. The current exchange-rate regime, Institutions of Supervision and Security in Poland and the level of currency reserves have been concluded to serve as strong crisis-defense factors. The liberalization of capital flows and public finance sector debt have been assumed to be rather slumpogenic factors. The assessment of the risk of the occurrence of a currency crisis will become greater in the case of Poland's participation in the ERM II mechanism which precedes Poland's accession to the European Monetary Union. In this context, the exchange-rate regime and the level of currency reserves have been regarded as rather slumpogenic factors.

Keywords and Phrases: currency crisis, conditions for a currency crisis

1. Introduction

As a result of the economic crisis in the United States, which was initiated with a symbolic fall of the Lehman Brothers' bank on 15 September 2008, and subsequently transferred to the European Union area, where it turned into a debt crisis in the early 2010s, a question arises concerning another similar threat in the form of a currency crisis within the EU states transferred from outside the Eurozone.

A direct cause for the occurrence of a currency crisis is the fact that residents and/or non-residents stray away from their domestic currency, which results in the depreciation (devaluation) of the foreign exchange rate. It does not, however, explain the reasons why investors give up on their domestic currency. Thus, this article makes a distinct division between the conditions for a currency crisis and their direct causes. Our main attention shall be drawn to the indirect factors (conditions) causing investors to give up on their domestic currency. The conditions for the crisis under discussion may concern the factors which result from the real sphere, banking system, economic policy or external events. If these factors are shaped unfavorably, investors tend to stray away from their domestic currency. It has to be highlighted, however, that indirect factors may not be slumpogenic in their character, since they may also have a number of crisis-defense features.

The main aim of this work, which begins with a brief description of the theoretical aspects of an emergence of a currency crisis, is to indicate possible conditions causing such a phenomenon in Poland. They may serve as both a diminishing or increasing source of the stability of the currency on a currency market. This analysis may aid a more rapid reaction of the economic and real sphere decision-makers to the imminent currency crisis.

The study is based on an analysis of the qualitative and quantitative data for the Polish economy. The time span of the study encompasses the period between the 1st qu. of 1995 and the 2nd qu. of 2013.

2. Synthesis of Currency Crisis Theories

The subject literature defines a currency crisis in a number of ways, explaining this phenomenon both from the qualitative and quantitative perspectives [see more in Szczepańska, Sotomska-Krzystofik, 2003]. In general terms, a currency crisis may be understood as a significant and sudden decrease in the face value of an exchange rate of a given currency in relation to other main currencies. In the quantitative context, a currency crisis takes place when there is a 25-percent depreciation of the nominal exchange rate and the depreciation rate is higher than 10% in relation to the preceding year. The last condition is given in order to avoid using the term crisis to depreciation resulting from a high level of inflation in a given country [Frenkel, Rose, 2003]. Similarly, K. Osbanda and C. Van Rijckeghem [2000] put forward a definition according to which a currency crisis is a situation when both of the following conditions are fulfilled:

- Monthly currency depreciation surpasses 10%,
- Monthly currency depreciation surpasses average monthly depreciation from the 14th to the 3rd month prior to the emergence of a crisis plus a double standard deviation in the period between the 26th and the 3rd month prior to the emergence of a crisis.

Currency crises seem to be inexplicable using a classical macroeconomic analysis, the frames of which have been defined by Fleming [1962] and Mundell [1963].

Due to the fact that currency crises are so complex, there are numerous theoretical models devised to explain them. These models may be categorized into three main groups: first generation models, second generation models and eclectic models, often referred to as the third generation ones.

The theoretical conception of the first generation of models (canonical models) was first put forward by Paul Krugman [1979] in the late 1970s, and subsequently developed among all by Flood and Garber [1984]. The main reasons for the slump of an exchange rate of a currency are excessive public debt, losing control over the public finance budget and conducting an overly expansive fiscal policy in relation to the absorption capability of the economy. As a result of an excessive public finance deficit, there is an increase in the current account deficit (a twin deficit effect) due to extra import and worse competitiveness of export caused by the inflation pressure (real appreciation of domestic currency). In the case of a loss of most currency reserves, which aid defending an erroneous economic policy to a certain point, there is a loss of investors' trust in such a policy and at the same time in the domestic currency. An example of the first generation of models of currency crises may be the events in Latin America in the early-1980s (Argentina, Mexico, Chile).

The second generation of models, originated by Maurice Obstfeld [1994, 1996] and developed among all by Eichengreen, Rose and Wyplosz [1996], concentrate on two particular aspects: market expectations (realization of self-fulfilling prophecies) and the effect of spreading the crisis among neighboring countries. However, a major difference from the first generation models is that the second generation ones refer to the countries which lead a rather reasonable economic policy, with their central banks having a high level of foreign exchange reserves. Thus, the main determinant of the crisis emergence stems not from a loss of credibility of the domestic currency, but from the belief of the markets that the monetary authorities of a given country will cease to defend the exchange rate (despite sufficient foreign exchange reserves) and will allow for its depreciation, since the costs of this defense would become excessively high. Such a conviction forms the basis for a speculative attack on the currency of such a country, even before the government decides to stop defending its exchange rate.

A typical example of the second generation currency crisis was the European Monetary System crisis (EMU) of 1992. In order to avoid the inflation pressure caused by the softening of fiscal policy connected with subsidizing the former GDR, Bundesbank was forced to increase its interest rates. To maintain the interest rates parity and to avoid market pressure on the decrease in the value of the pound's exchange rate, the UK faced the necessity to sharpen its monetary policy. However, since the British economy was entering a stage of recession, increasing the interest rate would be tantamount to an agreement to higher costs. Investors assumed that the Bank of England would not want to defend the pound at all cost. Such a conviction led to speculative attacks on pound (mass sale of the British currency), and consequently the British monetary authorities ceased to defend its currency.

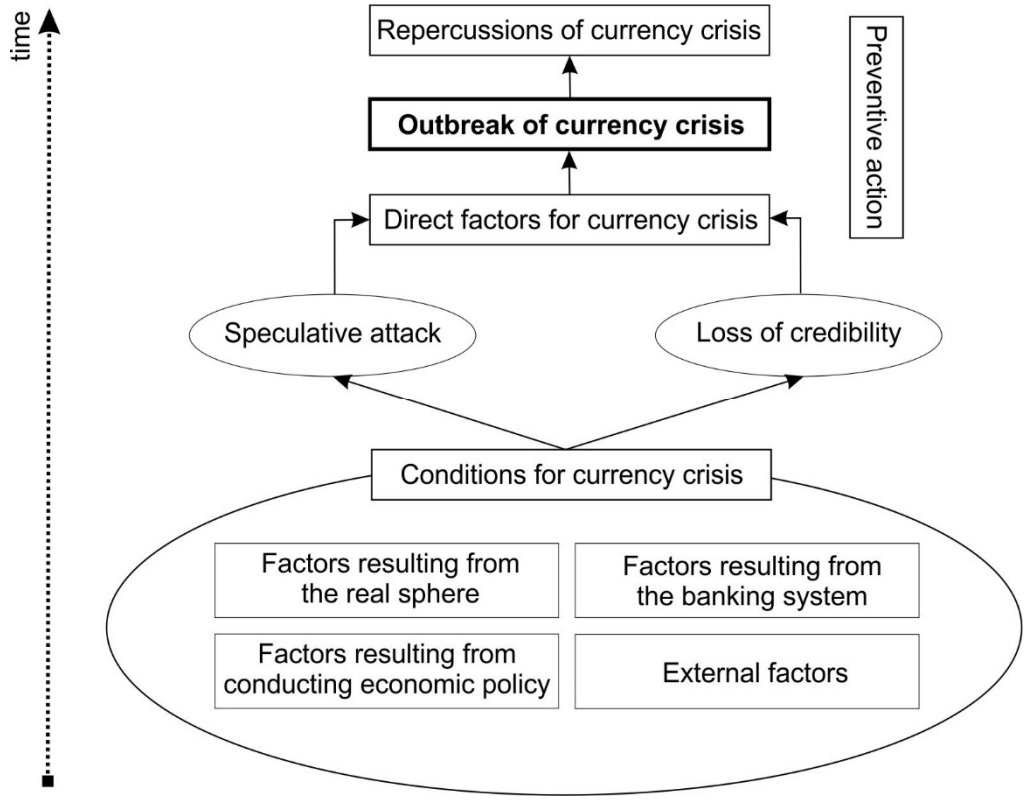
Third generation models, initiated by Paul Krugman [1999] and developed among all by Chang and Velasco [2000] as well as Aghion, Bacchetta and Banarjee [2004], indicated the sources of currency crises in the finance sector and the malfunctioning microeconomic sphere. These models referred mainly to the currency crises of 1997 in South-East Asia (the Philippines, Indonesia, Malaysia, Thailand). The sources of the diminishing credibility of a given currency were the imperfections of the system, including an inappropriately supervised banking system, as well as the poor quality of management at the microeconomic level, especially excessively high level of the companies' foreign debt. Additionally, a common feature of the above-mentioned states was the phenomenon referred to as the temptation to abuse, which meant the investors' belief that the investment was secured, resulting in taking on overly risky investment projects and a high probability of inefficient allocation of funds [Kowalski, 1999]. When unreasonable management at the microeconomic level accompanied by the system inertia becomes too clear, investors give up on a given country's currency, which in turn suffers a sudden decrease in value.

3. Currency Crisis Mechanism

The outbreak of a currency crisis is preceded directly by an abrupt drain on a significant part of foreign capitals, and/or departure of residents from the domestic currency (also to purchase at an earlier point foreign currencies required to pay off foreign currency loans). Identifying the scale of the currency crisis outbreak risk shall nonetheless be associated with an analysis of the conditions for this crisis, i.e. indirect factors. The authors of this work claim that these conditions may stem from the:

- Functioning of the real sphere – business and household debt in foreign currencies,
- Functioning of the banking system –quality of banking supervision, contribution of bad debts in the general portfolio of commercial bank loans,
- Negative conducting of economic policy – public finance sector debt, manner of financing the current account deficit, coherence in macroeconomic policy, exchange-rate regime, liberalization of capital flows and the level of foreign currency reserves,
- External factors – the phenomenon of crisis import.

Chart 1: Model Mechanism of Currency Crisis



Following Chart 1, it may be concluded that the determinants of the departure of residents and/or non-residents from the domestic currency is either a speculative attack or a loss of the currency's credibility. Implementing these determinants stemmed from the fact that they are a necessary condition for a direct activation of the factor responsible for a currency crisis. In other words, an occurrence of a certain slumpogenic condition, such as an increase in the budgetary deficit, may not be tantamount to an immediate departure from the domestic currency. Only when a threshold value, which is difficult to be measured, has been crossed, investors may lose their trust to the domestic currency or their conviction about the positive result of a speculative attack. It has to be highlighted at this point that the authors of this work differentiate between the speculative attack and the phenomenon of speculation. The speculative attack is understood as a precisely prepared and conducted operation consisting in selling out the domestic currency and its subsequent purchasing at a lower spot price. On the other hand, the phenomenon of speculation is a result of losing trust to a domestic currency and it does not require involving so much financial resources necessary to obtain extraordinary profits from the imminent depreciation of the currency. Preventive factors aim to stop the drain of capital. These factors include in particular increasing interest rates and taking out foreign loans. A central bank raises interest rates in order to diminish the profitability of speculative operations. In the case of the Latin American and South-East Asian crises, the governments were receiving external aid, primarily from the International Monetary Fund, in order to prevent mass bankruptcy of commercial banks and deeper falls in production, which is a repercussion of the currency crisis for the real and financial spheres of the economy.

4. Assessment of Selected Conditions for Currency Crisis and Conclusions for Poland

4.1. Exchange-rate regime

There are three types of exchange-rate regimes within the exchange-rate policy – hard kinds of the fixed exchange rate, soft kinds of the fixed exchange rate and the floating exchange rate. A question may arise at this point which type of the exchange-rate regime is most likely to cause an abrupt decrease in the currency value. Analyzing particular systems of currency exchange rates as conditions for currency crises, we may identify four elements common to all of them: a) a reference point, b) an inclination to protect oneself from an exchange-rate risk, c) a psychological effect, d) repercussions.

The authors of this work claim that the reference point is the level of the exchange rate, after surpassing which the economy may lose its macroeconomic stability. Surpassing the value defined by this point gives a clear signal to the participants of the currency market that there might be an outbreak of a currency crisis. With a fixed exchange rate, the reference point is well-known and easy to be measured, which results in a situation when surpassing the threshold value causes an immediate drain of foreign capital and/or departure of residents from the domestic value. With a floating exchange rate, this point is less clear, and the information about the further course of action on currency markets is heterogeneous. For the fixed exchange rate, the role of the instruments securing investors against the exchange-rate risk is minute. On the other hand, such instruments play a much more important role for the floating rate, which results in much smaller effects of the crisis on the real sphere. Fixed exchange rates may, however, be conducive to taking out foreign currency loans by businesses and households. Yet, the awareness of the exchange-rate risk, proportional to the changeability of the exchange rate, limits this process within the floating rate. Furthermore, the repercussions of a currency crisis under the fixed exchange rate are higher than under the floating rate. Under the floating rate, an increase in interest rates is caused solely by increasing the demand for commercial bank loans on the interbank market in order to purchase currencies which are subsequently sold to withdrawing investors. Under the fixed exchange rate, the central bank of the country struck by a crisis additionally raises the interest rate in order to increase to costs of conducting speculative actions and reduce their profitability.

In conclusion, none of the exchange-rate regimes fully protects from a currency crisis. A fixed exchange rate is, however, a larger possible detonator for the crisis is question. This fact may be corroborated by the examples of various currency crises of the last 10 years, which are connected to a large degree with fixed exchange rates. Moreover, there are very few examples of currency crises occurring under floating exchange rates.

Since 12 April 2000, the exchange rate of the Polish zlotyhas been floating and is not limited by any restrictions, which means that the NBP does not aim at maintaining a certain fixed level of the exchange rate of zloty in relation to other currencies. However, the Central Bank reserves its right to some interventions on the foreign exchange market due to a possible inflation threat.

Yet, in reality, the nominal rate of exchange in Poland under the floating rate regime has not caused any interventions by the NBP so far. Despite considerable depreciation of zloty in relation to euro, we cannot speak of a currency crisis, at least not from the viewpoint of the above-mentioned quantitative definition of the currency crisis. The main reason for this situation seems to be a rather ambiguously defined reference point of 4 zl/euro, with a psychological borderline of 5 zl/euro. The largest changes in the nominal exchange rate of zloty in relation to euro, observed from a month-to-month section, have not yet surpassed 10% (February 2009). Furthermore, the highest annual nominal depreciation of zloty in relation to euro, amounting to 34%, took place in the period between 06/2008 and 06/2009 (*3,3760zl/euro – 4,5081zl/euro*).

Poland's accession to the European Union is connected with taking a decision concerning a common currency. Obviously, the major problem is entering the Eurozone with an appropriate, not inflated PLN/EURO exchange rate, which was the case for Slovakia and Portugal. Furthermore, it will be necessary to participate in the European Exchange Rate Mechanism "ERM II" for at least two years. Such a decision will lead to a change in the exchange-rate regime from a floating rate to a soft kind of the fixed rate. It is important in this context what kind of the exchange-rate band will be decided on within ERM II, since the narrower the band of fluctuations is, the bigger the threat of speculative attacks is, and thus, higher costs or inability to defend the exchange rate.

4.2. Quality of Supervision and Security of the Banking System

The functioning of a stable banking system is, in the view of the authors of this work, closely connected with the existence of efficient Institutions of Supervision and Security, referred to as *INiB* later on in this work. In the case of supervision, the supervisory body checks the conformity of the actual state of affairs with the established regulations, and in case of their violation, it has adequate means to influence the actions of lending institutions. These means consist in influencing lending institutions not only through giving suitable instructions or recommendations, but also in applying fines. However, there is no structural dependence between the supervisor and the supervised entities. Lending institutions must agree to conducting supervisory actions and cooperating with supervisory bodies. Ensuring security in the banking sector consists among all in securing the clients' deposits in the case of bankruptcy of a given bank in order to minimize the negative external effect in the banking sector (the so-called *domino effect*). Such a banking system will be one of the factors which defend the economy from a currency crisis.

Yet, there is a question concerning the influence which inefficient activity of *INiB* might have on the emergence of a currency crisis. The main drawbacks of *INiB* include the following:

a) Inappropriate quality of information possessed by *INiB*,
b) Insufficient audit and supervisory competence of these institutions.

Insufficient information may result from possessing either incomplete or false information provided by the banking sector. Such a situation generates two main threats:

- A growing conviction of the commercial banks sector that the information provided to *INiB* does not have to be consistent with the actual state of affairs,
- Inefficiency of inspection and supervision of the private banking sector by *INiB* due to conducting its activities on the basis of incorrect information.

On the other hand, insufficient audit and supervisory competence of *INiB* may result from statutory provisions, which make it impossible for these institutions to monitor and supervise the sector, or from informal connections made between the government and the banks, which exclude or at least seriously limit the efficacy of *INiB*. The above-mentioned drawbacks of *INiB* may lead to excessive financing of the real sphere with foreign currencies by the banking system, and give a misleading conviction that investments are secured (*temptation to abuse*).

The inefficiency of *INiB* was also one of the main reasons for both the Mexican crisis in December 1994 and South-East Asian currency crisis of 1997. Weakness in supervision of the banks and risk management procedures in commercial banks allowed for an uncontrolled credit expansion in Mexico between 1991 and 1994, which resulted from a good condition of the construction field, diminishing demand of the public sector for loans as well as lowering interest rates. It was also possible thanks to a large influx of foreign capital, with a low rate of domestic savings. The occurrence of a large growth in private sector loans was accompanied by a worsening quality of the banks' credit portfolios.

Consequently, a deep fall in the exchange rate of peso and a stepwise growth in interest rates had abruptly increased the number of "bad" commercial bank credits, which caused a slump in the banking system. Additionally, the inefficiency of *INiB* was also visible in Thailand in the 1990s. At that time *INiB* let finance companies, which played the role of actual banks, run on the market without adequate regulations required in the banking sector. Such a situation led to excessive crediting of Thai businesses in foreign currencies, based on the difference between domestic and foreign interest rates.

Let us now make an attempt at assessing the efficiency of Polish *INiB*, among which there are the Polish Financial Supervision Authority and the Bank Guarantee Fund. The Polish Financial Supervision Authority supervises the banking sector, capital market, insurance market, pension system, payment services and financial intermediary services as well as the credit unions' sector. The aim of supervising the financial market is to provide proper functioning of this market, its stability, security, clarity, credibility, and to provide protection of the interests of its participants [KNF, 2013]. On the other hand, the Bank Guarantee Fund, which is responsible for maintaining safety and stability of banks and for increasing the level of banking system credibility, establishes the fund's deposit rates which are used to reimburse, up to the amount specified by the Act on the BFG, the funds accumulated on bank accounts, in the event of the bankruptcy of a bank which is a participant in the deposit guarantee scheme. The deposit guarantee limit currently amounts to 100 000 euro. The legal provisions of the Act on the BFG are in full compliance with the Directive 2009/14/EC of the European Parliament and of the Council of 11 March 2009, which amends the Directive 94/19/EC on deposit-guarantee schemes.In this light, the amount of the guarantee limit may be considered as sufficient for securing most savings in the case of bankruptcy of a single bank from outside the list of fifteen largest banks in Poland. The problem may appear when a large bank goes bankrupt. The BFG fund amounted to 5.5 billion zlotys in 2011, with the means from deposit guarantee funds created by banks in Poland at the level of 3.2 billion zlotys. In comparison, the level of private and retail banking clients' deposits in the largest bank in Poland – PKO Bank Polski S.A. – amounted to ca. 100 billion zlotys at the end of 2011, with 22 billion zlotys worth of deposits from the nonfinancial sector in bank Handlowy S.A. (the ninth largest bank in terms of assets at the beginning of 2013).

From the perspective of the conditions necessary for the emergence of a currency crisis, particular attention is paid to efficient supervision by *INiB*ofthe size and dynamics of foreign currency loans granted by commercial banks, in order not to supply businesses and/or households with excessive amounts of foreign currency. Fluctuations of the exchange rate of zloty put borrowers at a foreign exchange risk which may turn into a credit risk for banks. Following the recommendations of the Polish Financial Supervision Authority, banks contributed to an increase in the financial system stability at the expense of suppressing the dynamics of credit lending. As a result, the currency risk has been diminished. In march 2007, a newly granted foreign currency housing loans constituted 37% of all housing loans, while in March 2013 only 7%. However, the process of changing the structure of the banks' portfolios will be long-lasting. The largest position of the banks' foreign currency assets, i.e. housing loans, still constitutes 55% of all housing loans as of March 2013.

With reference to the analysis of audit and supervisory competence of *INiB*, is seems justified that the supervision was tightened as of 27 October 2012 by encompassing credit unions under the Polish Financial Supervision Authority. Another challenge for *INiB* will be recognizing and reacting to the phenomenon of shifting credit lending beyond the sphere included inthe supervision. Installment credits and low amount loans have been taken over by parabank institutions. The scale of this phenomenon is difficult to estimate, yet it does not concern foreign currency credits.

All in all, it may be concluded that *INiB* in Poland run efficiently, regularly conducting audit and supervision of the banking sector, including especially foreign currency credits granted by commercial banks. The private ownership structure of the banking sector also plays a strengthening role here, making the state unable to influence the allocation of resources in the banking system (limitation of "the temptation to abuse"). Nonetheless, very high participation of foreign private capital, almost 63% of the assets of the banking sector, may contribute to the spread of negative phenomena from parent countries.

4.3. Currency Reserves

Currency reserves usually constitute the most important position of assets in the balance of a central bank. Furthermore, they play a role of the so-called finance position in the balance of payments.

The major factor for maintaining foreign currency reserves by monetary authorities is the desire for retaining foreign currency liquidity in the country. In other words, foreign assets deposited in central banks, and the fact that they can be used by way of intervention on a currency market, secures the country's economy (to some degree) against an economic failure. Comparisons of economic values associated with the country's foreign currency market become helpful when it comes to determining the level of currency reserves which may be considered satisfying. The most frequently used statistical index is the relation between the level of foreign currency reserves and the value of monthly import. This index is regarded by rating agencies as the basis for assessing the country's credibility in terms of fulfilling its foreign liabilities. It is commonly assumed that the size of reserves equal to the value of 12-month import constitutes an absolutely safe level for operating the country's foreign liabilities.

Maintaining an appropriate level of foreign currency reserves also gives a central bank the possibility of providing the foreign currency market with an extra supply of currencies which are in demand. That is why it is of key importance to determine which exchange-rate regime is applied in a given country. The floating exchange rate system does not require maintaining large currency reserves of a central bank, i.e. maintaining what is commonly regarded as a safe level of reserves. Even in the managed float system the monetary authority is not forced to intervene in the foreign currency market by selling foreign assets. It may thus be concluded that the effect of the growth in demand for foreign currency in a given country is suppressed due to the depreciation of the domestic currency. A completely different situation occurs in the fixed exchange rate system. Determining the exchange rate in relation to the reference currency, first, a central bank limits the influence of the instruments of the monetary policy on production, and second, a much higher level of currency reserves necessary to defend the fixed exchange rate is required. With a high mobility of capital in the world's economy, the occurrence of frequent, short-term fluctuations in the financial account of the balance of payments is possible. In order to counteract possible depreciation of the domestic currency caused by a drain on foreign capital, a central bank operating within the system of a fixed exchange rate is forced to sell its reserve assets on the currency market. As a result of such an intervention there occurs a limitation on the domestic supply of money, a growth in the interest rate and a stop to the pressure on the decrease in the value of the domestic currency. It explains why a fixed-exchange-rate regime requires maintaining a high level of currency reserves. With a lack of such reserves or their low level, monetary authorities do not possess sufficient instruments to defend the exchange rate of the domestic currency in the case of capital flight. Consequently, there might be an outbreak of a currency crisis.

A question arises at this point if the size of current currency reserves of the NBP may be considered as safe from the perspective of Poland's foreign currency liquidity. It shall be reminded here that the NBP liquidated the exchange rate of zloty in April 2000. Thus, accepting a floating exchange rate meant diminishing the role of currency reserves as a factor defending foreign currency liquidity in Poland. Furthermore, it has to be highlighted that the level of the reserves in question amounted to 355 billion zlotys (107 billion dollars) at the end of June 2013, and constituted the amount equal to the value of 7-month import. Under the floating exchange rate conditions, such an amount of currency reserves is considered to be quite safe in the context of operating international transactions.

The above-presented assessment would change if Poland were to join the ERM II. This mechanism changes the exchange rate system from a floating one to the fixed one – a band of fluctuations. It may thus be concluded that currency reserves will again constitute a vital factor defending the economy from losing the credibility of zloty or from a speculative attack. In the light of the above, it seems justified to increase the current level of currency reserves, which will actually not fully protect from an outbreak of a currency crisis (e.g. the UK), yet it may allow the Polish economy to run crisis-free prior to Poland's accession to the Eurozone.

4.4. Liberalization of Capital Flows

The shape of the foreign exchange law constitutes a crucial component of the economic system of a given state. What also seems to be of significant importance is the issue of the scope of liberalization of capital flows. It has an impact on a number of economic variables, including the scale of a risk of the emergence of a currency crisis.

Sanctioning the liberal foreign exchange law is more likely to generate a currency crisis than maintaining barriers in the international exchange of financial assets.

Referring to the above-presented definition of the crisis under discussion, considerable depreciation of the domestic currency requires engaging large financial resources which will be subject to transactional exchange on the foreign currency market, regardless of the reason for these transactions, e.g. a speculative attack or loss of credibility of a given currency. In this aspect, freedom of capital flows is a major factor shaping the events in the currency sphere, at the same time being an accelerator to the changes in previously selected foreign exchange rates [Oręziak 1994; Buiter, Corsettiand Pesenti 1998]. It has to highlight that implementing restrictions to the capital turnover does not fully protect from the risk of an abrupt sale of the domestic currency by residents and/or non-residents of a given country. Restrictive foreign exchange law does not have to be based on an administrative ban on or limitation to capital export and import, but on their taxation in the situation when they move in the international system. Investors might assume that a tax poses a lower alternative cost than leaving their denominated assets in an uncertain currency, in case there is a loss of the currency's credibility, or a tax constitutes a relatively low cost in relation to the expected profits, in case of a speculative attack.

To conclude, the scope of capital movement is greatly dependent on the provisions of the foreign exchange law of a given country. Liberalization of this law creates the most favorable conditions for the capital flow, simultaneously generating the highest risk of the occurrence of a currency crisis. However, such a crisis may also occur when there are barriers concerning the movement of capital, depending on the kind of foreign exchange restrictions.

The shape of the foreign exchange law in Poland changed in 2002. It stemmed from a necessity to harmonize foreign exchange dealing with the norms present in the OECD countries and the EU. In general, there is a rule of freedom of foreign exchange dealing in the Polish law, despite the fact that the legislators still have a possibility to introduce certain limitations. Liberalization of capital flows may thus be considered as a slumpogenic factor, especially since the perspective of participating in ERM II imposes on Poland the duty of making the exchange rate of zloty and euro fixed. As has been indicated above, a fixed exchange rate regime is a larger possible detonator for a currency crisis than the floating rate one, especially in a situation of freedom of the financial assets flow. On the other hand, a broad range of acceptable exchange rate fluctuations in relation to euro established by ERM II (± 15%), even taking into consideration high mobility of capital, constitutes a significant preventive factor which will deter investors from speculating on zloty. Nonetheless, given the liberalization of the Polish foreign exchange law (and high mobility of the world's capital), Poland's accession to the European Monetary Union shall make politicians aware of the fact that it is necessary to fulfill the convergence criteria even before participating in ERM II [Błaszczyk and Zwierzchlewski 2008, pp. 201-205]. Otherwise, the risk of departure of investors from the Polish currency may seem a plausible scenario.

4.5. Public Finance Sector Debt

In the contemporary market economy, the public finance sector debt generally refers to two economic categories, i.e. the central budget balance and the national public debt. These categories are shaped under the government fiscal policy establishing the functions of the national public system, among which there is a function of stabilization, redistribution and allocation. The performance of the realization of these functions is inhibited by the difficulties connected with the realty of modern democracies. The level of government expenditure is positively correlated with the degree of polarization of the political scene. This situation frequently results in the deformation of the fiscal policy, both in terms of its objectives and maintaining discipline in public spending. A direct external effect of such a case is the creation of the budgetary deficit [Federowicz 1998, p.7].

The economists are actually unanimous when it comes to the negative influence of the government deficit on the functioning of the macro system. They emphasize in particular the so-called effect of crowding out private sector. In essence, crowding out consists in limiting the investment activity of private entities as a result of an increase in government spending. Another problem is an issue of the influence of the government deficit on the likelihood of the occurrence of a currency crisis. We may distinguish two transmission channels of this influence. One is related to the creation of the so-called twin deficits. A budgetary deficit, which has occurred as a result of an overly flexible fiscal policy, increases consumption and – depending on the value of the import-absorbency indicator of a given economy – generates additional import. Furthermore, a growth in the government demand for money creates pressure to increase an interest rate and leads to the appreciation of the domestic currency. Strengthening a currency on a foreign currency market is an additional generator stimulating foreign demand and crowding out export production at the same time. Thus, the conception of twin deficits presents a positive interrelation between the scale of the government deficit and the size of the trade deficit.

If, in reality, a growing budgetary deficit translates into an increase in a foreign payment deficit, it may be an impulse for currency speculation. In such a case, this impulse is not the government deficit per se, but its consequence in the form of a growing deficit in turnover.

The other transmission channel concerns the scale of the public debt. This debt is a derivative from the sum of national deficits, thus being an important fiscal category. One of the major fiscal rules is the protection of the state from an uncontrolled deficit increase [Panfil 2011, pp. 122-123]. A high level of debt generates the risk of partial or complete insolvency, which translates into a negative perception of a given economy and its currency by business entities. If the debt interest rate becomes higher than the real economic growth rate, restrictive remedial action is necessary in the area of current budgetary income and expenditure. However, a rational fiscal policy frequently clashes with an election cycle. As a result, the public debt may be successively growing and investors may become convicted that investment ventures are overly risky in a given country [Poterba 1996]. An additional problem occurs when a state with an excessive public debt represents a larger group (region). In such a case, the investors may not only depart from the currency of this country, but also from the currencies of all the other member states of a given group (region).

A question arises here concerning the condition of the public finance sector in Poland. The reference point may be assumed to be the value of the convergence criteria established in the Treaty of Maastricht. It must be emphasized that the public deficit has been highlighted under fiscal criteria, i.e. the scope of the government debt has been expanded to include the budgetary balance of self-governments and social security units. The assessment of the condition of public finance sector in Poland is not satisfying. In the analyzed period, only in the years 1999, 2000 and 2007 was Poland successful in not crossing the limit value of the public deficit (3% GDP). In the other years, this limit value was crossed to a larger or smaller degree, and in the years 2009 and 2010 there was a peculiar explosion of the deficit in question.

An analysis of the influence of the public debt in Poland on the international trade balance goes beyond the scope of this work. We would have to analyze not only the exchange rate factors but also the demand and structural factors which influence the exchange of Poland and the other countries. Nonetheless, it goes beyond doubt that a permanent public sector deficit leads to an excessive level of internal absorption which is made visible externally by means of a growing trade deficit, which warrants speculation.

The value of the public debt in Poland did not exceed the limit value established in the Treaty of Maastricht (60% GDP) within the analyzed period. Nevertheless, this indicator has been on an increase since 2007. If this tendency is not inhibited, the scale of the public debt may surpass the permissible value, and thus impair the credibility of the Polish currency. The loss of credibility will be even larger if the excessive public debt continues to characterize the Polish economy and delay Poland's accession to the European Monetary Union.

In the light of the above, the fiscal policy rationalization shall become a priority for the authorities. A successive decrease in the deficit and public debt would not only facilitate the realization of private investments and the accession to the European Monetary Union, but it would also reduce the risk of the occurrence of a currency crisis. However, the current state of affairs makes us assume that the condition of public finance in Poland is a rather slumpogenic factor.

5. Conclusion

The above-discussed conditions of a currency crisis, such as: an exchange-rate regime, the quality of the banking system and the level of currency reserves, may be vital for an analysis assessing the likelihood of an outbreak of such a crisis in the Polish economy, especially since they have been considerable, indirect causes of disturbances on the world's currency markets in recent years. The authors of this work have taken into consideration the characteristics of these conditions and made an attempt at assessing them from the perspective of a risk of the occurrence of a currency crisis in Poland.

Drawing on Table 1, it may be concluded that the above-presented conditions for the emergence of a currency crisis in the Polish economy are crisis-defense in their nature (they protect the economy from a currency crisis) rather than slupogenic.

Table1. Assessment of Selected Conditions for the Emergence of a Currency Crisis in Polish Economy

Selected conditions for a currency crisis	Crisis-defensefactor	Slumpogenicfactor
Institutions of Supervision and Security	+ +	
Foreign exchange regime • managed float (since 12 IV 2000) • possible participation in ERM II*	+ +	 --
Currencyreserves** • managed float (since 12 IV 2000) • possible participation in ERM II	+ +	 --
Liberalization of capitalflows		--
Public financesectordebt		--

Symbols: "+ +" strong crisis-defense factor, "+" rather crisis-defense factor, "-- --" strong slumpogenic factor, "--" ratherslumpogenic factor.

** Assessment made assuming a band of exchange rate fluctuations in ERM II +/- 15%*

*** Assessment made assuming a current level of currency reserves*

The exchange-rate regime, present in Poland since April 2000, shall also be classified as a crisis-defense factor. It results among all from that fact that speculative attacks have mainly been conducted on the currency of the countries with fixed exchange rates.

It has also been concluded that the Institutions of Supervision and Security properly supervise the private banking sector, which may be exemplified by the actions to marginalize granting of housing loans in foreign currencies and to broaden the scope of supervision, especially to include credit unions. Marginal involvement of credit institutions in securitization transactions facilitates the functioning of INiB.

The amount of currency reserves of the NBP may be considered as a rather crisis-defense factor, especially given the floating exchange rate, when the monetary authorities are not forced to intervene on the foreign currency market. The current level of foreign currency reserves (equal to the value of 7-month import) should be sufficient to protect the economy from a possible speculative attack. Nonetheless, in case Poland makes a possible decision to accept the exchange-rate regime based on the band of fluctuations within ERM II, the amount of reserves seems to be too low compared to the capacity of investors operating on financial markets.

The liberalization of the Polish foreign exchange law, given a high mobility of the world's capital, is considered to be a rather slumpogenic factor, especially in the case of Poland's participation in the ERM II mechanism. This risk could be lowered by fulfilling the convergence criteria even before Poland's participation in ERM II.

The condition of public finance in Poland is also regarded as a rather slumpogenic factor, since a long-term public sector deficit leads to excessive domestic consumption, consequently leading to an increase in the trade deficit and the occurrence of the conditions for currency speculation.

Bibliography

Aghion P., Bacchetta P., Banerjee A. (2004). A Corporate Balance-Sheet Approach to currency crises, Journal of Economic Theory, Vol. 119; 6-30.

Biuter W.H., Corsetti G.M., Pesenti P.A. (1998). Interpreting the ERM crisis: country-specific and systemic issues, Princeton University, Princeton.

Błaszczyk P., Zwierzchlewski S.(2008). Polska w obliczu akcesji do strefy euro – warianty wypełnienia kryteriów konwergencji [Poland in the face of accession to the Eurozone – variants of fulfillingconvergencecriteria], in: E. Kryńska (ed.), Tworzenie i realizacja polityki społeczno – ekonomicznej w Polsce. Aspektyteoretyczne i praktyczne [Making and realizing social and economic policy in Poland. Theoretical and practical aspects], Wydawnictwo Uniwersytetu Łódzkiego, Łódź.

Borowskiego J. (2004). Raport na temat korzyści i kosztów przystąpienia Polski do strefy euro [Report on costs and benefits of Poland'saccession to the Eurozone], Narodowy Bank Polski, Warszawa.

Chang R., Velasco A. (2000). Financial Fragility and the Exchange Rate Regime, Journal of Economic Theory, Vol. 92; 1-34.

Eichengreen, B., and A. Rose, and Ch. Wyplosz (1996). Contagious Currency Crisis, NBER Working Papers 5681, National Bureau of Economic Research, Inc.

Fedorowicz Z., Polityka fiskalna [Fiscal policy], (1998). Poznań: Wydawnictwo Wyższej Szkoły Bankowej, 1998.

Flemming M. (1962). Domestic Financial Policies Under Fixed and Under Floating Exchange Rates, IMF Staff Papers.

Flood, R. and P. Garber (1984). Collapsing Exchange-Rate Regime – Some linear example, Journal of International Economics, Vol. 17; 1-13.

Kowalski T. (1999). Azjatyckikryzysfinansowy - próbainterpretacji [Asian financial crisis – an attempt at interpretation], Nasz Rynek Kapitałowy; 12-28.

Krugman, P. (1979). A Model of Balance-of-Payments Crises, Journal of Money, Credit and Banking, Vol. 11, Issue 3; 311-325.

Krugman, P.(1999). Balance Sheets, the Transfer Problem, and Financial Crises, International Tax and Public Finance, Vol. 6; 459-472.

Lis, P. (2012). Housing cycles. Theoretical and practical aspects, Toruń: Wydawnictwo Adam Marszałek.

Małecki W., Sławiński A., Piasecki R., Żuławska U. (2001). Kryzysy walutowe [Currencycrises], Wydawnictwo Naukowe PWN, Warszawa.

Małecki W. (2000). Ryzyko kryzysu walutowego w Polsce [The risk of currencycrisis in Poland], Gospodarka Narodowa, no. 4; 2-28.

Mundell, R.A. (1963). Capital Mobility and Stabilization Policy Under Fixed and Flexible Exchange Rates, Canadian Journal of Economics and Political Science, Vol. 29; 472-485.

Obstfeld, M. (1996). Models of Currency Crisis with Self fulfilling Feature, European Economic Review, Vol. 40; 1037-47.

Obstfeld, M. (1986). Rational and Self-Fulfilling Balance-of-Payments Crises, American Economic Review, Vol 76(1); 72-81.

Oręziak L. (1944).Kryzys w ESW a perspektywyuniigospodarczej i walutowej [EMS crisis and the perspectives for economic and monetary union], SprawyMiędzynarodowe, no. 1, Vol. 1; 15-29.

Poterba, J.M. (1996). Do Budget Rules Work?, Cambridge: Working Paper nr 5550, National Bureau of Economic Research.

Raport o stabilności systemu finansowego [Report on stability of financial system] (2013). Narodowy Bank Polski, Warszawa.

Sławiński A.(2000). Kryzysy walutowe a kierunki reformy międzynarodowego systemu finansowego [Currencycrises and reform directions of the internationalfinancial system], Bank i Kredyt.

Szczepańska O., Sotomska-Krzysztofik P. (2003). Reżim kursowy a kryzysy walutowe – czy możliwy jest kryzys walutowy w warunkach kursu płynnego?[Exchange rate regime and currency crises – is currency crisis possible in floating rate conditions?], Bank i Kredyt.

Zapadka P. (2003). Podmioty nadzorujące polski rynek finansowy – analiza podstawowych regulacji [EntitiessupervisingPolishfinancial market – ananalysis of fundamentalregulations], Bank i Kredyt.

Żywiecka H. (2002). Przyczyny i mechanizmy kryzysów walutowych za szczególnym uwzględnieniem znaczenia międzynarodowych przepływów kapitału [Causes and mechanisms of currencycrises, including the importance of internationalcapitalflows], Warszawa.