PANEUROPEAN
UNIVERSITY

Faculty of Economics and Business
PhD Research Project:

The Impact of Debt Crisis on the Visegrad Economies

FICOVA Antonia

Supervisor: Assoc. Prof. Juraj Sipko

April 30, 2015

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OUTLINE

The global financial and economic crisis has hit most countries of central, eastern and south-eastern Europe (CESEE) harder than other countries in the world, and post-crisis recovery is also generally slower for CESEE countries than in other emerging economies. Viewed in this light, this raises questions about the pre-crisis and post-crisis development model of the region, which was a unique model that resulted in rapid economic growth. Moreover, the vision of EU integration and EU accession talks drove reform and still provide institutional, legal and behavioural anchors for those CESEE countries that are not yet EU members.

First, adoption of the euro led to convergence of interest rates in countries to the levels in core countries, second in combination with rising capital inflows owing to greater financial integration, third set off a consumption, fourth real estate boom in the countries. These factors resulted to *higher growth and increases in government revenue and spending*. On the other hand, appreciation led to a *loss of competitiveness in the countries*, adversely affecting export performance and causing rising current account imbalances. In sum, euro exacerbated intra-European imbalances whose *unsustainability triggered the current sovereign debt crisis*.

1   INTRODUCTION

First of all, we would like to mention subject of *euro versus national currencies in Visegrad countries*. Moreover, Slovakia was the first country in Visegrad which adopted euro as a national currency in January 2009. Due to financial and economic crisis and consequent problems with fulfilling convergence criteria, the Czech Republic, Hungary and also Poland postponed their plans for entering eurozone.

If we look at background, before joining the euro every applicant must satisfy Maastricht convergence criteria[1] of fiscal stability, ensure independence of its Central Bank, achieve low inflation and long-term interest rates and prove monetary stability of national currency by participating the Exchange Rate Mechanism II (ERM II) for a minimum period of two years.

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[1] Maastricht criteria include: Inflation can not be higher more than 1.5 % than the average of the inflation in three member states with lowest inflation. The ratio of the annual government deficit to GDP must not exceed 3 %. The ratio of state debt to GDP must not exceed 60 %. Joining the ERM II for two consecutive years, national currency can not be devalued during this period.

Moreover, in Visegrad only Slovakia, of 19 eurozone countries, adopted euro as a national currency in January 2009. Due to Greek crisis and imbalances posed by economic crisis the countries are increasingly hesitant about adopting euro. Entering the eurozone is no longer absolute priority in Poland. According the Czech president Václav Klaus the whole project of common european currency failed long time ago.

Summary of situation of countries during crisis
CZECH REPUBLIC

Plans for the Czech eurozone accession are vague at the moment because of poor fiscal situation. Early, in 2009 Czech public finance deficit reached 5.9% of GDP which is almost the double of maximum 3% set by Maastricht Criteria. The European Commission launched an excessive deficit procedure against the Czech Republic on 2nd December 2009.

Both major parties: left wing social democrats (ČSSD) and right wing conservatives (ODS) declare that the Czech Republic should be prepared to enter eurozone not later than in 2016. However, while ODS states that "we will be technically ready in 2015" but we must compare "pros and cons" before entering ERM II, ČSSD is unambiguous proponent of the entry in 2015 or 2016 if "economic development allows us to do so".

Plans for the eurozone accession among other parties (smaller but still necessary to form coalition government) are rather vague. Most of them just mentions need to access eurozone without giving further details. On the other hand, in the program of Communist Party (still influential in the Czech Republic) there is no reference to euro.

Besides the fiscal deficit Maastricht criterion, the Czech Republic fulfills all the others. It has relatively low debt (42.57% GDP in Dec 2014), persistently low inflation (0.2% in March 2015) and interest rates (0.05% in Feb 2015). Since the beginning of millennium, the number of opponents has been steadily rising while the share of supporters has been falling.

HUNGARY

According to the Convergence Report published by the European Central Bank (ECB) early on 12 May 2010, the Commission declared Hungary as 'not ready' for the adoption of the euro. Hungary does not match the criteria needed for the adoption. The Hungarian budget deficit is 4.4% of the GDP in Feb 2015, while the figure for public debt is 76.9% in Dec 2014. Inflation rate is -0.6% in March 2015 and interest rate is 1.8% in April 2015.

According to the Commission's 2009 Sustainability Report, further fiscal consolidation has been required for Hungary to comply with the medium-term budgetary objective specified in the Stability and Growth Pact as regards the sustainability of its public finances.

Hungary does not participate yet in ERM II. The forint depreciated strongly between mid-2008 and March 2009, then partially recovered due to the financial assistance led by the EU, the World Bank and the IMF.

Long-term interest rates were 8.4% on average from April 2009 to March 2010, but gradually declined, standing at 7.2% at the end of the reference period.

According to the ECB report, achieving an environment conducive to sustainable convergence in Hungary requires, inter alia, stability-oriented monetary policy and the continued strict implementation of the fiscal consolidation plans.

Hungarian law also does not comply fully with the requirements for central bank independence, the prohibition on monetary financing, single spelling of the euro, and legal integration into the Eurosystem.

Péter Oszkó, finance minister of the previous government said this government did not set a deadline for the euro on purpose, but the goal was to create the necessary macroeconomic conditions for its adoption. The international opinion and analysts appreciate the steps taken in stabilising the Hungarian economy.

Previous Prime Minister Gordon Bajnai mentioned in 2014 as a possible date of the accession to the eurozone, however he declined to declare this as an official date on the same purpose like mentioned before.

Nevertheless, the financial crisis and the example of Greece has raised doubts in the public opinion that the euro would do good to the economy. The biggest

arguments in favour of the country's euro-accession have become non valid. First of all, Hungarian public opinion often mentioned the regulatory side of the euro: people hoped for a clean monetary policy where no secrets are allowed. The example of Greece has shown that also in the eurozone, a government can tamper with economic data.

POLAND

The state of Polish public finances has radically deteriorated due to the economic crisis. As a result, the European Commission has opened excessive debt procedure against Poland in 2009, pushing its government to decrease the public finance deficit to 3% by 2012. Professor Anna Zielińska-Głębocka from the Monetary Policy Council (Rada Polityki Pieniężnej) estimates the fourth quarter of the year 2012 is the most probable date for entering ERM II. Now, the key challenge for Poland is to create a plausible strategy for decreasing public finances deficit under 3%.

The attitude of Poles towards the euro currency has altered significantly due to the Greek economic troubles and in view of similar difficulties threatening Spain and Portugal. Recent survey carried out by Center for Public Opinion Research (CBOS) shows that support for euro adoption has diminished by 24%. Only 41% supports entering the eurozone, while 49% prefers to keep the traditional currency – polish zloty.

Poland does not match the criteria needed for the adoption. The Polandian budget deficit is -3.2% of the GDP in April 2015, while the figure for public debt is 49.9% in Feb 2015. Inflation rate is -0.2% in Feb 2015 and interest rate is 1.5% in April 2015.

SLOVAKIA

Slovakia made the first step of euro accession in December 2005 when it joined ERM II system. The most difficult inflation criterion was fulfilled in august 2007. Eurostat officially confirmed that Slovakia met all the Maastricht criteria in April 2008.

On 7 May 2008 European Commision in its regular Convergence Report on euro readiness gave Slovakia green light for adopting the single currency. Heads of

EU states and governments gave their blessing on 19 June 2008. In July 2008 Economic and Financial Affairs Council (ECOFIN) set conversion rate at 30.126 Slovak koruna to one euro. As the euro celebrated its tenth anniversary, Slovakia joined eurozone on 1 January 2009. In other words, Slovakia recorded a Government Debt to GDP of 53.60%, a Government Budget deficit equal to 2.93% in 2014. The inflation rate in Slovakia was recorded at -0.30 percent in March of 2015.

According to opinion poll Slovaks were worried mainly about a spike in prices, but trusted euro to provide safe haven against consequences of deepening crisis. In fact, euro partially sheltered the economy against disturbances from the currency markets. Due to the fixed exchange rate since July 2008 Slovak koruna was the only currency in the region that has not rapidly weakened against euro. It also made trade much freer.

On the other hand, weak currencies strengthened exporters of non-eurozone countries. Also due to euro adoption in combination with economic crisis and weak currencies Slovakia had to face consequences of "shopping tourism" for its retail sector. Especially during the first half of 2009 Poland, Czech Republic and also Hungary experienced huge waves of Slovaks seeking much cheaper goods in shops and supermarkets abroad.

A year later, the situation is quite different. Greek debt crisis has become a euro crisis. Fears that Greek problems with maintaining debts may spread to other countries knocked euro to historical lows. But weaker euro now benefits Slovak exporters.

Helping Greece to solve its debt problems is primal responsibility of eurozone countries. Thus Slovakia is obliged to participate on Greek aid package but due to coming election it has become a campaign issue. Providing such aid requires changes to laws on the state budget and budgetary principles. At the meantime Slovak Parliament already finished its ordinary schedule.

If we look at macroeconomic highlights according to the report of Ernst&Young (March 2015) the Eurozone recovery is being aided by two forces: cheaper energy and the ECB's quantitative easing program. These factors will

provide a boost to consumer spending, while also easing fears of deflation. Moreover, first, Eurozone GDP growth of 1.5% in 2015 and 1.8% in 2016 according to their report. Second, cheaper energy should boost household incomes by 1.5% in 2015, enabling consumer spending to accelerate. Third, the weak recovery to hold back the ECB from achieving its inflation target of close to 2% both this year and next, they expect inflation to pick up from 1.1% in 2016 to just 1.7% in 2019.

Focus on looking across financial services, Ernst&Young (March 2015) presented in banking industry that Investment banks will take advantage of the strong rise of stock markets in 2015 and 2016. In insurance, growth in non–life insurance premium income will accelerate to 3% by 2017, helped by recoveries in auto and home. They expect consumer credit to expand by 1.5% this year. However, it won't surpass its 2010 peak of €641b until 2019.

We see *unsustainable fiscal policies of countries* in Europe and around tho globe. Moreover, when *growth slows*, so do tax revenues that resulted to making *high budget deficits unsustainable*. For example, on the one hand, debt of Hungary was 76.9% in Dec 2014, so debt were so large that they actually exceed the size of the nation's entire economy, and on other hand the country could no longer hide the problem. If we focus on implications for investors, they responded by demanding higher yields on Hungary's bonds, which *raised the cost of the country's debt* burden. Following Figure 1 provide illustration of european debt.

Figure 1   Overview of European GDP, debt

Source: Author´s according to data from Economist, April 2015

The European Commission is forecasting growth in 2015 of 1.3%, which would be the euro area's best outcome since 2011 when it grew by 1.6%. Still, it's hard to get excited. France and Italy, the zone's second- and third-largest economies, stagnated in the final quarter of the year, see Figure 2 and Figure 3 for more detailes.

Figure 2   Public debt (% of GDP)
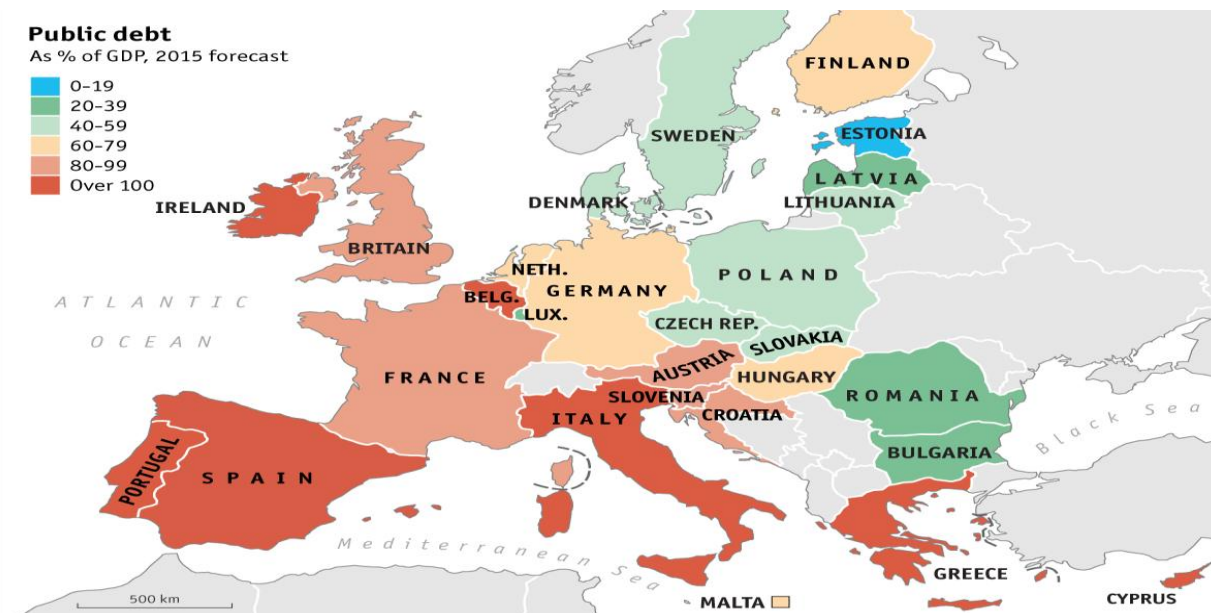
Source: Author´s according to data from European Commission, April 2015

Greece's return to the headlines has the potential to unsettle markets. And fears grow that the 19-member currency club may fall into deflation: *prices are falling in Germany, France and Spain*. The ECB has adopted measures to boost prices and growth, most notably by agreeing to a controversial programme of quantitative easing, but it did so for a reason, according to data from Economist.

Figure 3   Primary balance (% of GDP)

General government primary balance
As % of GDP, 2015 forecast   ■ Euro area   ■ Currency pegged to euro   ■ Floating currency

Greece	
Bulgaria	
Italy	
Portugal	
Hungary	
Ireland	
Malta	
Austria	
Slovenia	
Belgium	
Cyprus	
Latvia	
Lithuania	
Romania	
Luxembourg	nil
Estonia	
Czech Rep.	
Netherlands	
Poland	
Sweden	
Slovakia	
Finland	
Spain	
Denmark	
Croatia	
France	
Britain	
Bulgaria	
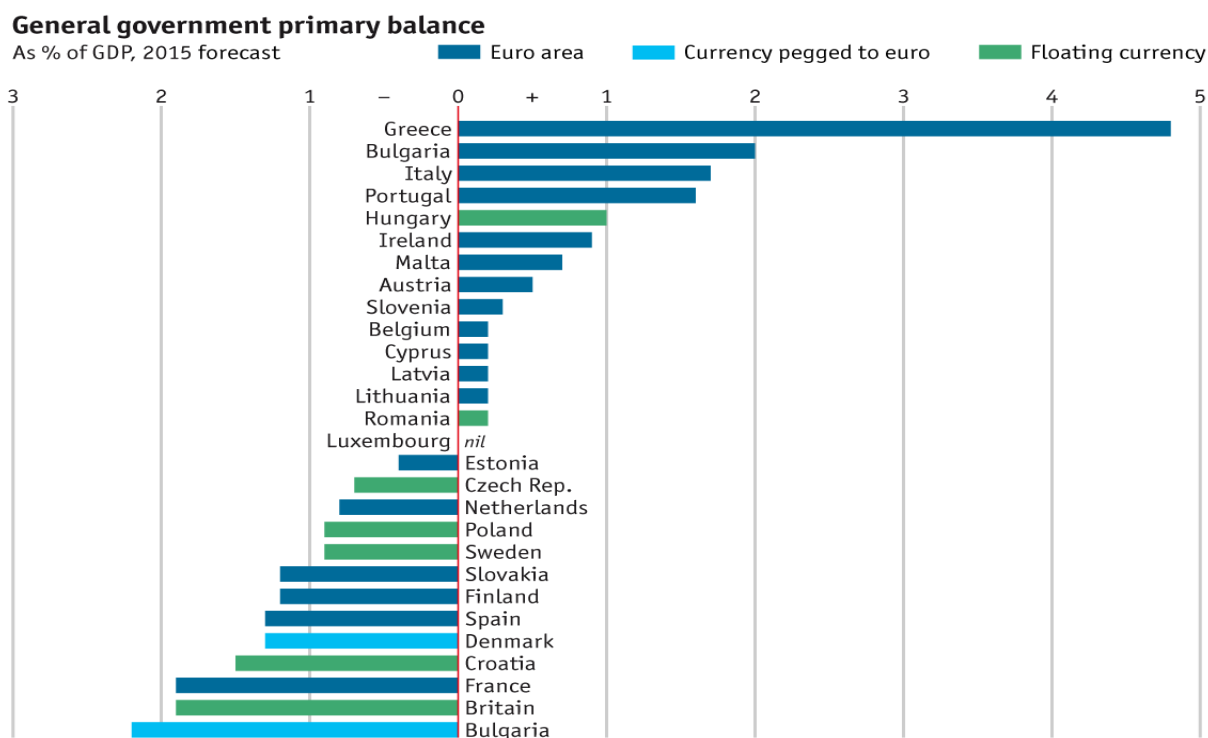
Source: Author´s according to data from European Commission, April 2015

Generally, financial instituions hold on to their reserves rather than extend loans. *Slower loan growth, in turn, could weigh on economic growth and make the crisis worse*. As a result, the ECB sought to *boost the banks' balance sheets* to help forestall this potential issue. However, each investor´s reaction pay attention on news from Europe, moreover *European bank stocks and the European markets*. They performed much worse than their global counterparts during the times when the crisis was on center stage. The bond markets of the affected nations also performed poorly, as rising yields means that prices are falling. At the same time, yields on U.S. Treasuries fell to historically low levels in a reflection of investors' flight to safety.

The political implications of the crisis are especially *cutting expenses to reduce the gap between revenues and expenditure*. Second, the possibility that one or more European countries would be abanddon for the euro. On one hand, leaving the euro would allow a country to *pursue its own independent policy* rather than being subject to the common policy for the 19 nations using the currency. But on the other hand, it would be an event of unprecedented magnitude for the global economy and financial

markets. This concern contributed to *periodic weakness in the euro* relative to other major global currencies during the crisis period.

Real exchange rates and real interest rates

In order to document real exchange-rate movements and to provide an assessment of competitiveness, the left panel of Figure 4 shows the relative price level of GDP compared to a weighted average of 22 industrialised countries. The relative price level is proportional to the GDP deflator-based real effective exchange-rate index, but has the advantage that it has a natural unit of measurement. The relative price level is related to the relative GDP per capita and therefore we have plotted these two variables against each other.

The CE5 group[2] shows a unique pattern of economic catching-up and real appreciation, as the two indicators have gone broadly hand in hand. Real appreciation started to speed up in 2008 (start of debt crisis), when average annual real appreciation would have been even higher without the sharp depreciation that was experienced after the collapse of Lehman Brothers in September. The early appreciation that took place since mid- 2009 has not reached excessive levels so far, though there are obviously differences between the five countries included in this group, since Slovakia and Slovenia are now members of the euro area and nominal appreciation has characterised only the other three countries in more recent periods.

Figure 4 Real exchange rates and real interest rates, 1995-2010
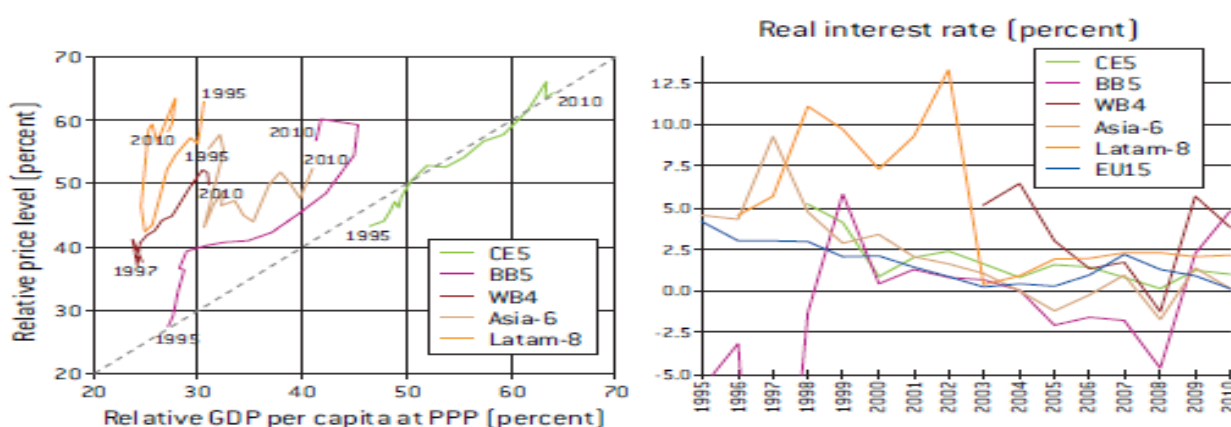
Source: BECKER, T., DAIANU, D., DARVAS, Z. *et al*. Whither growth in central and eastern Europe? Policy lessons for an integrated Europe. 2010. Bruegel blueprint series. ISBN: 978-9-078910-17-6. p. 14

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[2] Central European EU members (CE5) includes: Czech Republic, Hungary, Poland, Slovakia and Slovenia.

The left panel of Figure 4 also offers an interesting comparison between CESEE countries and the Asia-6 and Latam-8 groups. In Asia, real exchange rates fell after the 1997 crisis and were typically kept at depreciated levels despite rapid economic catching-up. The current account surpluses are indeed consistent with depreciated exchange rates. As GDP growth was broadly similar in CESEE countries and in the Asia-6 group, the Balassa-Samuelson effect itself does not explain these differences.

In Latin America, the crises of the late 1990s and early 2000s led to substantial variations in the relative price level, and GDP per capita convergence was negligible. Consequently, real exchange-rate appreciation during the catching-up process is another distinctive feature of the CESEE region's development model. But once again there is substantial variation within the region regarding the speed and the level of real appreciation: the process seems to be sustainable in the CE5 group, but looks excessive in the BB5[3] and WB6 groups.

The right panel of Figure 4 shows short-term money-market real interest-rate developments. As mentioned, nominal interest-rate convergence and higher inflation pushed down real interest rates in CESEE countries, with, again, variation between country groups: in CE5 countries the real interest rate has not declined to negative territory, while in BB5 and some WB6 countries it has. Low real interest rates also characterised Asia-6, but in Latam-8 real interest rates remained much higher.

2   LITERATURE REVIEW

Topic European Debt Crisis has generated attention in the literature for several years prior to 2010, what we summarize below.

Particularly, when the government tries to reduce private debt, this results in *an increase of public debt*. So on the one hand the debt crisis has a significant impact on the Eurozone, as it constantly raises new issues as to its viability and on the other hand the future of the Euro as a common currency as described Blundell-Wingall, Slovic (2010, p.4).

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[3] Baltic and Balkan EU members (BB5) include: Bulgaria, Estonia, Latvia, Lithuania and Romania, (WB6): Albania, Bosnia and Herzegovina, Croatia, Former Yugoslav Republic of Macedonia, Montenegro and Serbia.

The *real consequences* associated with the banking crisis (higher unemployment) describe in general, changes of the current account balance of whatever sign are not necessarily an *indication of imbalances*. Viewed in this light, they may simply reflect intertemporal saving as well as consumption and investment preferences of private enterprises, households and governments presented by Obstfeld and Rogoff (1994). Moreover, *rising prices and unit labour costs* and strong investment could be due to a catch-up of periphery countries within the euro area.

Candelon, Palm (2009, p.3) noticed it may affect government tax revenues, which will shrink, and on the other hand government spending, which will rise, through social security (unemployment benefits) and through measures designed to stimulate global demand. Nevertheless, this automatic stabilizer mechanism deepens the budget deficit and increases the debt. As a consequence, this *restrictive fiscal policy could increase the probability of default for households, increasing the amount on non-performing loans, again putting tensions on the banks' balance sheet.*

Hofmann (2012, p. 2-3) pointed out that a country with unsustainable debt exercises emergency measures to regain sustainability. The goal of economic growth requires measures to increase a *country's competitiveness, that include austerity, default and restructuring, as well as inflation coupled with depreciation of the currency*. On the other hand monetary depreciation caused by expansionary monetary policy, potentially coupled with *Quantitative Easing*, is the easiest way out. As a result, that may raise the country's competitiveness through *boosting exports* and potentially attracting capital lured by cheap production cost. Viewed in this light, a country in a currency union lacks the power to control and enforce these measures. In sum, depreciation of the Euro is simply impossible without detrimentally affecting all of the 17 Euro zone countries that are intractably linked by the same currency.

According to the Nelson (2012), since the global financial crisis of 2008-2009, public debt in advanced economies has increased substantially and number of factors related to the financial crisis have fueled this increase, including fiscal stimulus packages, the nationalization of private sector debt and lower tax revenue.

Reactions to the Crisis

Sobjak, A. (2013) pointed out that a sharp fall in GDP, decrease in exports due to falling demand in the EU, a decline in industrial production and the construction sector and an outflow of capital from the region are common effects of the global crisis on Central Europe (or CE: Slovenia plus the four Visegrad Group countries, which are the Czech Republic, Hungary, Poland and Slovakia). The ensuing drying up of foreign capital has in turn led to a credit crunch and a scramble for liquidity, which mutually fed each other. On the other hand, with the overall slowdown of economic growth and contraction of GDP, unemployment has risen, halting strong job creation dynamics that prevailed during the pre-crisis period. In short, this chain reaction was made possible due to a series of common vulnerabilities in the region's economies. While many of these, such as the credit boom and generally high levels of debt, are shared by fellow Member States, there are a number of common features in the CE economies that have brought about specific problems during the crisis.

First is the highly export-oriented nature of the CE economies, which are open and (with the exception of Poland) small, and thus much exposed to swings in the global economy and demand in the main export markets. This made the region especially exposed during the eurozone debt crisis in 2012, as around 80% of CE exports are directed to the euro area.

However, such flexible exchange rates of national currencies also facilitated the necessary space for adjustment of the Czech, Hungarian and Polish economies, allowing them to react swiftly to the business cycle downturn in 2008–2009. With local currencies depreciating against the euro, export prices became more competitive. This is important, because in contrast those countries from the broader region with currencies pegged to the euro (Latvia, Lithuania and Bulgaria) had a much lesser degree of flexibility. At the same time, those members of the common currency area, namely Slovenia (since 2007) and Slovakia (since 2009), while benefitting from the credibility of the euro and thus avoiding capital outflows, both suffered in terms of competitiveness.

The four Visegrád Group (V4) countries have chosen diverging paths amid the economic turmoil that has raged in Europe since 2007-08, and the outcomes have been very different. The approach to fiscal policy appears to have been the most important factor in determining the overall economic performance of individual countries, while other policy choices have had only a tentative correlation with Gross Domestic Product (GDP) growth. Poland was the only European Union (EU) country that did not see a decline in GDP during the 2008-09 global financial crisis, and its economy has continued to grow steadily despite the ongoing Euro-zone debt drama. While Slovakia, Hungary and the Czech Republic all saw a sharp drop in GDP in 2009 due to plummeting exports, only Slovakia has experienced a quick recovery, returning to its pre-crisis growth levels by early 2011 and continuing to grow steadily into 2012. In contrast, the Czech Republic and Hungary have suffered double-dip recessions and GDP remains below pre-crisis levels, especially in the case of the latter.

So what are the factors that have contributed to these sharp differences in economic performance among the V4 countries? Fisher, S. (2012) provides one explanation that relies on the structure of their economies, where the relative size of the Polish economy *vis-à-vis* its smaller Visegrád peers and its lower dependence on exports for driving growth helped shield it from the 2008-09 crisis. At the same time, the higher share of small- and medium-sized enterprises in the Polish economy allowed for more flexibility. Yet, although economic structure helps to explain Poland's success, it fails to tell us why the other three Visegrád countries have seen such divergent performances. In finding a more comprehensive explanation, other factors such as the countries' exchange rate, and monetary and fiscal policies bear consideration.

The impact of the crisis

Becker, T. *et al.* (2010, p. 18-21) pointed out that until the third quarter of 2008, ie until the collapse of Lehman Brothers, no CESEE countries were hit by the crisis see on Figure 5. In Estonia and Latvia, GDP already started to fall in the first quarter

of 2008, but this was mainly due to domestic reasons: the bursting of the housing bubble and a reversal of the previously unsustainable credit boom.

Figure 5 GDP developments
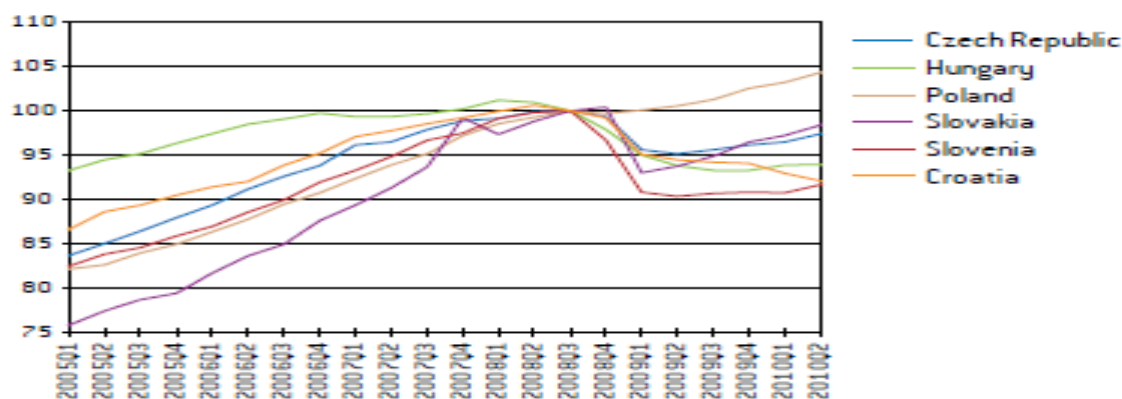
Source: BECKER, T., DAIANU, D., DARVAS, Z. *et al*. Whither growth in central and eastern Europe? Policy lessons for an integrated Europe. 2010. Bruegel blueprint series. ISBN: 978-9-078910-17-6. p. 19

The disruption of financial markets after the collapse of Lehman Brothers, the rapid collapse in global trade and the bearish market sentiment, sent most of the world's economies into a slide. The CESEE region was particularly hard hit: in fact it was the hardest hit (along with former Soviet countries). The economic outlook was revised downward many times (Darvas, 2009b) and GDP fell substantially in several CESEE countries.

In four Asia-6 economies (Korea, Malaysia, Taiwan and Thailand) the recession had a V-shape, and these countries quickly returned to pre-Lehman GDP levels. In the other two, Indonesia and the Philippines, there was no recession at all. In Latin America the recession was generally mild and the recovery seems swift. This contrasts with both the depth of the output fall and the shape of the subsequent recovery in the CESEE countries. Poland has avoided a recession, but in other CESEE countries the speed of recovery was either modest and significantly less than that observed in Asia-6 and Latam-8 countries, or recovery had not yet started by the first quarter of 2010. As a consequence, output is still significantly below its pre-crisis level.

This indicates two questions. First, why have CESEE countries been in general more seriously affected than countries in other regions, even though their financial sectors had not been contaminated by 'toxic assets'? Second, why has CESEE

performance during the crisis been so diversified? Why have Baltic countries recorded a downward revision of forecast 2010 GDP of more than 30 percent, while in Poland it was only about seven percent?

In answer to the first question, the standard explanation emphasises trade and financial integration channels. First, the fall in foreign demand for their exports is supposed to be one major reason for output recession. In other words, CESEE countries are in general much more open than the EU15 and other emerging regions. A second possible answer is the sudden stopping, or even reversal, of the massive foreign-capital inflows that fuelled the expansion of domestic credit in CESEE countries.

Such a huge fall in capital inflows necessitated strong adjustment in domestic demand. In answer to the second question, the differentiated outcomes observed among CESEE countries suggest that they are not a homogenous bloc and that different factors must have been at work in different countries. Indeed, while some CESEE countries have suffered from 'imported' external shocks originating in the US and western Europe, others fell victim to the risky aspects of financial-market integration and, in parts, their own imprudent domestic policies, leading especially to excessive bank lending and external account vulnerabilities, as we have discussed.

Factors of development, it is important to mention following studies. Adam Smith (1776) saw the division of labour as the main source of wealth. The countries that are able to extend the division of labour among their firms and citizens can become wealthier, as they are able to produce a higher quantity with the same labour input. The main finding of the Harrod–Domar model (1947, 1948) is that investments are the key to economic growth. Investments on the other hand are mainly dependent on the savings rate. Around a decade later Solow (1956) pointed out that investments and savings cannot contribute to growth in the long run. In his view, long-term economic growth is driven by technical change. Keynes (1936) suggested crises are generated by limits in demand, and the latter may be strengthened by large income differences. The speculative demand for money of those who are well off can

be especially high, which prevents a substantial part of the income from turning into effective market demand.

2.1   Rationale

This topic has been chosen for the research because there is a gap in the literature on the effects of debt crisis, moreover the global financial crisis on the economy of countries of Visegrad. Most studies conducted in the past focused on the financial industry, international contagion of the global financial crisis and the performance of companies. The effects of the crisis on the economy of V4 countries were mainly limited to studies which explored the changes in financial situations of the countries. This research will contribute to the body of literature by providing the most recent evidence on the effects of the debt crisis on the economy of countries of Visegrad. In other words, impact on households (e. g. consumption), government (HDP/debt, unemployment rate, etc.), firms (banking sector, non-banking sector).

According to this informations from my research, we see impact of debt crisis on V4 countries where are austerity measures needed. We would like to more focus on this issues in countries of V4, as a conclusion we would like to examine and develop this actual subject, so the research will extrapolate findings in succession research.

2.2   Research Objectives

The main aim of the thesis is comprehensive assessment of the impact of the debt crisis of Visegrad economies.

The focus of these research will be on countries of V4 that became *dependent on foreign borrowing*. On the one hand, consider the challenges they face reigniting growth while on the other hand, adjusting to greatly reduced access to foreign capital. We want to examine this subject through methods that are presented in section methodology and data collection techniques.

At this point we present the main goal of thesis as follows:

- to present a comprehensive and critical analysis of debt crisis on the Visegrad economies.

We derived from main goal following partial goals as follows:

- to analyse the causes of the debt crisis, in short to determine the factors that influenced countries of V4 during crisis. In addition to access how debt crisis influenced the real economy, including financial and non-financial sector of the economy.

- to analyse real exchange rate of the euro vs. national curriences of Visegrad countries. In this regard, analysis of the nominal exchangre rate and real exchange rate. In sum, the analysis will focus on level of real interest rate of Visegrad countries. As market participants judged that the value of investments in these countries would no longer be vulnerable to erosion through currency depreciation. It means, *low interest rates*. In sum, that spurred *heavy foreign borrowing by both the public and private sectors in the countries now facing debt crises*.

- to assess capital inflows and daily impact of debt crisis on the productivity on the Visegrad economies.

- to arrive at a conclusion that foreign capital was used to support domestic consumption or housing booms *rather* than productivity enhancing investments.

In order to substantiate the claim put forward under statistical methods and investigate its arguments, the study will make a review of all available literature. After formulating of main and partial goals, we will formulate hypotheses e. g.:

H_0: External factors caused the debt crisis of V4.

H_1: External factors DID NOT cause the debt crisis of V4.

H_0: The debt crisis had impact on the real economy of V4.

H_1: The debt crisis had NO impact on the real economy of V4.

H_0: The real exchange rate affected the competitiveness of V4?

H_1: The real exchange rate DID NOT affect the competitiveness of V4?

H_0: An increase of real interest rates led to capital inflows in V4?

H_1: An increase of real interest rates DID NOT lead to capital inflows in V4?

H_0: Foreign Direct Investments led to increasing of labour productivity and competitiveness of V4?

H_1: Foreign Direct Investments DID NOT lead to increasing of labour productivity and competitiveness of V4?

2.3   Research Questions

The proposed research will contribute at both the theoretical and empirical levels to the enhanced understanding of the linkages between following questions:

Impact of Debt Crisis on V4 Countries:

- Why is fiscal wealth of V4 countries a key issue for financial markets?
- So what are the factors that have contributed to these sharp differences in economic performance among the V4 countries?

The question is, will the crisis have lasting economic effects on the region? Especially,

- Should the region's of V4 post-crisis growth and development model be fundamentally reconsidered?
- What should national authorities and the EU change in order to help the region of V4 and renew process of economic catching-up?
- What are the financial, social implications for exchange-rate policies, fiscal policies, and financial regulation?

I also formulated related notes to questions above as follows:

(i) the ability to exercise *deficit budget policies* and the impacts that these budgets have on macroeconomic variables (inflation, public investments, etc.),

(ii) to what extent can these policies be realistic in the long term,

(iii) the credibility problem of countries that may arise,

(iv) and finally the existing limitations on shaping fiscal policy.

3   METHODOLOGY

Research is defined by Saunders as: „the systematic collection and interpretation of information with a clear purpose, to find things out." (Saunders et al., 2003). The Research may follow a „*Deductive Approach*" by testing the theoretical propositions with the adoption of suitable testing methods or an „*Inductive Approach*" by collecting relevant empirical data and evolving the necessary theories based on the data collected.

Data sources can be described as the carriers of data (information). There are to types of data sources according to Ghauri et al., 1995: First, *primary data* (field) is collected specifically for the research project. This will be in form observations. Second, *secondary data* (desk) is collected by others. These include academic and non-academic sources.

It is important to mention, that the design of the research is shaped by its philosophy, approach and strategy. Viewed in this light, this investigation is guided by the philosophy of positivism, which suggests that logic, deduction and statistical or scientific analysis are the sources of knowledge. Nevertheles, this philosophy is contrasted to interpretivism, which views social reality as a dynamic system that cannot be analysed using quantitative methods and different interpretations can be given to the reality. In short, this thesis will be approached using deduction, which implies a testing of the theory or hypothesis and is used to validate empirical observations with scientific methods. On the other hand, this approach is contrasted to induction, which is generally used for building a theory. This strategy has been preferred to such alternatives as the case study and action research because the survey allows for collecting multiple observations in a rather short period of time. Moreover, this strategy is consistent with a deductive approach and positivism, which will allow for the quantitative analysis of the data to answer the research questions.

The research methodology will be focused on two main objectives: First, comprehensiveness of research and second accuracy of information. To ensure comprehensiveness, we will survey multiple sources, primarily relying on

established business and financial databases but employing also press-releases, published news, reports and many other data sources. To ensure accuracy, we will follow a strict process for capturing deal information and we will establish a clear hierarchy of sources, based on my best estimate of reliability.

This thesis will provide some basic social and economic statistics from the Visegrad countries. Tables will be regularly updated on quarterly basis. In short, data will compare social and economic indicators (e. g. variables of inflation rate, interest rates, government sector deficit, change of exchange rates, PPP) of four countries in the region with EU and Eurozone average (one country in the region - Slovakia - is the Eurozone member).

The methods that will be deployed in my research we formulated as follows: qualitative and quantitative analysis, comparative research, that requires active intervention by the researcher, and it is necesary for exclusive answers of asked questions. Statistical software, Eviews, R, SAS will be used to estimate the descriptive summary statistics of the macroeconomic factors, cross-tabulations of responses, OLS, ANOVA, etc. Regression analysis is then applied to the data to assess the statistical significance of the factors that determined household, governments, firms behaviour during the debt crisis.

We will formulate testing hypothesis related to research questions that will be examining through e. g. The 'Student' t-test, Chi-test, method of least squares MLS, analysis of variance ANOVA by using softwares Eviews, SAS, R.

We would like to use rating analyses fundamental quality of a rated subject, security and debt, due to fact that rating is a basic aggregate indicator of economic situation of rated country.

According to Juselius, MacDonald (2000), when applying cointegration analysis to a system of variables made up by home and foreign inflations, home and foreign long-run interest rates and real exchange rate, we should find two stationary relations combining the parities, and three non stationary relations, the common stochastic trends, representing the forces driving the system: the first corresponding to a trend in inflation rates, the second a trend measuring the relative impact of

different monetary policies between the V4 countries, and the third a trend reflecting the role of the euro as a reserve currency.

The question of primary interest we would like to address also, on the basis of empirical analysis, is whether there is any evidence that a certain degree of sustainable economic convergence towards the eurozone economy, has been achieved by the Visegrad-4 countries. There are three potentially interesting cases that can emerge: the case of absolute convergence, the case of relative convergence and the case of convergence in act, corresponding to a situation where there are clear signals towards convergence. The idea we have is that the case of relative convergence corresponds to a significant constant present in the cointegrating relations, implying an equilibrium mean different from zero, while convergence in act corresponds to the case where a significant trend is present in the cointegration space, implying a linear trend in the levels of the variables, which does not cancel in the equilibrium relations, that is, the model contains trend-stationary cointegrating relations. In sum, we will provide the econometric models with particular attention to the deterministic components, constant and trend.

In terms of growth, as the measurement of the phenomena economics usually deals with is problematic anyway, the most popular, formalised growth models (e.g. Domar, 1947, Harrod, 1948, Solow, 1956, Romer, 1986, Lucas, 1988) concentrate on the national income or on its per capita version. These models therefore map the problem of growth/development through the quantitative change of a single indicator, so they offer tools to analyse the problem of growth, the narrower category.

On the other hand, we would like to use the *balance sheet approach* (BSA) that identifies next to the central bank three important balance sheets, associated respectively with the *financial sector (banks), the non financial sector (firms and households), and the external sector*. Theoretical models of financial crisis combine dynamic relationships (as uncovered interest rate parity, money demand[4])

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[4]   The determinants of real money demand are real domestic income, assumed to be exogenous, and nominal domestic interest rates. Purchasing power parity links the ratio of the domestic and the foreign price level to the nominal exchange rate. Uncovered interest rate parity relates the domestic to foreign nominal interest

representing a flows approach, and accounting quantities (such as debt, foreign reserves) indicating stock variables, and reported in balance sheets of the government and the central bank.

We would like to use he FOI model, however, is based on a three-dimensional structure. These three dimensions are:

- F, i.e. the future potential of a country, includes: Social responsibility, Industrial disputes, Energy infrastructure, Total public expenditure on education per capita, Healthy life expectancy, Total expenditure on R&D per capita,

- O, i.e. the outside potential of a country, Trade to GDP ratio, Country credit rating, Exchange rate stability,

- I, i.e. the inside potential of a country. Burden of government regulation, Quality of life, Collected total tax revenues, GDP (PPP) per capita, Real GDP Growth, Ease of access to loans, Skilled labour.

3.1   Data Collection Techniques

If we look at variables, direct indicator of a debt crisis would be an important increase in the ratio of public debt to gdp. Beyond a certain threshold, one would conclude that a country is facing a problem in financing the debt service. I would like to use following variables (debt and competitiveness indicators) of countries such as external debt, imports growth, exports growth, external payments position, reserves to imports, capital account openness, public expenditure (as a proportion of GDP) and the saving rate, Gross domestic savings (% GDP), Household final consumption expenditure (annual % growth), Population aged 65 and above (% total population) etc. by testing F-tests, T-tests, P-tests, OLS estimation, analysis of variance (ANOVA) as I mentioned in previous section, to study whether there are significant differences across countries.

The macroeconomic development paths are derived with the FOI model (focusing on the future, outside and inside potentials of V4 countries). The FOI-indices are calculated for V4 countries, and then a factor and cluster analysis will be conducted, with the help of which it is identified that the Visegrad countries have all

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rate differential to the expected nominal exchange rate change, where expectations are assumed to be model-based.

chosen an outward focused development path. In terms of the heavy reliance on outside resources, and forces the domestic firms to face tough international competition even in local markets. Moreover, common characteristics include the extreme openness of their economies, the excessive reliance of outside resources (capital and technology), policies that favour foreign direct investors, a dual economic and social structure. The outward focus affects local corporations as much as foreign ones. Due to the openness of their economies, local corporations have to face fierce international competition even in domestic markets.

Specifically, if we look at public debt of V4 that have been mentioned earlier, I would like to determine by the following accounts by using empirical analysis: (i) loans and bonds from foreign countries in euro and in foreign currency, (ii) loans expressed in foreign currency, (iii) loans and debts in gold, (iv) government treasury bills.

We would like to also use following variables, financial deepening, costs/income, interest margins, ROA, Z-Score.

3.2   Information Sources

The following range of information sources will be consulted: printed and online Journals related to the subject, Online Gateways and Databases (e.g. Proquest, SSRN, JSTOR, Emerald, Elsevier, NBER, etc.), academic working papers, data from institutions such as World Bank and Eurostat, OECD, United Nations Data, the IMF, the CIA World Factbook and other reliable and authentic sources will be used to collect secondary data and information.

4   TIMELINE

Following figure provides potential timeline of my research.

Activity	Words	Duration (Months)
Full proposal	7 000	3 months
Literature review	20 000	6 months
Methodology	15 000	6 months

Data gathering		12 months (overlapping with methodology)
Data analysis	20 000	8 months
Conclusion and implications	15 000	4 months
Introduction	5 000	2 months
Amendments and revisions		2 months

Total (excl. proposal)   75 000 (approx. 190pages) 36months (3 years)

5   OUTCOMES

In terms of findings and analysis, the findings are expected to reveal significant changes in *financial sector (banks), the non financial sector (firms and households), and the external sector* behavior. This thesis will show approach of V4, reactions during debt crisis, impact on economies, moreover how the spending patterns of the households, governments, firms changed.

In the terms of discussion and conclusion, this thesis will discuss the findings of the research in light of the reviewed literature and theoretical frameworks, especially of Visegrad countries. The results are expected to be consistent with the previous research conducted in a similar context.

However, differences can be expected since the studies use different methodologies and different data to achieve the results. The discussion of results is followed by the conclusions in which the research question will be answered and all aims and objectives addressed.

In the terms of implications, this thesis has implications for both financial and non-financial sector. The results will be used by households, governments, firms to develop new approaches to reduce impact of debt crisis on the economy of V4. The final section of the chapter will provide recommendations to businesses, governments on how to achieve and stabilize situation during the period of debt crisis, especially in distress. Limitations and future recommendations for academic research will be outlined.

The intended final outcomes of the research will be: By theory, *Keynesian theorist* can fiscal stimulus such as deficit spending so can re-start economies and that

when growth resumes, tax revenues will re-pay money borrowed to jump-start the economy. On the other hand, according to *Neo-Keynesian policy* on debt seems to indicate that bail-outs are better than allowing market forces like insolvency and deflation. By potential outcomes in my research, we will see if outcomes agree or disagree with theories that have been mentioned above.

6   POTENTIAL DIFFICULTIES

The researcher might face various difficulties during the research regarding the authenticity of sources, reliability and validity of collected information, completing the research in *limited time and cost.*

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Information about author:

Antonia Ficova

PhD candidate at Faculty of Economics and Business

Tematinska 10, Bratislava, 85105

antoniaficova@zoho.com

+421 918 216 381

Overview of Publications

Ing. Antónia Ficová- Personal Bibliography

ADE Vedecké práce v ostatných zahraničných časopisoch

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2
ADF Vedecké práce v ostatných domácich časopisoch
2
AFC Publikované príspevky na zahraničných vedeckých konferenciách
2
AFD Publikované príspevky na domácich vedeckých konferenciách
3
AFG Abstrakty príspevkov zo zahraničných vedeckých konferencií
1

Spolu: 10

Štatistika ohlasov:
Spolu: 0