

Easy Birds or Sluggish Bears – Credit Boom or Restriction? Credit cycle – evidence from Central and Eastern Europe

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Abstract The economies in CEE characterize with common credit cycle. The rise and fall of level of credit depends on both demand and supply factors. For the period 2005 – 2015 it could separate two stages: first – before the crisis in 2008, when raise demand and supply for credit and it led to credit expansion; second – after the crisis in 2008 – demand and supply fell sharply and credit changes in the same direction. During different stages the factors driving the demand and supply for credit are changed deeply. The research uses panel data approach. It has found common tendencies in credit cycle for the countries in CEE. The volume of credit increases during whole period 2005-2015. For the countries in CEE the volume of credit depends on the disposal resources very strong. By the first group of countries researched the volume of overnight deposits influence on credit increase. In this group are Poland, Check Republic and Slovakia. Second group of countries, including Bulgaria, Romania and Hungary, the volume of credit depends on more of time deposits.

Keywords: credit; demand and supply of credit; Central and Eastern Europe

JEL Classification: G2; E5; C3

The countries in Central and Eastern Europe (CEE) have main aim of economic policy to encourage the increasing of aggregate demand, therefore aggregate supply. As it is known, it could be made through private consumption, investments, public spending and net export. All parts depend on in different degree the volume of credit. In framework ISLM the level of investments and of net exports depends on the interest rate of lending.

The economies in CEE characterize with common tendencies. During the period 2005-2007 the economic growth in the region was based on domestic demand, especially consumer expenditure (see you the book: “Interest rate and Economic growth” (2013) of same author). The part of it was stimulating from credit growth. On

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other side, the negative results by this growth connect with the deficit of current account and appreciation of local currency (for the countries with floating currency rates). After the financial crisis in 2008, the conditions in the economies of the region deeply changed. For this period the economies characterizes with:

- in the monetary area – low level in the reserves, ineffective banking sector supervision, large volume of lending and raising of bad loans. The situation like it leads to current account deficit;
- in financial area – the revenue from consumer tax increases and the same time depends on the economic activities corporate tax collected is lower than pre - crisis period. The public spending contracted. The budget deficit regularly keeps on low level from over 6 % of GDP in 2009 to 3 % in 2013. The government debt in the region in the period 2000-2007 reduces from 55 % of GDP in 2000 to 50 % in 2007. After the crisis in the region CEE stay out following problems to decide:
- fiscal consolidation between revenue and expenditure;
- independent banking sector supervision;
- reform in the pension system due to the aging of population;
- reduce skills mismatches on the labour market.

Due to common tendencies in economies, countries in CEE characterize with common credit cycle. The rise and fall of level of credit depends on both demand and supply factors. For the period 2005 – 2015 it could separate two stages:

- First – before the crisis in 2008 when raise demand and supply for credit and led to credit expansion;
- Second – after the crisis in 2008 – demand and supply fell sharply and credit changes in the same direction.

During different stages the factors driving the demand and supply for credit are changed deeply.

On the first stage the demand depends on:

- Strong economic growth in all countries in the region;
- Increasing of income nevertheless that it is not reached the average such in EU;
- Low level of interest of deposits;
- According the households – increasing the private consumption due to higher level of income;
- According the households – rising of house process;
- According nonfinancial institutions (business) – the raising of investments due to the economic growth and capitalization of profit from the economic agents;
- Pro – cycling fiscal policy adds to aggregate demand in the economy;
- The markets are expanded and the increased export influences on used credit resources.

On the first stage the increasing of the supply due to:

- The economic growth raises the saving;
- High external flows of capital came to countries in CEE from other countries in EU;
- Cheap funding for the banks;

- Common tendency for households and business - low level of debt permitting them to go to new credit without loss the positive effects of financial leverage;
- Low level of debt reduced the risk in the economy and encourage the bank to offer new credits;
- Profit opportunities improve the incoming flows in the business and credibility of companies.

On the second stage after the crisis in 2008 factors influence on the demand and decline the borrowing are changed:

- According households – lower level of income and worsened credibility of the economic agents;
- House prices dropped;
- According the business – the projects have already low rate of return;
- No optimistic perspective for economic activities in short term and uncertainly in the economy;
- The export decreased and not need additional lending;
- Worsened credibility of firms;
- Restrictive fiscal policy and declining of public spending.

On the second stage the change in the supply led to very sharp decline of borrowing due to:

- Increasing of global risk;
- Higher price of bank funding;
- Low rate of saving of households and of nonfinancial institutions (business) compared with pre-crisis period. The saving is not stopping because economic agent hedge they self for uncertainly in the economy;
- Low margin between an interest of deposits and credits decrease bank profit;
- Reversal movement of funds to the parent banks;
- Uncertain economic perspective.

The paper is organized in following section: model, macroeconomic and bank variables, limitation of research, case – studies analyzes, conclusion.

1. Model

Many authors research the dynamic of credit growth in transition and emerging market countries. On early stage the literature focused on the role of privatization and foreign banks entry on the banking system (Claessens and other, 2001; Bonin and other, 2005; Haas and Levyveld, 2006, Havrylchyk and Jurzyk, 2010) or allocation of resources (Aydin, 2008, Degryse and other, 2009), focused on positive role of foreign bank performance.

On the next stage, the literature analyzed extend fast credit growth that is useful for the economic growth in the region and credit boom (Cottarelli and other, 2003; Hilbers and other, 2005; Enoch and Otker – Robe, 2007; Eichengreen and Steiner, 2008). The role of international capital flows and parent bank funding has also presented by Bakker and Gulde, 2012; Mendoza and Terrones, 2012, and IMF, 2013. The Role of credit demand

examinants for the countries in CEE by Brown and other, 2012. Due to the limited number of observations caused by the rather small sample size (six countries) and the short period of investigation (monthly data for ten years), the research uses a panel data approach in order to enhance the quality and quantity of data (Gujarati, 2003).

The research investigates dependence of volume and interest of credit from disposal resources. In the same time, it look for the reason for the change in business credit – disposal resources or the rate of return of projects financed with credit.

$$CLOANS = a + b CDEP + e$$

(1)

where

CLOANS – country loans total, monthly

CDEP – country deposits total in banking system, monthly

$$CLOANS = a + b CONDEP + c CTDEP + e \quad (2)$$

where

CLOANS – country loans total, monthly

CONDEP – country overnight deposits, monthly

CTDEP – country time deposits, monthly

$$CLBusiness = a + b CDEP + e \quad (3)$$

where

CLBusiness – country business loans, monthly

CDEP – country deposits total in banking system, monthly

The variables are:

- Lending total , for households, for non- financial institutions (for business)
- Deposits total, by different subjects - for households, for non- financial institutions (for business), by different maturity, because different required reserve ratio. Due to lack of unified monetary policy is impossible to calculate the impact of deposit multiplication on the amount of deposits in every country.

The research observes the period 2005 – 2015 for 6 countries in CEE: Poland, Hungary, Check Republic, Slovakia, Romania and Bulgaria.

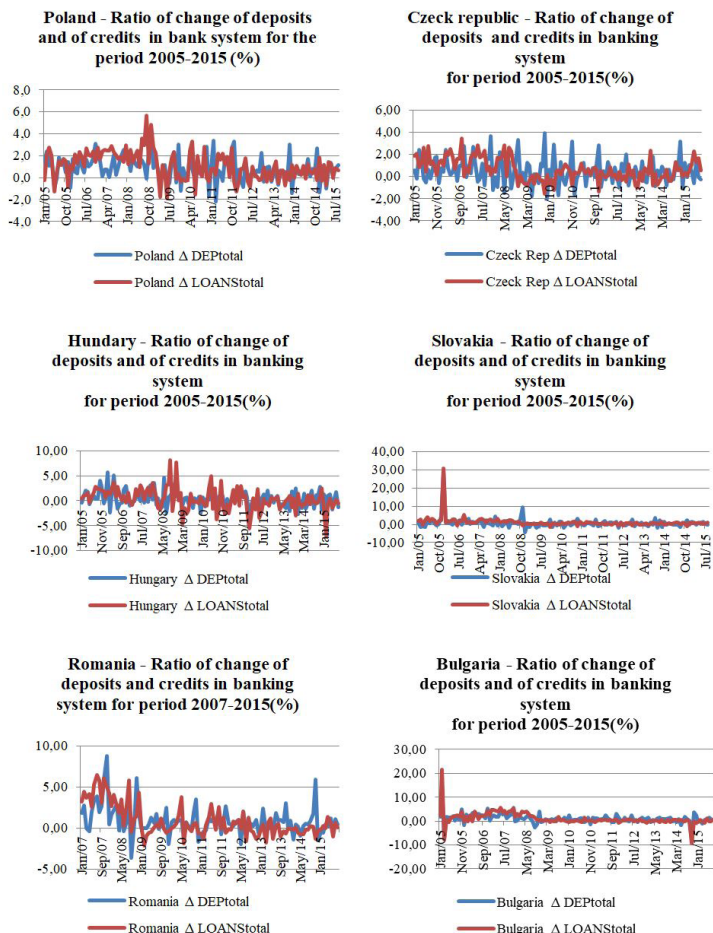
Limitations of the research are:

- Because the different way to be made the data by national statistics – with or not accumulation, monthly, quarterly or annually, chronologically presented – the different variables are recalculated to be mathematically compatible;
- By the testing for a region as whole, the variables are recalculated in EURO for all countries;
- It is very difficult to distinguish the impact of deposits on the changes of credit or such are the result from automatic adjustment and due to it, the research suggests as a reason for changes only the impact of independent variables.

2. Data analyses

The research of data has found the main factor of supply by lending in the region appears the disposal resources in the banking system. Main part of them comes from accepted deposits. The disposal resources influence on the credit interest. There are some exceptions: for Hungary – in September 2008 credit rise with 8.8% by 1.02% increasing of deposits. It dues to debt crises in this country; for Slovakia – in December 2005 when lending increases with 30.97 compared with November same year. It is the reaction of the business after the accession to EU and expanding of the market; For Bulgaria – it found more volatility of amount of credit. In February 2005 the credit increases with 21.37% compared with month before, next month decreases with minus 7.92 %. The administrative measures taken from Bulgarian National bank reduce the supply from the banks on market and cost deeply changes of volume of credits. Next strong change for this country is in October 2014 with minus 9.52% after the collapse of one most important bank in banking system. The changes of deposits and credit are graphically below:

Graph 1. Ratio of change of deposits and credits in banking system in CEE



Sources: National statistics, Eurostat and own calculations

3. Results. Country Case Studies

Credit boom in every country depends on:

- Disposal resources;
- Price of credit (interest rate of credit);
- Propensity of lending of the bank;
- Stage of economy;
- Expectations of business;
- Income of householders;
- Risk – it is common factor for banks and lenders.

It was found common tendencies in credit cycle for the countries in CEE. The volume of credit changes with different rate during the first and second stage of period 2005-2015. There are some peaks during the time of crises. It dues to unequal inflow and outflow for business and households and they finance the deficit with credit.

The Enter of foreign banks to the market, as well as the strengthening of Commercial banks audit in the sector, led to a return the confidence of the public in banks, and hence an increasing of deposits. On the other hand, improved economic conditions predetermined the growth of foreign cash flows, mainly coming from foreign banks to region. All factors have led to strong need to find ways to invest accumulated funds to bring income.

The consequences of the growth of the deposit base require searching for ways of investing the accumulated funds. Following tendencies have observed: commercial banks investment in foreign assets on the local market; the needs of business for long-term capital to upgrade technology and household to buy goods for long-term usage reflect the loan extension after the crises; the increased share of long-term loans, which is explained by the increased confidence between creditors and borrowers and the reduction of risk; lending in services is highest compared with all other sectors of economy.

For the countries in CEE the volume of credit depends on the disposal resources very strong. The coefficients of correlation the total lending/total deposits have the volatility from 0.991 for Poland and Slovakia up to 0.842 for Romania and 0.815 for Hungary. An average for the region is 0.914, confirming the strong correlation between volume of credit and disposal resources. For Hungary it could accept very critical, because measurement of reliability. Disposal resources increase in the first period of credit cycle before the crises and after slowly recovery between 2011 and 2015.

By the first group of countries researched the volume of overnight deposits influence on credit increase. In this group are Poland, Check Republic and Slovakia. Second group of countries, including Bulgaria, Romania and Hungary, the volume of credit depends on more of time deposits. Especially for Bulgaria overnight deposits have negative correlation with credit. It shows bad transformation of maturity from the bank management. Due to it is very important the structure of total amount of accumulated deposits and share of overnight and time deposits. Because the short horizon of economic agents in CEE, the banks accepted more overnight deposits.

Poland and Slovakia show common tendency. Two types of deposits accumulated impact equal on the volume of credit.

More important part of credit – business loans are function of deposits in all countries in the region. They are from 0.976 for Poland up to 0.641 for Hungary, average for the region – 0.901. In last years Hungary is different case. Because the high level of government debt, the demand for credit in the country increased, the price of loans became higher and volume of credit dropped.

Non-performing loans influence on the disposal resources. They have not small part of loans in the region and they have strongest negative impact on the bank profit, their future disposal resources and economic growth.

The credit contributes to economic development in CEE. From other site, depends on different stage of economic cycle, business and household need different volume of credit. Financial market is not good developed and bank credit is main source for financing. Therefore, credit cycle influences on economic growth in the region. In CEE countries credit depends mainly from disposal resources and encouragement of accumulation and saving in the region are needed.

Conclusion

The economies in CEE characterize with common credit cycle. The rise and fall of level of credit depends on both demand and supply factors. For the period 2005 – 2015 it could separate two stages: first – before the crisis in 2008, when raise demand and supply for credit led to credit expansion; second – after the crisis in 2008 – demand and supply fell sharply and credit changes in the same direction. During different stages the factors driving the demand and supply for credit are changed deeply. It was found common tendencies in credit cycle for the countries in CEE. For the countries in CEE the volume of credit depends on the disposal resources very strong. Credit cycle influences on economic growth in the region. Because for CEE credit depends mainly from disposal resources, the increasing of accumulation and saving in the region are needed.

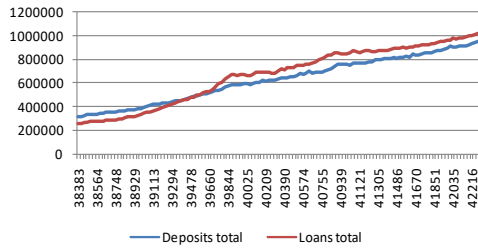
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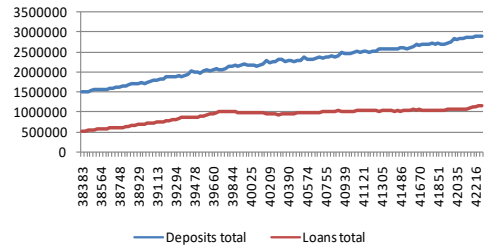
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Appendix 1 – Amount of deposits and credits in banking system in CEE

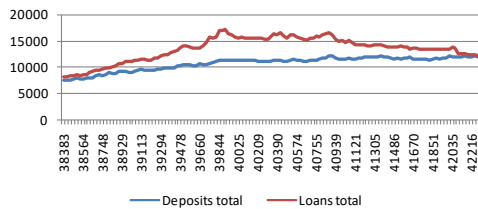
Poland - Deposits and Loans for period 2005 - 2015
 (mln PLN)



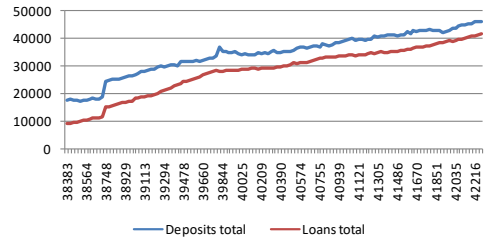
Czech Republic - Deposits and Loans
 for period 2005 - 2015 (mln CZK)



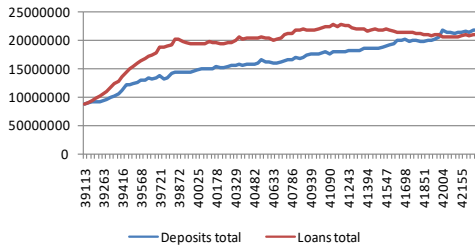
Hungary - Deposits and Loans for period 2005-2015
 (bln HUF)



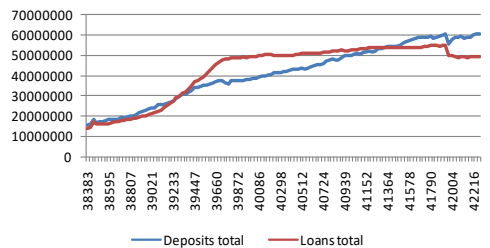
Slovakia - Deposits and Loans for period 2005 -2015
 (mln EUR)



Romania - Deposits and Loans for period 2007 - 2015
 (mln RON)



Bulgaria - Deposits and Loans for period 2005 - 2015
 (mln BGN)



Sources: National statistics, Eurostat