
Original Paper

Credit Booms in CESEE Countries and Effects

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Abstract

The importance of the periods is determined by period 2002-2008, when there was a significant increase in bank lending. Double-digit increases in bank lending in the pre-crisis period were generally seen as a sign of convergence with the developed Europe. The importance of the countries included in the study arises from the fact that almost all countries during the 90s were oriented to a transition of the banking sector, with massive entry of foreign banks which all countries had high rates of credit to the period before the financial crisis global. With the explosion of the financial crisis, the credit activity evolution reversed. We attempt to answer this question is the use of statistical approach by taking into account the serial deviations of the credits from the long-term trend, sets decompose in short-term and long term components through the filtration method, Hodrick-Prescott (1980) filters, an opening method sufficiently used, which we use for the period (Q1:2002-Q3:2015) where ($\lambda=1600$, since there quarterly data used). In general even though there are countries with high credit growths according to the credit norms rate still from statistical assessments can be easily seen that the region is catching up the bank mediation level, and this achievement shows that this is more as a result of initial low level of crediting.

Keywords: bank credit, CESEE countries, credit booms, Hodrick-Prescott filter

1. Introduction

Developing a modern banking sector, oriented by market forces was a particular challenge for transition economies in Central, Eastern and Southeastern Europe (CESEE countries). The privatization of banks, mainly to foreign strategic investors, was a mainstay of the pre-2000 period, which by 2001 more than half of the total banking capital was mastered in the hands of foreign banks.

Bank privatization, mainly at the foreign strategic investors, lastly created an independent banking industry managed by market forces. From the earlier privatizations there was a moderate success expected, because there was a hesitation and lack of interest from the foreign credible banks that they will succeed, because the macroeconomic conditions were still difficult, there was still a strong feeling among the governors that the banking sector had to remain “national”, and privatization strategies were considered inadequate. However, after 90ties up to the beginning of 2000 in the banking sector of CESEE countries generally prevailed the foreign banks with some exceptions (IMF, Regional Economic Issues, 2013).

As it can be seen below in Table 1 and Figure 1, the average foreign property in the banking sector in the countries of the region reached 14.6% in 1997 up to 75.07% in 2011.

Firstly, the transition period of the banking sector was quicker at the CEE countries such as (Czech Republic, Hungary, Poland and Slovakia) where the input of the foreign capital in the banking sector prevailed the most part from 2000(over 50%). The SEE countries were later in this process and after 2003 the foreign banks started prevailing in the banking sector (over 50%)

At the end of the year 2010, 2011 the inclusion of the foreign capital reached up to 80%.

Table 1. The Participation of the Foreign Banks in the Banking Sector (by Percentage)

Country	1997	1998	1999	2000	2001	2002	2003	2005	2006	2007	2009	2010	2011
Albania	10,1	14,3	18,8	35,2	40,8	45,8	47,1	92,2	90,4	94,1	92,4	90,6	90,2
B & H	4,17	1,91	3,84	21,6	65,3	76,6	79,7	90,8	94,0	93,7	94,5	94,5	92,1
Bulgaria	15,5	32,4	42,7	75,3	72,7	75,1	82,6	74,4	80,1	82,3	84,0	80,7	76,5
Croatia	2,96	6,60	40,3	84,1	89,3	90,1	91,0	91,3	90,8	90,4	90,8	90,3	90,6
Czech R.	23,2	26,3	38,3	65,4	89,1	85,8	86,3	84,4	84,7	84,8	84,0	83,5	83,4
Hungary	61,3	59,2	61,4	67,4	66,4	85,0	83,4	82,6	82,9	64,2	81,3	83,7	85,8
Macedonia	11,7	11,4	11,5	53,3	51,0	44,0	46,9	51,3	53,2	85,8	93,3	92,8	92,4
Moldova	14,5	22,4	34,4	39,7	34,8	36,6	35,1	19,6	22,8	24,8	40,9	41,5	40,8
Montenegro						16,8	23,4	87,7	91,8	78,6	87,0	88,4	89,7
Poland	15,9	17,3	49,3	72,5	72,2	70,7	71,5	74,2	74,2	75,5	72,2	70,5	69,1
Romania	11,4	25,2	43,5	46,7	51,4	52,9	54,7	59,1	87,8	87,2	84,3	84,1	81,7
Serbia	0,62	0,46	0,37	0,48	13,1	26,9	38,4	66,0	78,6	75,5	74,2	73,5	74,4
Slovakia	19,2	23,6	24,1	42,6	78,3	84,1	96,2	97,2	97,0	99,0	91,6	91,8	91,5
Slovenia	5,38	4,86	4,87	15,3	15,2	16,8	18,8	22,5	29,3	28,7	29,4	28,6	29,3
Ukraine	8,19	9,17	10,4	11,0	12,0	12,3	12,1	21,2	34,9	39,4	50,7	47,7	37,9
Average	14,6	18,2	27,4	45,0	53,7	54,6	57,8	67,6	72,8	73,6	76,7	76,1	75,0

Source: EBRD Banking Survey

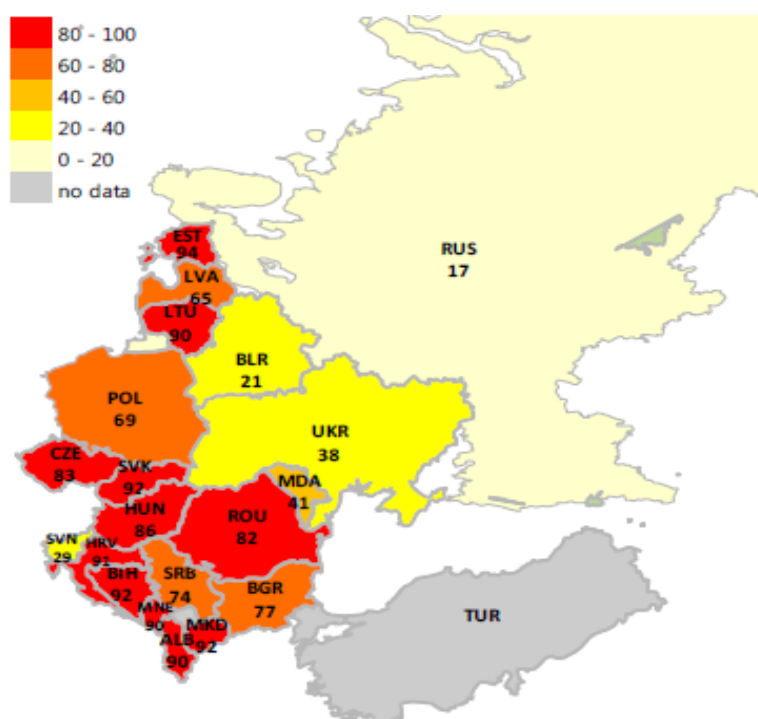


Figure 1. Participation of Foreign Banks in the Region, 2011

Source: EBRD Banking Survey.

Different literature identifies a number of advantages with the presence of foreign banks in these countries: access in the international financial market, technology, know how practices, high managing standards, which improved the quality and the efficiency of the banking mediation and reduced the incidence of the banking crisis. During 2003-08, most of the countries of CESEE experienced credit booms, where the annual growth sometimes reached up to 30-40%. During this period, foreign banks driven by a promising and growing economy with a growing domestic demand competed for market share and optimistic borrowers who had little initial debts that were eager for consumption or investment. All this followed a rapid expansion of crediting in the private sector. The credit to the private sector from 2000-2005 grew up to 70% in the countries of CEE and almost doubled in the countries of SEE. This growth mostly comes from the low initial credit levels. Mainly the households were the biggest profit makers of this period, where they consist half of the general credit portfolio. However, this growth of credit applications was perceived as a development element of the banking market, but it also raises concerns for an eventual banking crisis and a crisis in the macroeconomic balances (moreover see Coudert & Pouvelle, 2010). From these credit booms was also noted a significant growth in consumption (such as in Hungary in 2003, and Rumania 2003-2004). In some occasions the uncontrollable growth of the bank credit creates financial and macroeconomic risks. It is the literature and empirical evidence which were more focused on this direction in that period, and the question that raised along with was if this high credit growth can unregulate the macroeconomic balances or is just a sign of the financial development and a convergence sign.

High levels of loan that followed the region of CESEE were accompanied by concerns from various authors (Cottarelli, Dell'Araccia, & Vladkova-Hollar, 2005; Egert, Backe, & Zumer, 2006; Coricelli & Masten, 2004) about the dangers that can transmit to the macroeconomic indicators.

Studies finds that high credit flows did not cause deterioration in banks strength (Tamirisa & Igan, 2007). The same study with data on banking level answers on the factors of this high rate credit for the period 1995-2004 for some developing countries of Europe. With the same concern is the survey on credit and factors determining the loan balance level for CEE countries (Kiss-Martón & Vonnak, 2006). The study shows that bank credit observed during this period can be justified; it represents a deepening financial sector.

In the same line of study is the research of (Kalluci, 2012) for the behavior of the loan in Albania. Key findings from the statistical point of view suggested that Albania has generally not experienced lending boom situation, despite high rates of credit which grew, especially after 2004.

2. Methodology

The high increase of the bank credit which became obvious in CESEE on average recorded a credit growth for 30,2 % annually which became a concern for many researchers, and potentially this large and rapid credit growth may lead to a banking crisis in view of excessive demand, high consumer spending, inflationary pressures and speculative fluctuations in real estate prices. This credit growth can be interpreted in two ways: *first-* can be part of the process of achieving the level of banking mediation of European countries or otherwise saying a convergence sign, *second-* can be an excessive credit, resulting in the "heating" of the economy and the creation of inflationary pressures.

An attempt to answer this question is the use of statistical approach by taking into account the serial deviations of the credits from the long-term trend, used by (Gourinchas et al., 2001; Tornell & Westermann, 2002; IMF, 2004; Sa, 2006, Coudert & Pouvelle, 2010).

From this approach we define credit borders by which we can define credit boom periods. Comparing time series with their long-term trend is a way to see credit fluctuations. The time sets decompose in short-term and long term components through the filtration method, Hodrick-Prescott (1980) filters, an opening method sufficiently used, which we use for the period (Q1:2002-Q3:2015) where ($\lambda=1600$, since there quarterly data used).

In these occasions, if the credit indicator exceeds its long-term trend, for a period, along with this can be signaled a credit boom. This implies that credit growth for every year would be compared with the calculated trend throughout the period. The idea is that the trend represents the historical movements of the credit growth and subsequently is called a "normal" move of credit operations. During the upper

and low border line, the credit booms might occur more often if the borders are narrower. The border line is in two ways done:

- The first method defines those where the limits are defined as a sum of standard deviation of credit fluctuations throughout the trend.
- The second method, an approach used by (IMF, 2004), and we use, where the model also introduces a coefficient of 1.75. Thus a credit boom is defined when credit growth exceeds its long-term trend for 1.75 times standard deviation from fluctuations throughout the trend.

In use of the two indicators for the definition of the credit booms, one is the credit banking in relation to GDP, and second is the credit growth over the period.

3. Results

The credit trend is the measure of credit developments experienced by each year in the year. It represents the long-term line through which the loan passes for a certain period of time (Figure 2 and Figure 4).

Fluctuations in the credit activities that an economy experiences over a period are presented by the credit cycle (Figure 3). Expansion periods are periods of credit growth and vice versa. Here are the ups and downs of the bank credit along the long-term trend of the credit.

By seeing the following figures for Macedonia, we can see that the indicator credit/GDP is also found on the determined path for the whole period which was a focus of the study, regardless that the credit growth for Macedonia for the financial pre-crisis period was 23,3% where deviations from the trend are not significant and do not exceed the determined lines. Based on the indicator of credit growth rates (see chart) it is noticed that the credit curve exceeds the upper limit (Q32007, Q12008). In fact by looking at the table of the credit booms (Annex 1, table 3) we can see that the results are different depending on which indicator we have used. It may be strange, but this can be explained simply because credit growth is more volatile as an indicator than credit / GDP. Also, the period from 2002 to 2008 had very high credit growth, which may seem “excessive”.

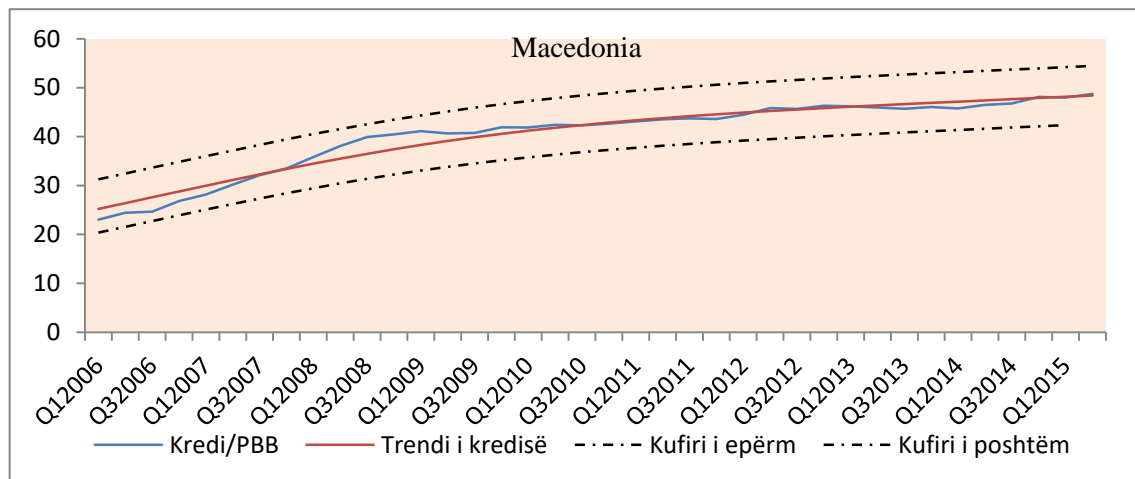


Figure 2. Credit/GDP for Macedonia, the Surveyed Values, Long Term Trend and the Interval 1,75 Standard Deviation Throughout the Trend, in %

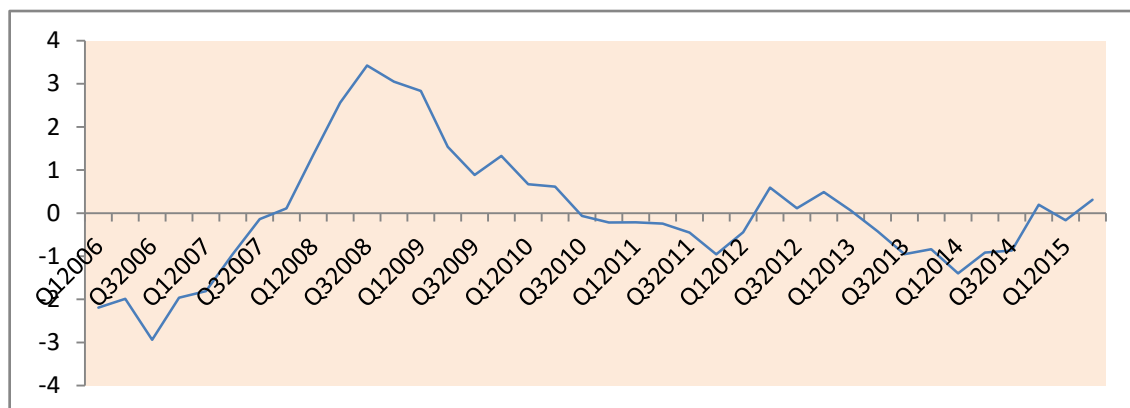


Figure 3. Bank Credit Cycle Estimates as a Ratio to GDP, Macedonia Q1/2006-Q2/2015

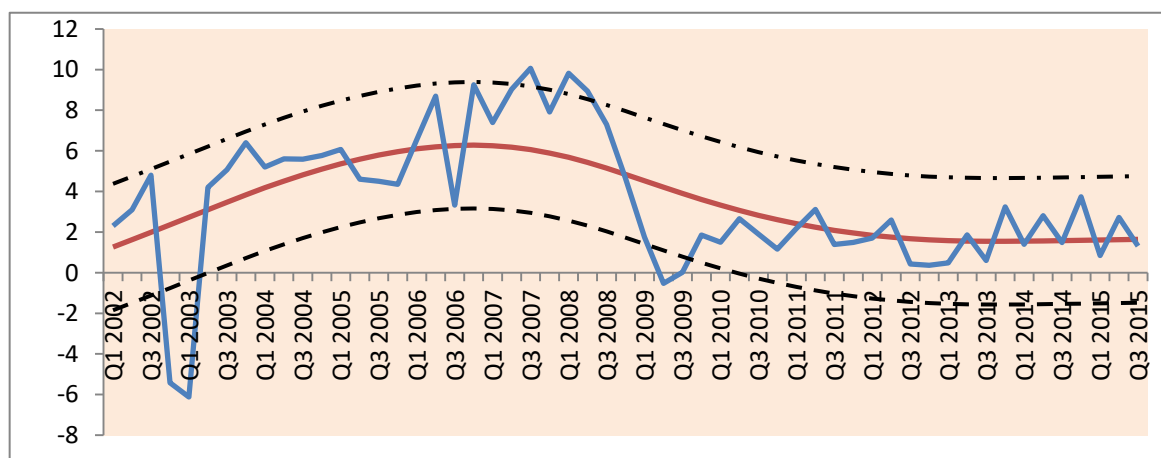


Figure 4. Credit Growth for Macedonia, Surveyed Value, Long Term Trend and Interval 1,75 Times Deviation Standard Throughout the Trend, in %

Source: Author's calculations, based on IMF, and WB data.

Using the indicator on credit growth rates can generate bias and therefore it is not a good indicator. Low credit norms can be called credit booms if led by a period where the growing norms were very low, as it is the case with the countries of SEE at the beginning of 2000. Therefore, the credit / GDP ratio is more accepted and appears to be the most important in finding boom or bust periods.

The results of CESEE countries in Annex 1 (showing the figures compiled by the two indicators used and the table identifying credit boom periods).

As mentioned before, the booms and credit bust measured with the indicator, credit growth rates, are likely to occur more and more often, and according to credit/GDP, the situation on the credit market is more stable without significant ups and downs.

But, in general even though there are countries with high credit growths according to the credit norms rate (example: Poland Q42008-11,7%, Bulgaria Q12005-27%, Albania Q22005-20%, Serbia Q32002-23%, Ukraine Q42008-25%), still many researchers, and from statistical assessments can be easily seen that the region is catching up the bank mediation level, and this achievement shows that this is more as a result of initial low level of crediting.

4. The High Credit Rates and Its Effects

The high credit rates became even more concerning for the economies in the region, by creating external misbalances, inflation pressures, increase of real property prices. Also the biggest part of the region experienced appreciation of the real exchange rate since 2001, which is partly explained from the capital inflow, and the improvement of the fundamentals (Balassa-Samuelson effects). The inflation differential between the region and the rest of the EU (which is a trading partner) leads to a higher value of the real exchange rate - which could also be of concern to economies with a fixed exchange rate regime.

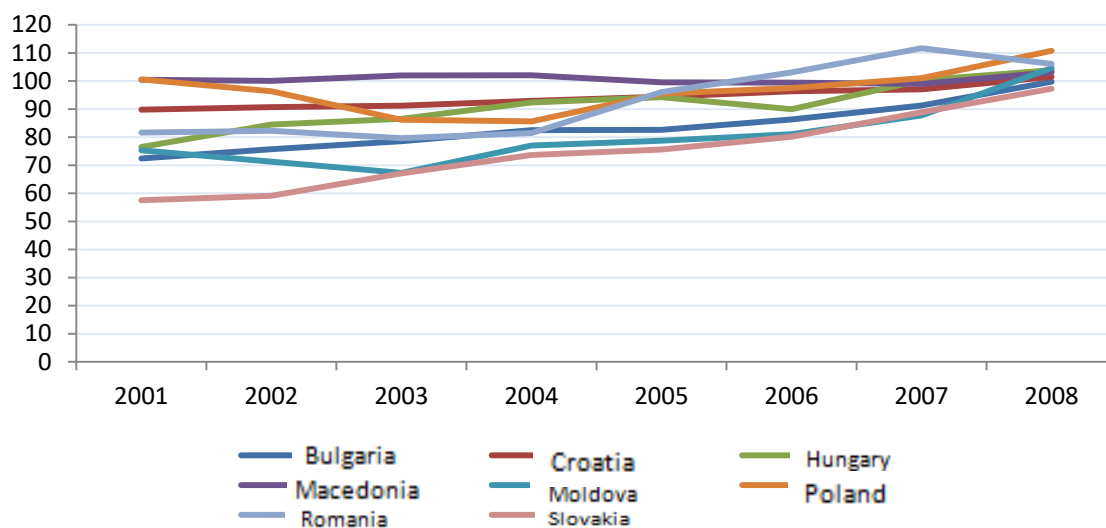


Figure 5. Real Effective Exchange Rate (REER 2010=100)

Source: International Monetary Fund, International Financial Statistics.

These high rates of capital inflows and high credit rates pledged to the private sector, although are referring to the “catch up” process, still they had the negative effects on some important economic indicators, which caused a fear for an “economic heating” which could cause serious distortions. The credit growths, increased the domestic demand and the economic activity, but still they caused a big negative trade gap. Developing countries in general, with a weak production power and generally dependant on the imports, during a period of economic prosperity cause also a grow in the trade deficit.

The relation below shows a clear picture, that the countries with high credit rate for the period 2002-2008, went through a high current account deficit, for the same period (Figure 7a). The same is shown on the graph with credit rate correlations; with the trade deficit (Figure 7b). Countries with a higher bank credit rate experienced a higher trade deficit. The reason why we take analysis of the trade balance is that the countries surveyed have a great deal of private transfers (remittances) that greatly mitigate the current account deficit.

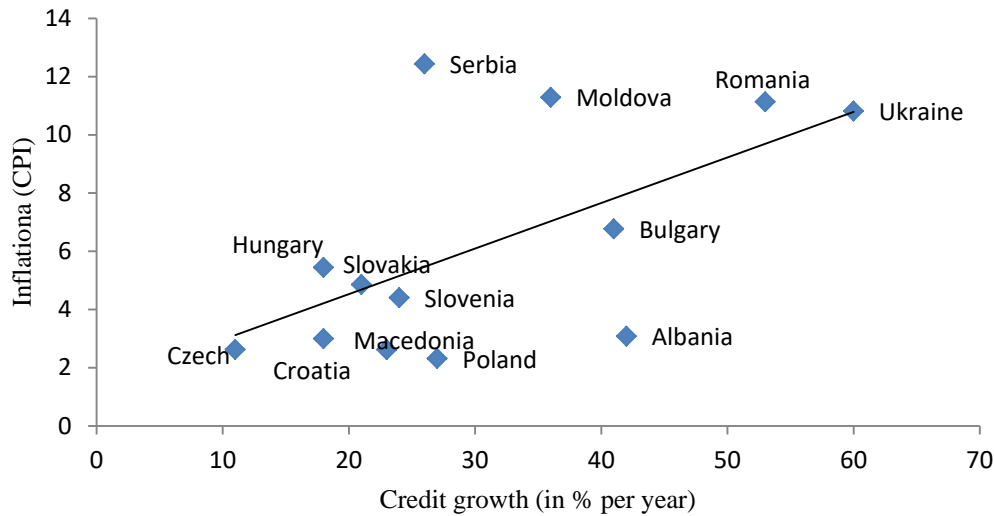


Figure 6. The Credit Growth and the Inflation (CPI) for the Period 2002-2008

Source: International Finance Statistics, IMF.

With a fast-growing, inflation also began to rise, which became a concern for monetary authorities, who were placed in order to maintain control of the situation (Figure 6). The inflation is more concerning for some countries such (Bulgaria, Ukraine, Romania, Moldova and Serbia) which reached a level of inflation over 7% average annually for the period 2002-2008. By looking at the credit rate grows for these countries, for the same period, we can see that they had a credit growth of over 30% annually that must cause inflation pressures. A softer situation was present in the countries with more moderate credit rates (such as Macedonia, Croatia, Poland, Czech, Slovenia, Slovakia), which were keeping an inflation under 4% for the period 2002-2008.

An increase of the foreign debt and a crisis that is occurring can cause a loss in the ability to pay out the debts, because of the inability to produce and sell with profit, in a crisis period. Also the debts are denominated in foreign currency and devaluation of the national currency in relation to the foreign currency causes an additional financial load during the return of the loans. The indicators of the foreign loans or that of position of the international investment apparently worsened during the 2002-2008 period (Figure 8).

From Figure 8, we can see an obvious worsening of the net position of international investment, which is a barometer for the measuring of the financial condition of the country and the credit ability. High negative values (such as Bulgaria, Croatia) show that the country's commitments to the foreigners are in very high levels comparing to the assets possession (over 90% of the GDP).

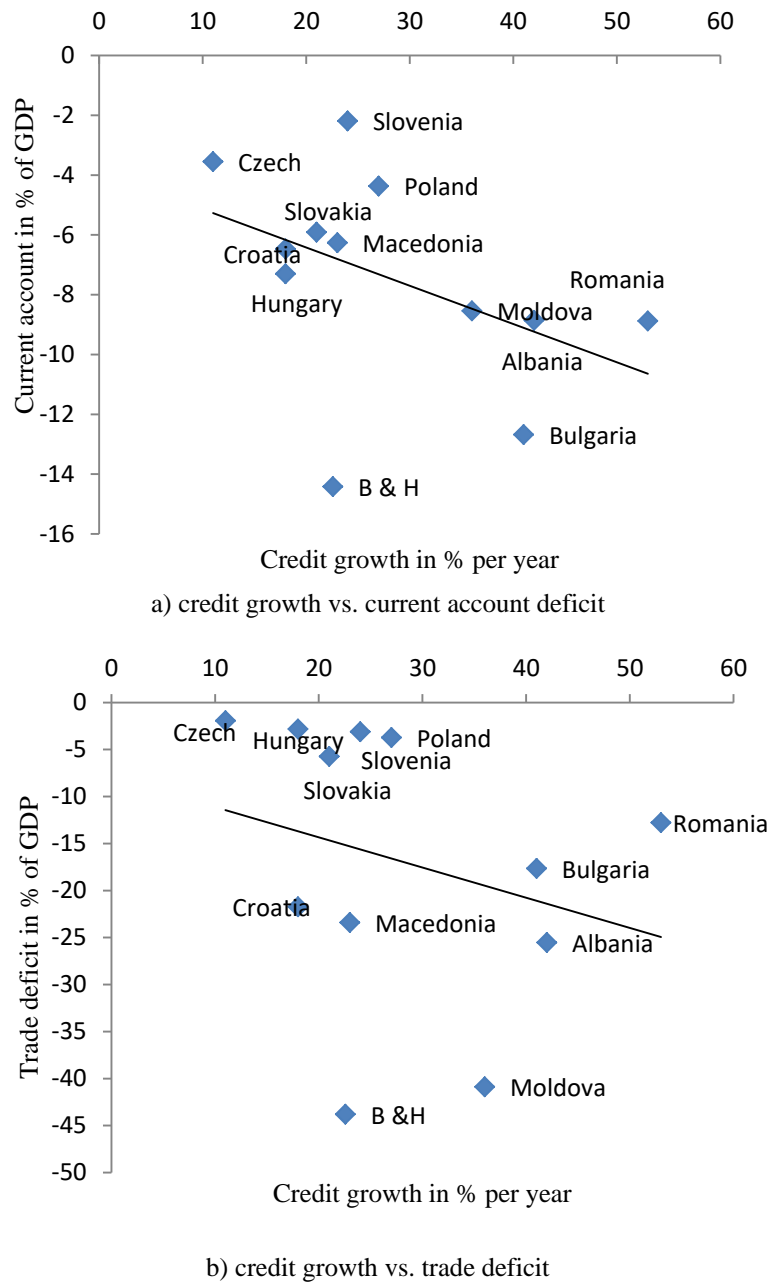


Figure 7. The Current Account Deficit such as GDP and the Trade Deficit such as GDP in Relation to the Credit Growth for the Period 2002-2008

Notes. Trade deficit includes only the trading of the goods (excluding the services)

Source: IMF, Balance of Payments Statistics.

In an economic regeneration and an increase of the domestic demand, financed by a credit growth which seemed to come from foreign capital inflow, certainly would have its effects on the real property prices, which was shown as an element for the “heating up”, with potential consequence. For the region in general, the credit oriented to the households in 2004 was 10,6% of the GDP, and in 2008 was 24,8% of the GDP (according to the reports of the European Bank for Reconstruction and Development) which caused houses prices increases, as it can be seen in Figure 9 before the eruption of the financial global crisis the house prices were getting higher with 4-6% for every quarter. The figure is showing

data from only some countries of the region, where data had been found for this phenomenon. We should not be misled from the linear line which is going down, and is showing the decrease effects of the prices after eruption of the global financial crisis.

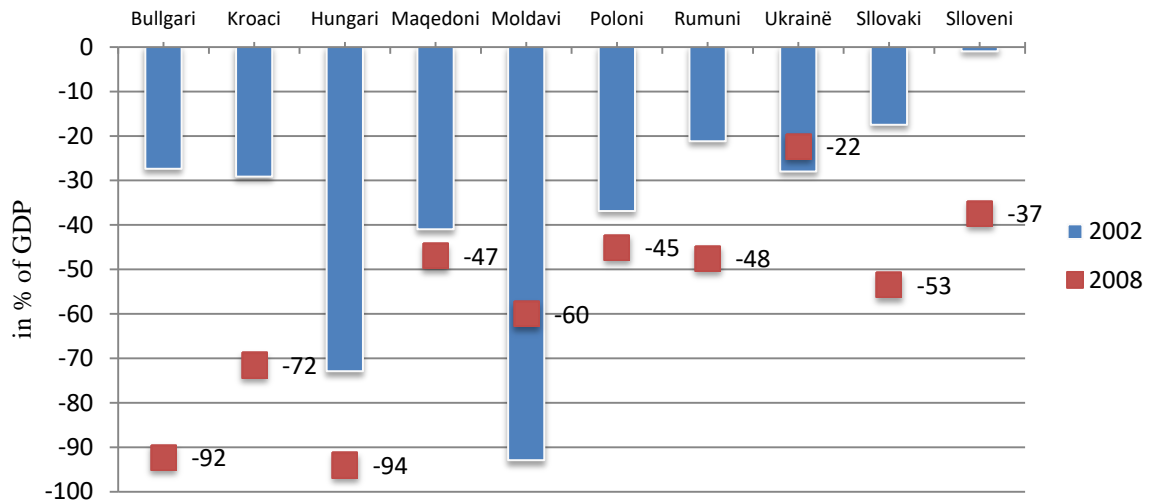


Figure 8. Net Position of the International Investment, for Some Countries of CESEE

Source: IMF, Balance of Payments Statistics.

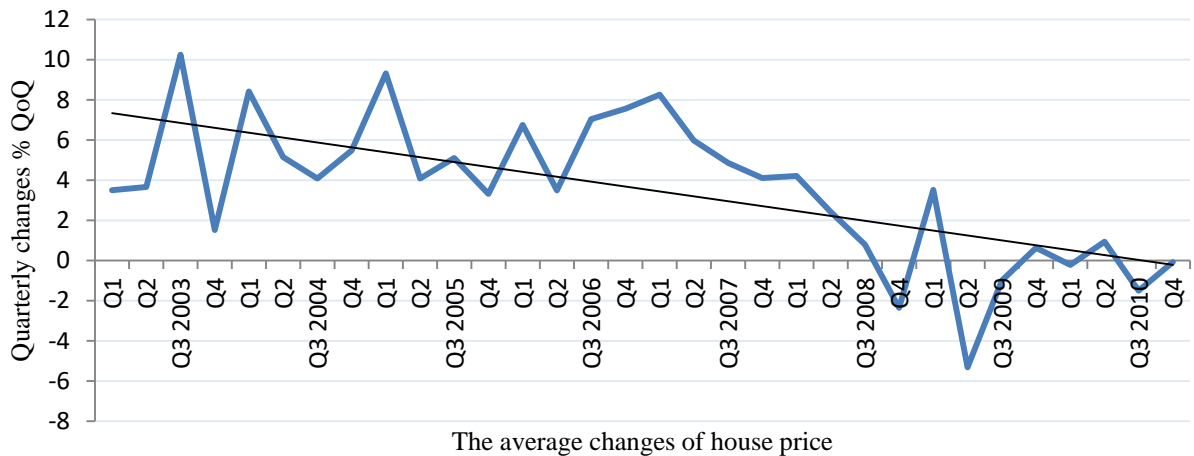


Figure 9. The Average House Price Change in Several CESEE Countries for the Period 2003-2010, Quarterly

Source: Global Property Guide, author’s assessment

The credit boom seems to be related to the increases of house prices. But the causality is not clear. Does the credit growth as a result of some factors causes the increases of the houses prices? As the house prices grow (as a result of some other factors) the financial intermediations become more “liberal” for crediting along with a valuable collateral (Gordon & Metrick, 2012)?

In fact, the difficulty of identifying causality between these two indicators relies on the fact that the direction of influence is reciprocal, which is directed to each other. When the banks increase the credit

supply, the loan costs gets down and the demand for real property gets higher (as shown in figure). Rising prices, on the other hand, creates a larger base of collateral that can be taken into account when lending, making the loan cheaper and easier but also banks' balances are in the strongest positions, enabling them a stronger capacity for lending and getting down the hazard moral of loan taking, encouraging the banks to reduce the standards of crediting.

Table 2. Government Loan and the Budgetary Deficit for Some Countries of the CESEE Region

	Gross Government Debt/GDP			Budget deficit/GDP		
	2002	2005	2008	2002	2005	2008
Albania	62,8	57,4	55,13	-6	-3,4	-4,8
B & H	31,2	25,5	30,8	-3	0,35	-3,2
Croatia	35,9	38,6	36	-4,5	-3,7	-2,7
Bulgaria	53,6	29,02	15,02	-0,6	-2,23	-2,8
Macedonia	40,6	36,7	20,6	-5,2	0,213	-0,9
Montenegro	75,7	36,3	29	-1,4	-1,415	-3,2
Romania	27,3	17,54	13,4	-2,6	-0,68	-4,7
Serbia	76	54,1	32	-2,6	-1,1	-1,8
Slovakia	42,8	33,8	28,2	-8	-2,86	-2,3
Slovenia	28,4	26,3	21,5	-1,4	-1,02	-0,2

Source: World Economic Outlook, IMF.

Over the years of lending growth, public finances in most countries were in good shape, benefiting from increased domestic demand and increased economic activity, which increased budget revenues. As it can be seen from Table 2 almost all the countries reduced the debt level in relation to the GDP, where from an average from 42% of the GDP for 2002, reduced the gross debt to the 24 % of the GDP. However, in most countries in this region, during the economic and credit growth phase, fiscal policy played a procyclical role, where increased of private demand was associated with increased in public spending. So countries that had room for widening budget deficits (like Bulgaria and Montenegro) increased budget deficits, while countries (like Slovenia, Albania, Macedonia and Croatia) did not have space and thus reduced budget deficits.

5. Conclusion

A development of modern banking sector, western model, oriented to the power of the market was a challenge of 90-ties for the SEE and CEE economies in transition. More than half of the banking assets were sold to foreign owners up to 2001, and up to now they are absolute owners controlling 70-80% of the bank market in this region. With the dominant possession of banking assets, evident improvements in bank indicators emerged as a result of increased confidence of business entities and households, transfer of know-how, access to the international financial market, establishment of attractive banking products schemes, etc.

From another point of view this invasion of foreign banks in CESEE countries came also as result of promising picture related to the profit opportunity that the banks could generate in these countries. Under these circumstances and by combining several favorable factors, the region marked a stage of massive lending to the economy. The period between 2002-2008 is known as the "wake up" period of the credit market. The countries found banking capital where they could support the opportunities to earn, while foreign banks found a steadily growing region where for the period 2002-2008 the economy grew by 5.3% each year. Doses of optimism, improved economic conditions combined with

macroeconomic stability and progress in financial reforms led to an optimistic expectation for private sector earnings and economic situation in general.

On average for the period between 2002-2008 the crediting increased to 30% annually in an average for the countries of the region of CESEE. Certainly, there was noticed a strong and positive relation between the capital inflow and the bank credit from one side and the banking credit growth and the gross domestic product from the other side. But the bank credit grew more and faster than the economy, a process known as “financial deepening”.

This credit in high level applied on economy except the fact of describing them as a “catch-up” process of the western developed countries, the concerns became obvious in the negative effects follow ups of some important national indicators, a phenomenon known as “heating of economy”. Exchange rates were appreciated, the trade deficit and current account gap became unstable, inflationary pressures were created that were troubling the monetary authorities. Foreign debt and real estate prices climbed rapidly every year. In fact, these developments were interpreted in two ways: all this could be a process of convergence towards western countries or, on the other, a credit boom (excessive credit) that could cause “heating of economy”.

Estimates through the Hodrick-Prescott filter statistical instrument point to us that despite some credit boom periods for some countries, one can still come to the conclusion that the region most showed elements of a convergence to the developed European countries. Credit growth was a phenomenon of the “wake up” of the credit market and not a factor in the deterioration of financial and macroeconomic health.

Concerns about a “heating of the economy” were cut off by the appearance of the crisis and seven years since the emergence of the financial crisis this is no longer an issue for the region. From an average growth of credit in the region of 31% a year, we experienced an average of 3.3% credit growth in the region for the period 2009-2014. This rate became normal for a longer period.

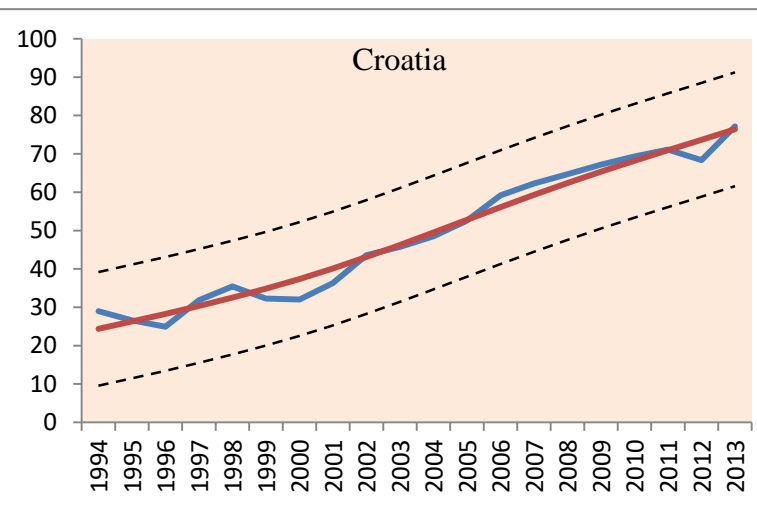
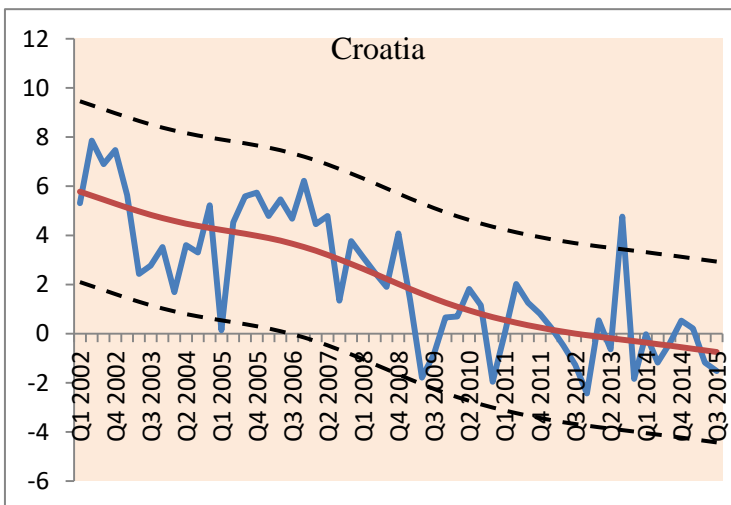
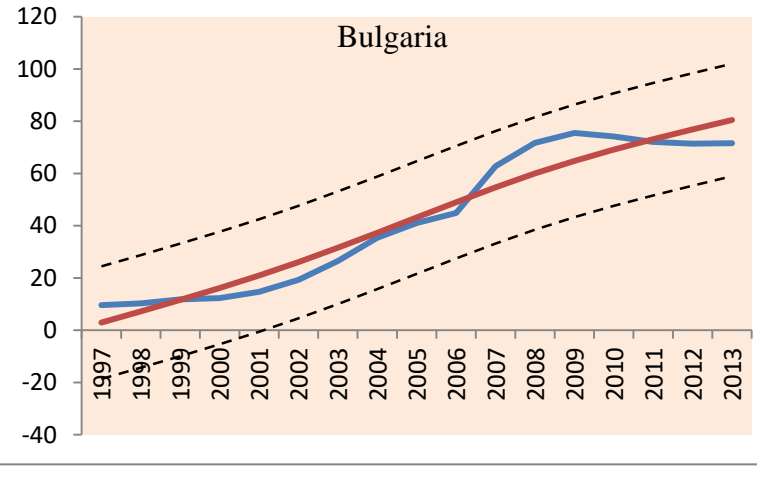
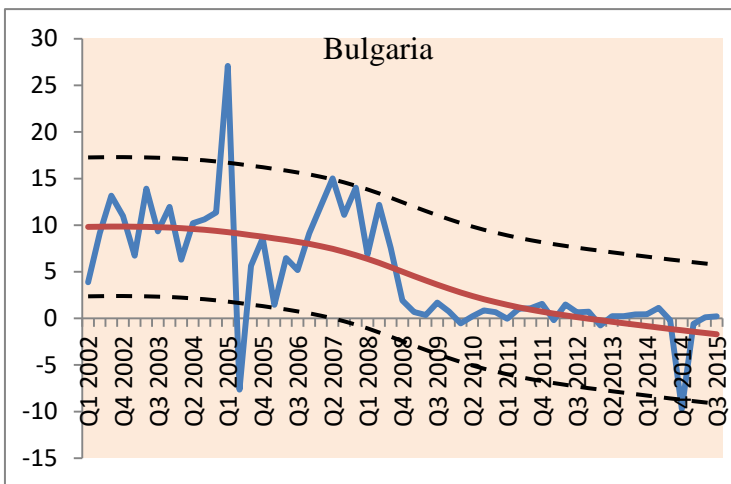
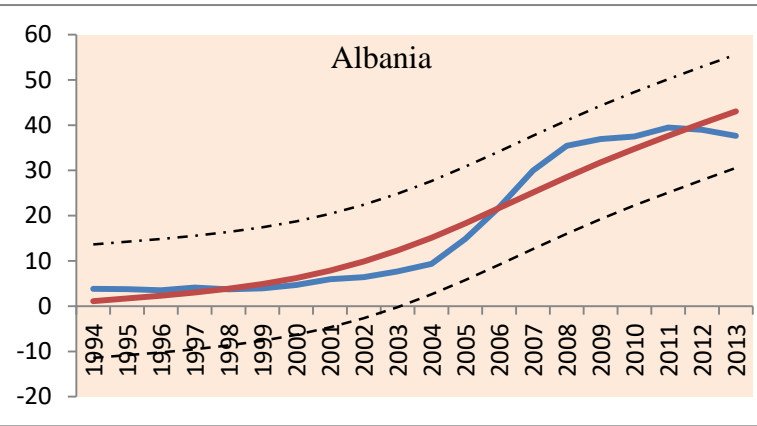
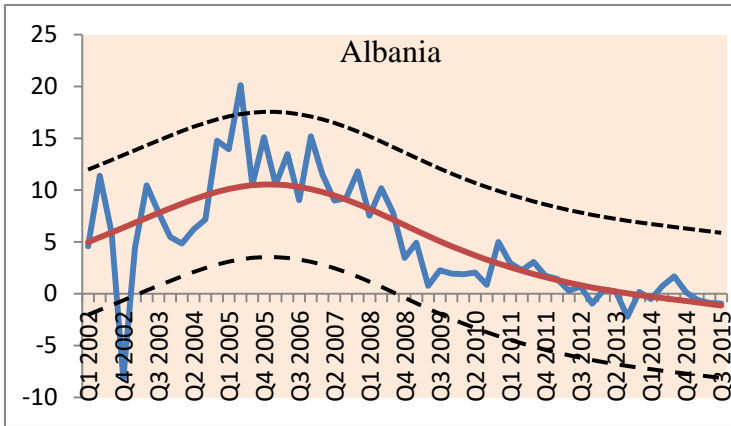
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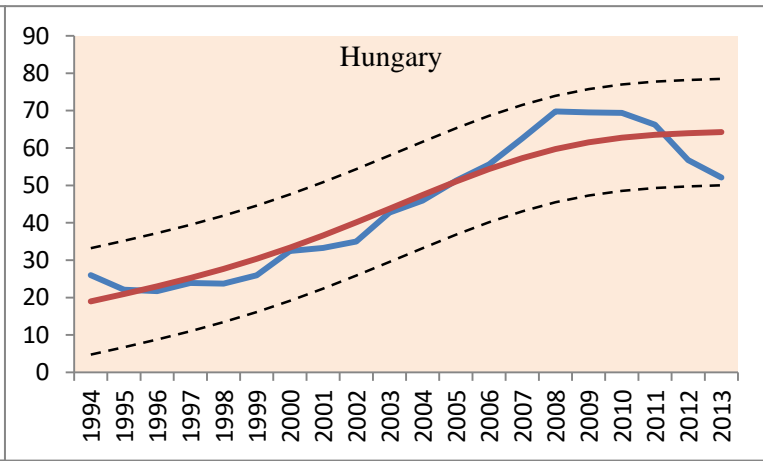
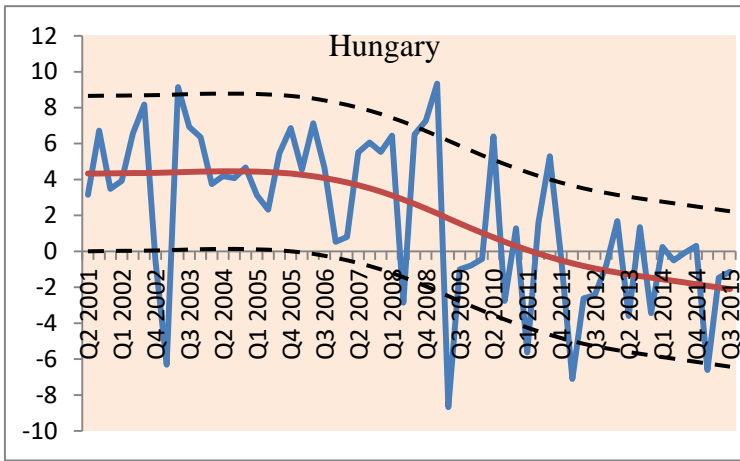
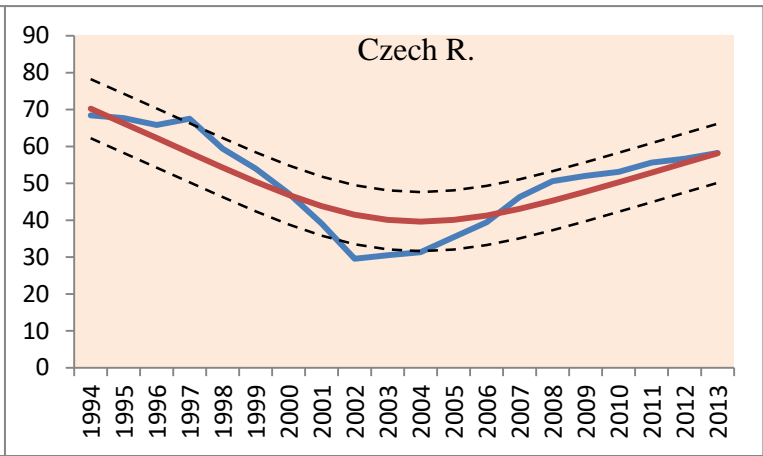
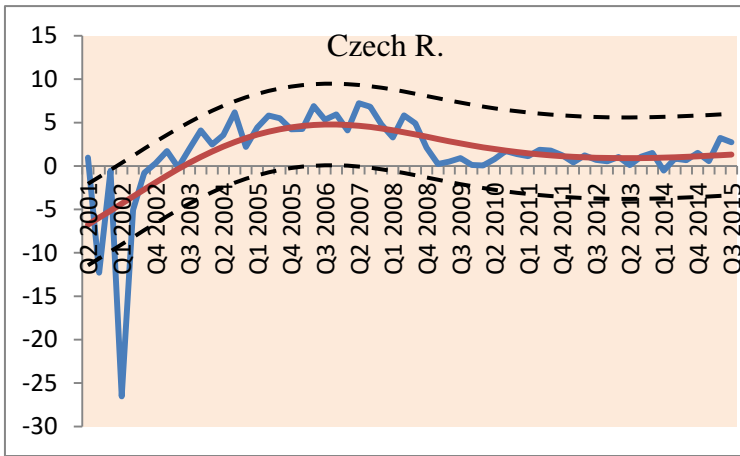
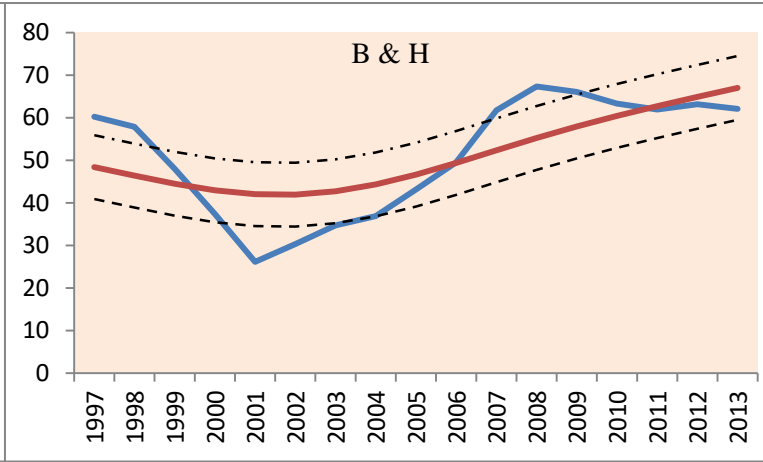
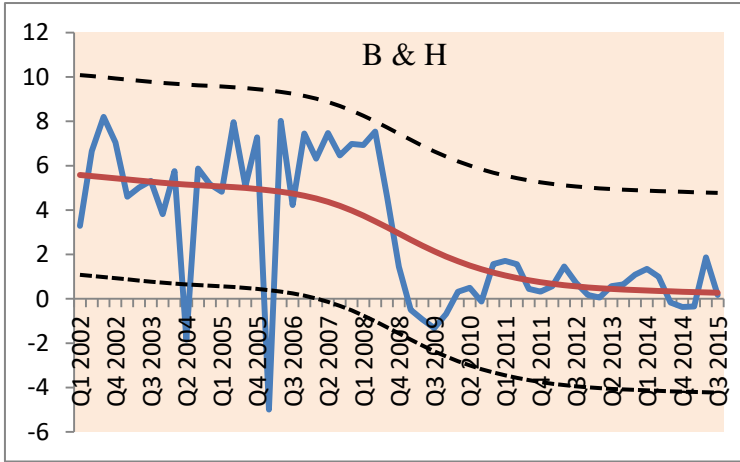
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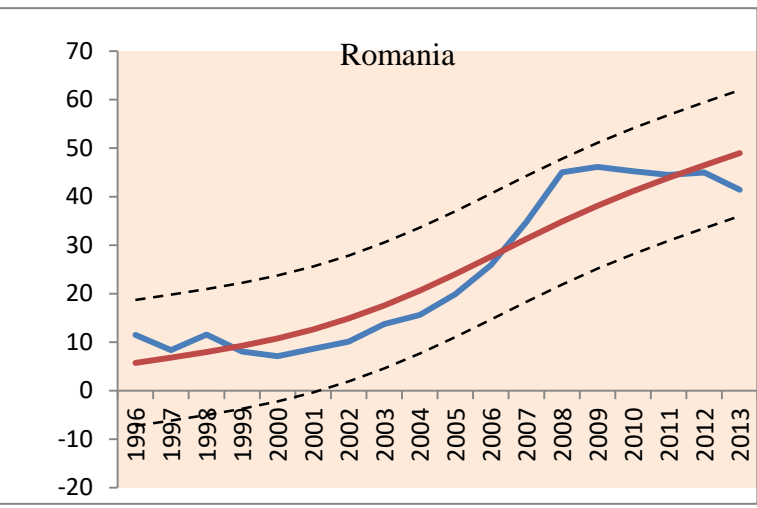
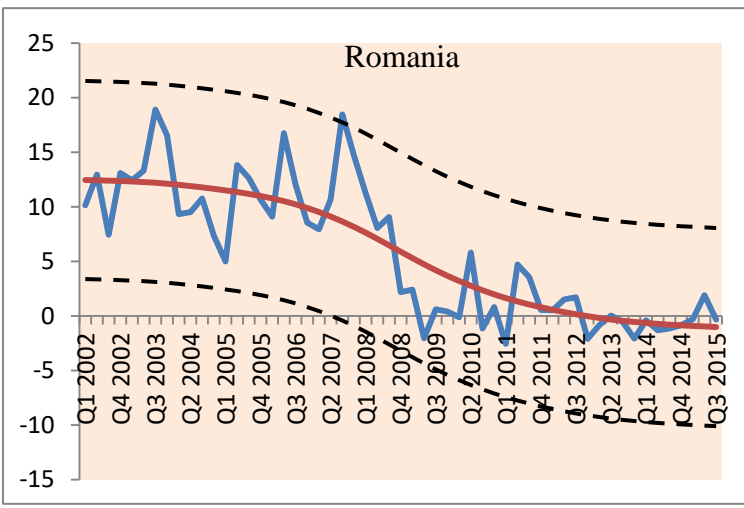
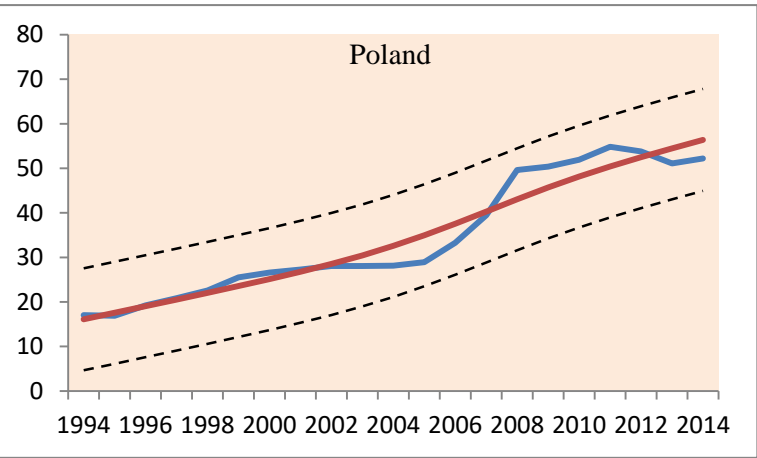
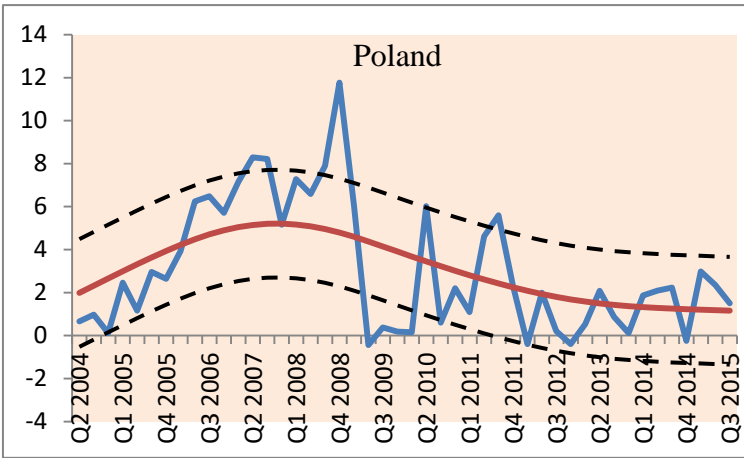
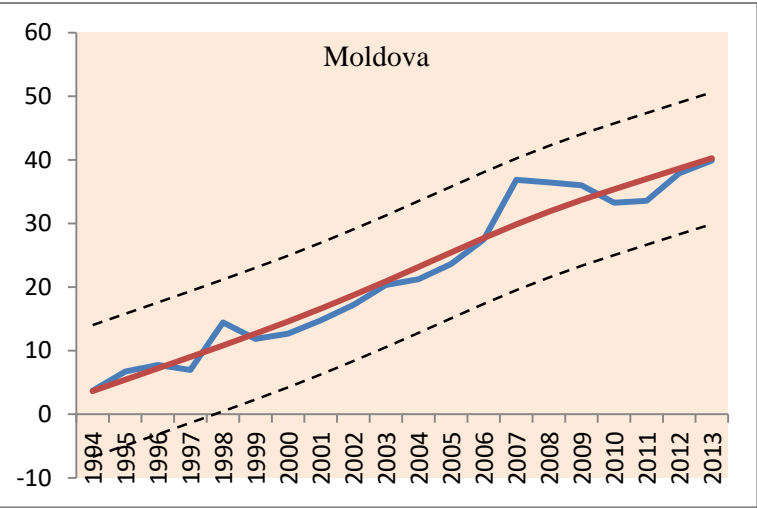
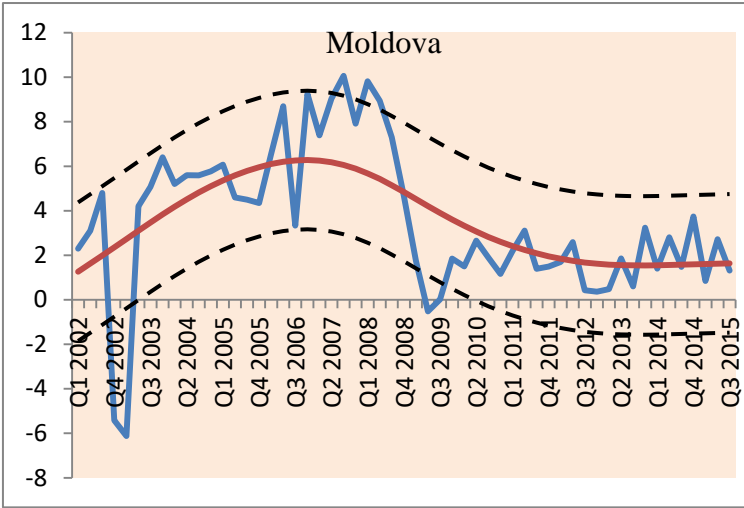
Annex 1. Definition of Credit Booms with Hodrick-Prescott Filter

a) Indicator “credit growth”

b) Indicator “Credit/GDP”







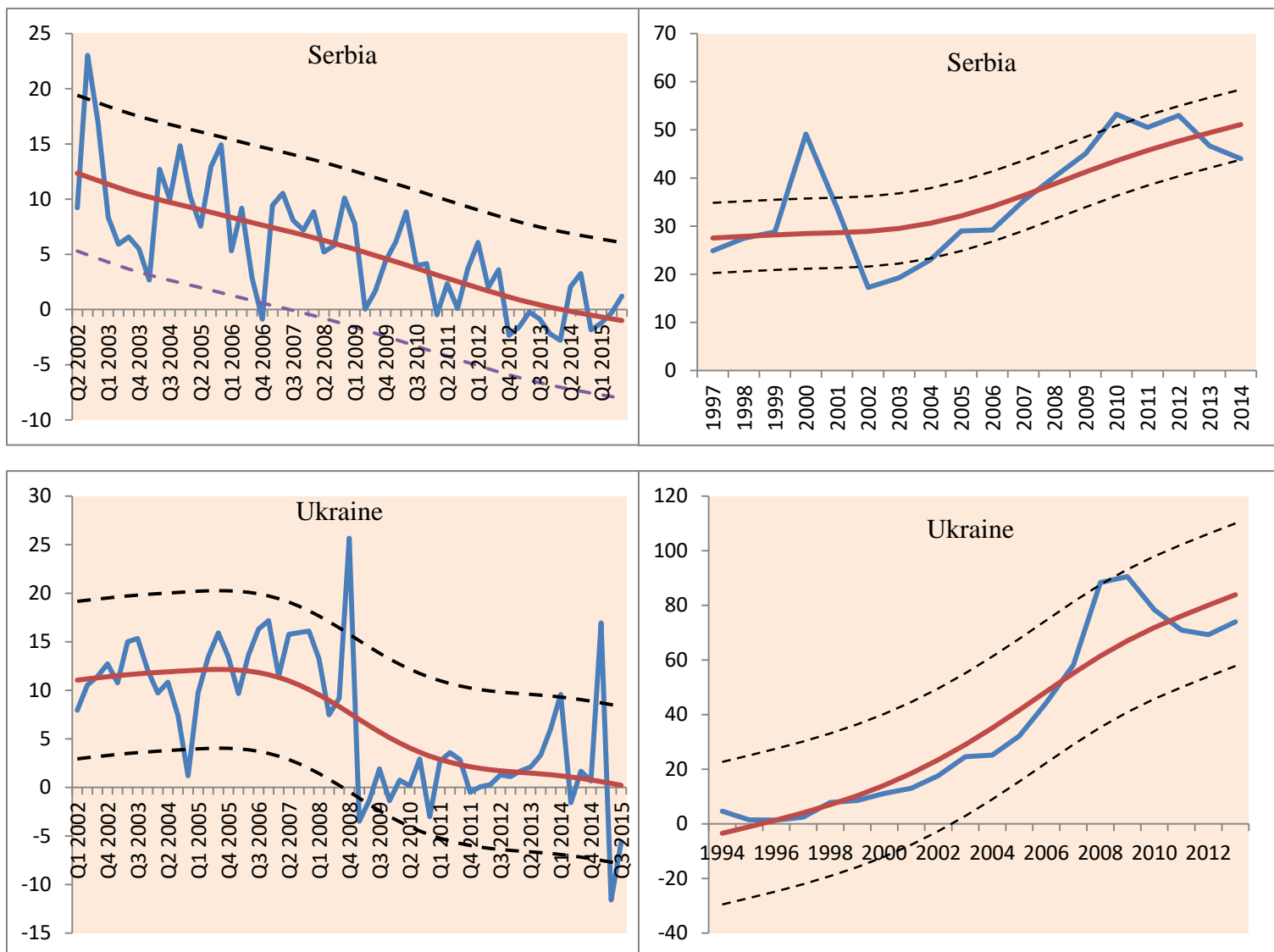


Table 3. Periods of Credit Booms in CESEE According to Indicators

	Credit/GDP	Credit growth
Albania		Q2-2005
Bulgaria		Q1-2005
Croatia		Q3-2013
B & H	1997,2007,2008	
Czech R.	1997	
Hungary		Q4-2008,Q1-2009,Q2-2010,Q3-2011
Moldova		Q3-2007,Q1-2008,Q2-2008
Poland		Q2,Q2-2007,Q3,Q4-2008,Q2-2010,Q3-2011
Macedonia		Q3-2007, Q1-2008

Romani		Q3-2007
Serbia	2000,2010	Q3-2002
Ukraine		Q4-2008,Q1-2015,Q1-2014

Note. Credit booms are observations that exceed their long-term trend for 1.75 standard deviation, 1994: 2013 (credit / GDP), Q12002-Q32015 (credit growth rates).

Source: Author's calculations, based on IMF data, WB data.