# CENTRAL BANK POLICY DURING TIMES OF FINANCIAL INSTABILITY - EXPERIENCES OF SOME EUROSYSTEM'S CANDIDATES [1]

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**Abstract**

The global financial crisis, the most severe form of financial instability, split up the global economy in two different periods before and after the global financial crisis. In the same way, at the European level, this crisis made another "cleavage": before and after the Lehman Brothers (LB) shock. One of the important pillars for managing the financial instability is the Central Bank, and the financial crisis occurrence has generated a variety of challenges, including those linked to the way in which these institutions have reacted. Based on the previous research made by the author related to the European economic integration and to the role of central banks regarding the managing of the financial instability, the present paper aimed at describing the Central Bank conduit of some of Euro Area candidate countries during times of financial instability marked after 2000's. The research results will show if the measures implemented by central banks from the selected countries could or could not be designed under a similar framework of managing the financial instability in the emerging Europe.

**Keywords:** macro-prudential tools, unconventional monetary policy tools, financial liberalization

**JEL Classification:** E52, E58, F36

## 1. Introduction

From the beginning of the 2000's until the start of the global financial crisis, the Central and Eastern European countries have been overrun by massive external capital inflows, in a period of general optimism, marked by global liquidity, low interest rates and with a positive perception of investors concerning the accession of these countries to the European Union. The positive expectations created attractive conditions for investments, including foreign banks,

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in the new European Union member states. Although the investment process of the foreign parent banks within the domestic banking system of these countries contributed to the quality improvement of the financial services and to the efficiency of the process of financial intermediation (Prasad and Rajan, 2008), it has also increased the risks to the financial stability of the domestic system. Thereby, the increasing competition between foreign banks which invested in this region, entailed banks to adopt aggressive strategies by enhancing the lending activity in order to acquire a larger market share. The shallow financial systems of these countries could not absorb the massive financial flows, which have been reoriented towards non-tradable sector (such as real estate), with more simple and accessible collaterals, generating in some of emerging European countries (Bulgaria, Latvia, Lithuania, Hungary, but also Romania and Poland) real estate asset price bubbles. The rapid credit growth generated by the competition pressure has been reflected in the credit quality deterioration, increasing the risks for financial instability.

After, the Lehman Brothers shock, considered the major event which triggered the financial crisis in the emerging Europe, the vulnerable national financial systems from Central and Eastern European countries have been subjected to instability and uncertainty, entailing negative effects in the financial market and in the real economy: restraining the economic growth, abrupt adjustments of current account deficits, sudden dropping of assets prices (bursting the speculative bubbles in the housing market, especially in Bulgaria, Latvia, Lithuania and Romania, but also in Poland and Hungary). The national currency of countries with flexible exchange rate regime, registered higher volatility (depreciation), which adversely affected the debt repayment ability of loans denominated in foreign currency, increasing, thereby, the volume of non-performing loans.

In such circumstances, it is interesting to analyse the role of the central banks from the emerging Europe countries in managing the different challenges of the financial system, before, and after the Lehman Brothers shock.

## 2. A short literature review

The stability of the financial system represents a topical concern for both the political authorities and academic researchers. There are various papers which highlights the necessity either to redefine the role of central banks in promoting the financial stability (Borio, 2011; Eichengreen et al., 2011; Svensson, 2013; Criste and Lupu, 2014), or to define the relation between the price stability objective and the financial stability objective (Borio, 2011; Cerna, 2012; Smets, 2013). In this context, there are studies which try to define macro-prudential measures and unconventional measures applied by central banks in times of financial system distress (Claessens, 2014, Santor and Suchanek, 2013). Lim et al. (2011) investigate the effectiveness of the macro-prudential measures in mitigating the systemic risk. Also, some papers studies the relation between the macro-prudential measures and the type of economic developments, asserting that the emerging countries tend to use more intensively such instruments (McCauley, 2009), as a way of managing the financial instability episodes. The literature signals that central banks which have a major role of intervention at the global level (Fed, European Central Bank, Bank of England, and Bank of Japan) extended the instruments of intervention in order to ensure and adjust the stability of the financial system.

Unlike the other papers, which are focused on the role of central banks in managing the effects generated by the global financial crisis, the present paper extended the period of investigation of this subject, considering that the financial instability should be revealed in times of risks accumulation concerning the financial system. In this way we try to depict the importance of special instruments used by some central banks from European emerging countries in managing the vulnerabilities of the financial system.

The research results could be a starting point for developing an empirical model of conduit for central banks candidate to the Eurosystem.

**3. Methodology and data**

Our study is limited to four European countries candidate to Euro Area, namely, Czech Republic, Poland, Romania and Hungary, in order to find out if under the same monetary policy strategy (inflation targeting), the national monetary authority managed the financial instability with the same instruments (levers), before and after the global financial crisis outbreak. For this purpose, we take into account the Lehman Brothers collapse as the major event which splits up two different periods, based on the challenges faced the central banks of Central and Eastern European countries.

In other paper (Criste 2014a), we highlight that the financial instability could be generated by the propagation of a shock into a financial system subject to previous accumulation of macroeconomic and financial imbalances which weaken the financial system. Therefore, our investigation starts from 2004, when Poland Hungary and Czech Republic become new member states of the European Union. From the central bank point of view, this period is marked by challenges related to managing the identified risks.

After the global financial outbreak, the central banks all around the world have increasingly involved in the financial stability policy. Smaga (2013) approaches this subject and remarks that the European central banks have different involvement degrees regarding the policy of financial stability, but we confine ourselves to the "operational" component for managing the financial instability (measures for addressing or mitigating the risks to financial stability).

Based on the Annual Reports of the National Central Banks from Czech Republic, Hungary, Poland and Romania, we selected information regarding the measures taken by these institutions in order to adjust the different vulnerabilities of the national financial systems.

Many emerging countries, subjected to massive capital inflows applied special monetary instruments (e.g. reserve requirements, limits on credit growth, capital requirements, limits on loan to value ratios), even before the global financial crisis outbreak, but their implementation was often justified by the monetary policy objectives (Claessens, 2014). Such tools are now qualified as macro-prudential policies , because they have also contributed to the redressing of the imbalances accumulation in the national financial system and operate as automatic stabilizers in times of financial distress. Starting from this observation, we selected only those measures which are directed towards redressing various vulnerabilities in the domestic financial system.

## 4. Landmarks for central bank in managing financial instability risks

### 4.1. Central banks challenges in times of financial liberalization

Before the Lehman Brothers shock, the capital liberalisation was a major challenge for the National Bank of Romania (NBR), because it generated a strong pressure on the exchange rate of national currency, an increasing of the liquidity in excess in the financial system. Besides, the credit to the private sector and foreign exchange loans to unhedged borrowers grew rapidly and the massive capital inflows seized the monetary transmission mechanism. A permanent concern for NBR in this period was to avoid an excessive currency appreciation, under the floating exchange rate regime. In this context, the NBR implemented a series of macro-prudential measures in order to slow down the credit growth rate, and to limit the individuals' indebtedness and the currency risk (see Table 1, in the Annex).

The rapid increasing of the lending activity, especially in foreign currency, and the mortgage lending to households have imposed special measures applied by the National Bank of Poland (NBP) before 2008, in order to mitigate the credit and foreign exchange risk associated with lending to households, and to strengthen the capital and liquidity buffers for the banking system to prevent the liquidity crisis. These special measures, namely macro-prudential measures, were implemented in 2006, under the "Good Practices Regarding Mortgage-Secured Credit Exposures" (*Recommendation S*), and in 2007 (see Table 2, in the Annex). These macro-prudential measures proved to have positive effects, because they helped the banking system to meet the liquidity crisis of 2008-2009. Another major tool was the public communication made by the NBP regarding the potential risks associated with the mortgage lending in foreign currency.

The National Bank of Hungary (NBH) didn't apply special (macro-prudential) measures during 2004-2008. Instead, it has used intensively the communication tools with the public regarding the potential risks to the financial stability in order to raise the risks' awareness of the economic agents (borrowers and potential borrowers) and also to strengthen the confidence in the financial system. The main means of communication is the Report of Financial Stability (since 2000), but also other publications, including research studies. In addition to the communication tool, NBH applied some indirect tools in order to mitigate the financial instability risks, namely the performing of the macroeconomic analysis and monitoring the financial system in order to identify potential risks emerged from the external and internal indebtedness. By this conduit, NBH played the role of a "watcher" rather than a "regulator" for managing the financial instability risks.

The major role played by the NBH towards the implication in the financial stability policy was the cooperation with other national institutions (the Ministry of Finance and the Hungarian Financial Supervisory Authority) and set up the Financial Stability Committee, which had the first meeting in October 2004 (see Table 3, in the Annex).

One of the important measure taken by the NBH as a contribution to the financial stability support was the change in the exchange rate regime, since the beginning of 2008. Namely, the NBH adopted a flexible exchange rate regime, abandoning the band of fluctuation of ±15%. In this way, the NBH solved the potential conflict between the central bank's medium-term inflation target (3% ±1 pp) and the forint's trading band against the euro, which could be too low for the inflation objective.

In the same way as the National Bank of Hungary, The Czech National Bank did not apply special measures during 2004-2008 for managing vulnerabilities in the financial system, but it has an active conduit regarding the financial stability policy, since 2004 (see Table 4, in the Annex).

We must mention that the financial system of the Czech Republic was quite robust, given the lower domestic interest rates and the stable macroeconomic environment, which stimulated neither the euroisation phenomenon, nor the speculative bubbles assets. Also, the external financing needs were much narrowed and both the public and the private indebtedness were at low levels. Besides, the domestic banking system was net external creditor and the lending activity was financed by deposits of the residents, because the balance sheets of the banking system were dominated by the deposits and loans of residents in national currency (Czech koruna). Although these conditions did not create challenges for the CNB, we must highlights that the CNB used frequently, especially after 2004, the public communication tool as a warning signal about the potential risks to the financial stability. This active conduit of the CNB is reflected by the Financial Stability Report for 2006 in which it notified on both the existence of the typically over-optimistic expectations for peak phases of business cycles, and the risks accumulation in the housing market. This warning signal further increased the credibility of the CNB, one of the fundamental features that could offer a more relaxed use of systemic risk management tools.

### 4.2. New challenges for central banks after Lehman Brothers shock

After the Lehman Brothers shock, countries under the observation in this study have been indirectly hit by the global financial crisis, and the adverse effects emerged after this major event. Central banks from Romania, Poland, Hungary and Czech Republic have undergone to various challenges:

- preventing or reducing the disturbances in the interbank markets;
- maintaining or improving the banking system stability;
- avoiding or reducing the excessive exchange rate fluctuations, i.e. minimizing the exchange rate risk (for National Banks of Hungary, Poland and Romania);
- sustaining or stimulating the lending activity to companies, in order to ensure the financial stability (especially for National Banks of Hungary, Poland and Romania).

During 2008-2013, the analysed central banks have extended the policy tools in order to manage the effects of the financial instability after the Lehman Brothers shock, using a variety of special instruments: both macro-prudential measures and unconventional monetary policy measures. As we highlight in other paper (Criste, 2014b), the macro-prudential measures applied during 2008-2013 were intensively used by those central banks that previously applied them as a way of dealing with the massive financial inflows (Poland, Romania and, to a lesser extent, Hungary). The unconventional monetary tools have been more intensively used by the National Bank of Hungary and National Bank of Poland. Unlike the Czech National Bank and the National Bank of Romania, which applied to a lesser extent the unconventional monetary tools (see table 1), the National Bank of Poland and the National Bank Hungary, used a larger range of special measures in order to mitigate tensions in the domestic financial markets and to support the banking system financing. In Poland, this set of measures are included in the "Confidence Package" and was complemented in 2009 by others, in order to ease the restrictions of lending for companies, but also to prevent the disturbances in the interbank market ("Pact for the Growth of Lending in Poland"). The National Bank of Hungary had a very active conduit in managing the financial instability during 2008-2011 (see table 3) by supporting the foreign currency and forint liquidity of domestic banks.

One of the major unconventional monetary policy measures adopted by the NBH and NBP refers to the cooperation with the European Central Bank and the Swiss National Bank, in order to support foreign exchange operations of the National Banks from Hungary and Poland.

An important contribution to the lessening of the central banks burden and to the restoring of the international investor confidence for European emerging countries had the Vienna Initiative, in 2009 and the agreements of national authorities from Hungary, Romania and Poland with international organizations providing financial assistance. By reaching an international agreement with the IMF and European Commission, in October 2008, the Hungarian authorities received multilateral financial assistance with an overall amount of €20 billion.

Unlike the other three central banks, the Czech National Bank has not applied macro-prudential measure as reaction to the financial distress in late 2008. Instead, it applied some unconventional monetary policy, during 2008-2010. In fact CNB has a different pattern than the other three central banks included in this study, being similar to that from a developed country. The monetary policy interest rate has already reached the zero lower bound, since the end of 2012. This is the motivation for setting the exchange rate as an additional instrument for relaxing the monetary conditions (in November 2013). The koruna exchange rate becomes an additional tool in order to fulfil the inflation target when the policy interest rate is near zero.

Finally, after the Lehman Brothers shock, an additional lever for managing the financial instability of the analysed central banks was the ECB by the direct link between on the one side, the parent banks form the Euro Area that have benefited from the ECB's unconventional measures and on the other side, the domestic banking system of these countries dominated by these parent banks. This lever contributed to the reducing the burden of the National Banks.

**5. Conclusions**

The adverse effects of the financial crisis which occurred in the real economy and in the financial economy, shown in many papers of the literature and in the reports of the national and international institutions, confirm the idea that the financial instability is started by the propagation of a shock, on the background of previous accumulation of macroeconomic and financial imbalances which make the financial system become frail.

Observations arising from the short analysis show that there is not a common framework for the selected central banks in using levers for managing the financial instability. Each of them has its own framework for intervention in terms of financial instability, both before the Lehman Brothers shock and after that.

Before the Lehman Brothers shock, the main challenge was the financial liberalization, but the reactions were different, not only because the financial developments were quite different between these countries (the Czech Republic financial system developed towards a more robust position, while the financial systems of the three countries accumulated more vulnerabilities), but also because the levers for managing financial instability risks were various. While the National Bank of Romania and the National Bank of Poland used mainly macro-prudential tools, the National Bank of Hungary and the Czech National Bank used the public communication tool in order to notify the potential risks emerged from the macroeconomic and financial developments.

After the Lehman Brothers shock, our analysis depicts not only a broadening of the special instruments for managing the financial instability, but also an intensification of using these measures. The experience from the previous period (before 2008) played a major role for the National Bank of Romania and for the National Bank of Poland in using macro-prudential measures after LB shock, while the National Bank of Hungary experienced a period of intensively using of new tools, both macro-prudential and unconventional monetary policy tools after 2008. In fact, this national monetary authority was the most active of the four central banks in using those special levers.

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## ANNEX

**Table 1 Levers of the NBR for managing the financial instability risks**

| Before the LB shock | After the LB shock |
|---|---|
| **Macro-prudential policy tools** | |
| **2004-2007:**<br>- Loan-to-Value (LTV) (2 measures)<br>- Debt Service-to-Income (DTI) (3 measures)<br>- Provisioning Requirement<br>- Foreign Currency Lending Limits<br>- Reserve Requirements (4 times) | **2008-2009:**<br>- more stringent LTV and DTI for foreign currency loans than for domestic currency loans: 2 measures<br>- increasing the capital adequacy ratio for individual banks<br>- power for NBR to forbid or contain profit distribution until the financial standing is improved<br>- reducing the reserve requirement on domestic currency liabilities (two times)<br>-- reducing the reserve requirements on foreign currency liabilities (three times)<br>- reducing the reserve requirements on foreign currency liabilities with maturity of less than 2 years<br>**2010-2011:**<br>- higher risks weights or capital requirements<br>- setting specific maximum LTV levels for housing purposes, differentiated by currency and type of loan<br>- reducing the reserve requirements on foreign currency liabilities with maturity of less than 2 years<br>- removing reserve requirements for deposits with residual maturities over 2 years which have been rolled over. |
| **Unconventional monetary policy tools** | |
| | **2008-2009:**<br>- repo transactions through auction procedures at fixed rates<br>- foreign exchange (FX) swaps<br>- reducing the maturity of standard deposit-taking operations |

*Source: author's compilation based on National Bank of Romania Annual Reports, 2004-2013; Lim et al. (2011)*

**Table 2 Levers of the NBP for managing the financial instability risks**

| Before the LB shock | After the LB shock |
| --- | --- |
| **Macro-prudential policy tools** | |
| **2006-2007:**<br>- haircuts in collateral for foreign exchange loans<br>- more stringent criteria for granting mortgage loans in foreign currency<br>- increasing the risk weights for mortgage loans in foreign currency;<br>- introducing the mandatory liquidity requirements | **2008-2010:**<br>- more stringent DTI ratios for foreign currency-denominated loans to unhedged borrowers<br>- DTI limits for newly extended FX mortgage loans<br>- Recommendation S (II): banks which advance foreign currency-denominated loans should furnish their clients with reliable information on how they use foreign-exchange spread and of its impact on the loan cost; loan agreements should contain precise provisions on specifics of the loans; clients are allowed to change the method of repaying FX-indexed loans and repay them in the indexing currency.<br>- restrictions on profits<br>- reducing reserve requirements<br>**2011-2012:**<br>- higher risks weights for foreign currency-denominated retail exposures<br>- more stringent LTV and DTI for foreign currency loans |
| **Unconventional monetary policy tools** | |
| | **2008-2010:**<br>- repo operations for longer periods<br>- expanding the range of acceptable assets as collateral for National Bank refinancing operations<br>- expanding the scope of acceptable collateral in refinancing loans by foreign currency deposits<br>- decreasing the value of collateral as compared to the amount of the credit obtained by commercial banks from NBP by the marginal lending facility<br>- FX swaps (cooperation with Swiss National Bank)<br>- FX swaps (cooperation with ECB)<br>- providing the banking sector with longer-term liquidity<br>- allowing rollover (renewal of the credit with the same collateral)<br>- NBP bonds redemption before maturity |

*Source: author's compilation based on National Bank of Poland Annual Reports, 2004-2013; Lim et al., (2011)*

**Table 3 Levers of the NBH for managing the financial instability risks**

| Before the LB shock | After the LB shock |
|---|---|
| **Common tools** | **Macro-prudential policy tools** |
| - public communication (Financial Stability Report, since 2000; Lending Survey, since 2004; research studies)<br>- analysis and monitoring the financial system<br>- cooperation with the Ministry of Finance and Hungarian Financial Supervisory Authority<br>- Floating freely exchange rate regime (since the early of 2008) | **2010:**<br>- flexible minimum reserve system<br>- reducing the reserve ratio<br>- LTV and DTI limits for FX mortgages (more stringent for foreign currency loans than for domestic currency loans)<br>- FX lending ceiling: ban on foreign exchange mortgage lending |
| | **Unconventional monetary policy tools** |
| | **2008-2009:**<br>- FX swaps (cooperation with European Central Bank)<br>- two-week and six-month loan tenders<br>- auctions to purchase government securities<br>- broadening the range of eligible collaterals (variable-rate and fixed-rate loan tenders)<br>- narrowing the interest rate corridor around the key policy rate to ±50 basis points from ±100 basis points<br>- extraordinary, 300 basis point increase in the base rate<br>- gradually, widening the range of eligible assets<br>- reducing the reserve ratio from 5% to 2%<br>- Swiss franc liquidity facility (cooperation with Swiss National Bank)<br>- new euro liquidity facility to boost corporate lending and stimulate banks' longer-term external borrowing (cooperation with ECB)<br>- new euro liquidity facility (cooperation with ECB)<br>**2010-2011:**<br>- publication of a liquidity forecast for the banking system<br>- National Bank's mortgage bond purchase programme<br>- introduction of the HUFONIA swap<br>**2013:**<br>- Funding for Growth Scheme (refinancing loans and currency swaps) |

*Source: author's compilation based on National Bank of Hungary Annual Reports, 2004-2013; Lim et al., (2011)*

**Table 4 Levers of the CNB for managing the financial instability risks**

| Before the LB shock | After the LB shock |
|---|---|
| **Common tools** | **Unconventional monetary policy tools** |
| - public communication (Financial Stability Report, since 2004; research studies)<br>- analysis and monitoring the financial system, since 2004 | **2008-2010:**<br>- extraordinary liquidity-providing repo operations aimed at supporting the functioning of the government bond market<br>- FX swaps<br>**Since the end of 2013**: exchange rate currency as additional instrument for monetary policy |

*Source: author's compilation based on Czech National Bank Annual Reports, 2004-2013*