

The Evaluation of Recession Magnitudes in EU Countries during the Global Financial Crisis 2008-2010

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Abstract:

The aim of the article is to compare 2008-2010 recessions in individual EU countries. For the comparison a new quantitative measure – *recession magnitude scale* – is used. The scale is derived from (negative) quarterly GDP growth rates during a recession and its duration. Moreover, recessions are classified on the basis of their magnitudes into one of four categories: minor, major, severe and ultra. The strongest recession (of severe category) took place in Latvia, Estonia, Lithuania and Ireland, while the majority of EU countries experienced recessions of major category. Magnitude of Greek recession will be evaluated after the end of the ongoing event. The weakest recessions in EU occurred in France, Malta and Cyprus (the only recession of minor category). A comparison of EU's recession with the US Great Depression in the 1930s revealed that the recent crisis was more than eight times smaller than that of 1930s. Furthermore, it was found out that recession magnitudes in EU countries were positively correlated to the countries' economic growth prior to the recession and this relationship was statistically significant at 0.01 level.

Keywords: European Union, global financial crisis, recession, recession classification, recession magnitude.

JEL: C 23, E32, O52.

1. Introduction

The global financial crisis that started in summer 2007 in the USA is an unprecedented event in the world's post-war economic history. Its size and depth is often compared to the Great Depression of the 1930s, that's why it was dubbed 'the Great Recession' by some experts (Arpaia and Curci, 2010). The crisis had some common characteristics with recessions of the past: it was preceded by long period of rapid credit growth, low risk premiums, abundant availability of liquidity, strong leveraging, soaring asset prices and the development of bubbles in the real estate sector (Buti, 2009).

The crisis was triggered by an acute liquidity shortfall among financial institutions, but a collapse of a financial sector seemed largely unlikely at the beginning. However, situation changed after bankruptcy of major US investment banks Merrill Lynch and Lehman Brothers on 14th and 17th of September 2008 respectively. Investors liquidated their assets, stock markets dramatically dropped and a downturn spiral began to whirl. During a few months many banks, especially in the USA, followed the fate of Lehman Brothers¹. This development led to a fall of large financial institutions around the globe or their bailout by national governments; some countries found themselves on the brink of financial breakdown too.

In the European Union, the recession started in the 1st quarter of 2008 in Estonia, Ireland, Latvia and Sweden (Eurostat). European Union as a whole fell into a recession in the 2nd quarter of 2008 and returned back to the growth after more than one year in the 3rd quarter

¹ According to the Federal Deposit Insurance Corporation (FDIC), more than 300 banks were closed in the USA during 2009 and 2010 (<http://www.fdic.gov/bank/individual/failed/banklist.htm>).

of 2009. During 2010, the majority of EU countries returned to the economic growth as well, with exception of Greece and Ireland. During the crisis, EU's GDP contracted by approximately 5.5 % when compared to the GDP level prior to the recession (Eurostat). The unemployment in EU was the lowest (6.8 %) in the 2nd quarter 2008, but reached almost 10 % in November 2009 (Arpaia and Curci, 2010). The EU's reaction to the economic downturn was to stabilize, restore and reform of the banking sector and to launch the European Economic Recovery Plan (EERP) in December 2008 based on two pillars: to boost demand and stimulate confidence by a major injection of purchasing power (1.5 % of EU's GDP) into the economy, and to reinforce Europe's competitiveness in the long term (Communication from the Commission to the European Council - A European Economic Recovery Plan, 2008). The overall fiscal stimulus from EERP amounted to 5 % GDP of EU (Buti, 2009). Many EU countries adopted their own anti-crisis policies that included cuts in government spending, reforms of the banking and public sector, and revisions of pension and tax systems. During 2009 and 2010 EU provided a massive financial aid² to Greece's and Ireland's indebted economies. For a detailed analysis of the crisis causes or consequences see e.g. Arpaia and Curci (2009), Buti (2009), Newson (2009) or Remond-Tiedrez (2009).

However, crisis impacts in EU were not distributed uniformly through its member states. Many experts (Krugman, 2008 and IMF Survey Magazine, 2010) noticed that the most suffering countries included that of Baltic region (Latvia, Lithuania and Estonia), Ireland and Greece. After a short recovery during 2010, many EU countries, especially from European periphery (Southern Europe, Balkans), fell into another recession in 2011 or 2012, and these recessions were still in progress during the beginning of 2013, so their evaluation would be possible after their end.

This paper focuses on a comparison of recession magnitudes in individual EU countries. Recessions are often compared by various macroeconomic indicators such as GDP decline, duration, unemployment rates, fall of industrial production, downturn of stock market indices, decrease in trade volumes or real personal income and many others (Moore, 1967, Barufaldi, 2008, Gascon, 2009, or Eichengreen and O'Rourke, 2010). Mutual dependence of economic indicators during business cycles in European countries was studied, for example in Falk, Sinabell (2009), Mielcova (2010), or Gaggl et al (2009). The recent global financial crisis is often compared with the Great Depression from the 1930s, which represents a standard of a severe economic recession, sometimes with contradictory results (see e.g.: Barufaldi, 2009, Buti, 2009, Eichengreen and O'Rourke, 2010). The problem of a recession comparison inheres in the fact that usually many indicators are involved, hence direct comparison of recessions' strength is in general inconclusive as one recession may be evaluated worse by one indicator but better by another. The use of a recession magnitude scale presented in Section 2 provides a possible solution to this problem.

The aim of the article is to compare 2008-2010 recessions in individual EU countries. For a comparison a new quantitative measure, *magnitude scale*, is used. Moreover, the magnitude scale enables to introduce a qualitative scale of recession magnitudes with four categories: minor, major, severe and ultra. Both scales are utilized to evaluate recessions' magnitudes of EU countries during the latest global financial crisis.

The paper is organized as follows: in Section 2 recession magnitude scale and recession classification is introduced, in Section 3 the data for a comparison are provided and results of the comparison are presented in Section 4; Conclusions close the article.

² The EU-IMF financial package for Greece' economy reached 110 billion euro (IMF Survey Magazine, May 9, 2010) and 85 billion euro for Ireland (IMF Survey Magazine, December 16, 2010).

2. Recession magnitude

2.1. Recession magnitude definition

A recession is defined as a period when GDP declines for at least two consecutive quarters. Hence GDP decline and recession duration are the most important and also the most cited indicators relevant to the recession magnitude. The measure of the recession magnitude was introduced by Mazurek and Mielcová (2013):

DEFINITION: Let D be the number of consecutive quarters with negative quarterly changes in real GDP. Let p_1, p_2, \dots, p_D be (negative) percentage changes from the preceding period in real GDP for the respective D quarters, $|p_i| < 100$. Let the mean percentage decline G of real GDP for the respective D quarters be given as:

$$G = 100 - \sqrt[D]{\prod_{i=1}^D (100 + p_i)} \quad (1)$$

Then the recession magnitude scale is a mapping $(D, G) \rightarrow M$ such that:

$$M = \log_2(10DG) = \frac{\log(10DG)}{\log 2} = \frac{\log D + \log G + 1}{\log 2}, \quad (2)$$

$$\text{where } D \geq 2 \text{ and } G \geq 0.1. \quad (3)$$

Constraints (3) result directly from the definition of recession and from the convention of using one decimal place in GDP growth rates values. The value of M for the lowest possible values of D and G is equal to 1. Moreover, (2) implies that M increases by 1 point ('one order of magnitude') if D doubles and G isn't changed and vice versa. A recession with the magnitude $M = 5$ is twice as strong as a recession with the magnitude $M = 4$.

The mapping $(D, G) \rightarrow M$ enables recession comparison: we say that a recession r is bigger (smaller) than a recession s if and only if the magnitude of the recession r is higher (lower) than the magnitude of a recession s . More formally, for every pair of recessions r and s a comparison binary relation " \prec " ("is smaller or equal to") is introduced:

$$r \prec s \text{ if } M(r) \leq M(s) \quad (4)$$

If only yearly GDP growth rates are available, relations (1) to (3) can be easily modified so that a duration D of a recession is given in years and G is equal to the geometric mean of annual GDP growth rates; $D \geq 1$ and $G \geq 0.1$. However, the use of quarterly GDP data is more precise because the period of a recession given in years may not describe its actual duration accurately.

2.2. Recession classification

The existence of the recession magnitude scale allows defining several classes of recessions with respect to their magnitudes. The categories are as follows (Mazurek a Mielcová, 2013):

- *Minor recession* ($1 \leq M < 5$): Recessions of this category typically last for only two or three quarters and mean quarterly GDP decline is up to about 1.5 %.
- *Major recession* ($5 \leq M < 7$): Major recessions usually last from 2 to 4 quarters with mean quarterly GDP growth rates decline between 1 % and 3 %.
- *Severe recession* ($7 \leq M < 9$): Severe recessions typically last for 1-2 years with mean quarterly GDP growth rates decline from 3 % to 5 %.
- *Ultra recession* ($9 \leq M$): Ultra recessions last for several years and GDP growth rates can decline by 20-25 % annually

3. The data and data sources

For the comparison of EU countries' recession magnitudes Eurostat's quarterly GDP growth rates series adjusted for inflation and seasonality were used. The GDP growth series end in the 2nd quarter of 2010. Due to possible later GDP revisions all the data for EU countries are provided in Table 1. For a comparison of EU's recession magnitude with the magnitude of the US Great Depression in the 1930s yearly GDP growth rates from the US Bureau of Economic Analysis (BEA) were used and are presented in Table 2. For a linear regression in Section 4.3 annual GDP growth rates from Eurostat were used and are shown in Table 5.

Country/union	2007Q4	2008Q1	2008Q2	2008Q3	2008Q4	2009Q1	2009Q2	2009Q3	2009Q4	2010Q1	2010Q2
EU	0.5	0.6	-0.3	-0.5	-1.9	-2.5	-0.3	0.3	0.2	0.3	1
Belgium	0.2	0.8	0.5	-0.4	-2.2	-1.7	0.1	1	0.4	0	0.9
Bulgaria	2.1	1.5	1.3	1.4	0.6	-6.3	-0.1	-0.1	-0.2	-0.5	0.5
Czech Rep.	1	0.3	0.7	0.2	-0.7	-3.8	-0.5	0.5	0.5	0.4	0.9
Denmark	0.6	-1.4	0.9	-0.8	-2.3	-1.8	-2.2	1	0.2	0.7	1
Germany	0.2	1.4	-0.7	-0.4	-2.2	-3.4	0.5	0.7	0.3	0.5	2.2
Estonia	0.4	-2.2	-1	-2.7	-5.7	-5.6	-3.7	-1.4	1.4	1.1	1.9
Ireland	3.2	-2.5	-1.9	-0.3	-4.8	-2.5	-0.3	-0.2	-2.7	2.7	-1.2
Greece	0.5	0.7	0.6	0.1	-0.7	-1	-0.3	-0.5	-0.8	-0.8	-1.8
Spain	0.6	0.5	0	-0.8	-1.1	-1.6	-1.1	-0.3	-0.2	0.1	0.2
France	0.2	0.5	-0.7	-0.2	-1.6	-1.5	0.1	0.3	0.6	0.2	0.6
Italy	-0.4	0.4	-0.7	-1.1	-2	-2.9	-0.3	0.4	-0.1	0.4	0.5
Cyprus	1.1	0.8	1.2	0.2	-0.1	-1.1	-0.9	-0.5	-0.3	0.4	0.6
Latvia	0.9	-3	-2.2	-1.1	-4.2	-11.6	-1.5	-3.2	-1.2	0.9	0.8
Lithuania	1.7	0.2	0.5	-1.2	-1.2	-13.7	-1	1	1.3	-4	3.2
Luxembourg	0.8	0.5	-0.2	-2.2	-2.1	-2	-2.4	4.5	1.2	-0.3	-0.3
Hungary	0.6	1	-0.3	-0.9	-2.1	-2.9	-1.3	-0.6	0	0.6	0
Malta	0.9	1.1	1	0	-1.4	-1.9	-0.1	1.2	1	1.4	0.1
Netherlands	1.4	0.8	-0.2	-0.4	-1.2	-2.4	-1.2	0.6	0.6	0.5	0.9
Austria	1.1	1.3	0.4	-0.6	-1.5	-2.3	-0.8	0.6	0.4	0	1.2
Poland	2.2	1.4	0.8	0.7	-0.3	0.4	0.5	0.7	1.2	0.7	1.1
Portugal	0.9	0.1	-0.1	-0.7	-1.4	-1.8	0.6	0.3	-0.1	1.1	0.3
Romania	3.2	3.8	1.5	-0.4	-2.2	-4.1	-1.5	0.1	-1.5	-0.3	0.3
Slovenia	0.8	1.7	0.7	0.2	-3.3	-6.1	-0.6	0.4	0.1	-0.1	1.1
Slovakia	5.9	-1.9	1.5	1.2	0.4	-7.4	0.8	1.2	1.7	0.8	1.2
Finland	0.9	0.3	0.3	-0.5	-3.1	-5.7	-0.8	1.1	0.3	0.1	1.9
Sweden	1.2	-1	-0.2	0.1	-3.9	-2.7	0.3	0.5	0.6	1.5	1.9
UK	0.3	0.5	-0.3	-0.9	-2.1	-2.3	-0.7	-0.3	0.4	0.3	1.2

Table 1. Gross domestic product, volumes; percentage change q/q-1 of EU countries from 2007 to 2010. Source: Eurostat (2010).

Year	1929	1930	1931	1932	1933	1934
GDP (%)	6.4	-12.0	-16.1	-23.3	-3.9	17

Table 2. Percentage changes in real GDP from the preceding period, USA, 1929-1934.
Source: Bureau of Economic Analysis (2010).

4. Results

4.1. Recession magnitudes in EU countries

From 27 EU countries, 25 countries experienced a recession during 2008-2010 period. The only exceptions constituted Poland and the Slovak Republic. The biggest recession among EU countries occurred in Latvia ($M = 8.2$), Estonia ($M = 7.8$), Lithuania ($M = 7.5$) and Ireland ($M = 7.3$), all four recessions were classified as severe recessions. The majority of recessions (20 of 25) was classified as major recessions. The smallest recession took place in Cyprus ($M = 4.9$), Malta ($M = 5.1$), and France ($M = 5.3$); thus, Cyprus' recession was the only recession of minor category. EU as a whole experienced recession of the magnitude 5.8, this recession falls into major category. The most of recessions were of U-shaped, Swedish recession was W-shaped and Greek L-shaped. Latvian recession was the longest, it lasted for eight quarters. The deepest recession with the highest mean decline of GDP growth rates during a recession took place in Lithuania ($G = 4.4\%$). The Greek recession was still in progress during the second half of 2010, while Ireland's economics was heading for another recession after short recovery in the first quarter of 2010. These results conform to opinions published by Andersen (2009), Krugman (2008) or IMF Survey magazine (2010) about the most affected regions and countries within the European Union.

Interestingly, six out of ten the most affected countries belong to new EU members (see Table 4); and the top seven national economies with the highest recession magnitudes rank among small and open ones, indicating that smaller economics are more vulnerable in the times of a crisis. Also, recession magnitudes were higher for countries that grew faster in years prior to the crisis. Both cases are discussed in detail in Sections 4.3 and 4.4.

Reasons for Latvian (and Baltic region generally) infamous primacy rest upon 'overheating' of Latvian economy in years prior to the crisis, when its economy grew by more than 10 % of GDP annually and private external debt reached 130 % GDP; however, country was losing its competitiveness meanwhile (for details see Andersen [2009]). Ireland expanded rapidly during 1995-2007 as it introduced very low corporate tax rates and ECB interest rates, but its banking sector got under pressure after property bubble bursting and the start of global financial crisis in 2007.

Time evolution of quarterly GDP growth rates of major EU economies is presented in Figure 1. Table 4 contains magnitudes of recessions in all EU countries along with their classification; countries are ranked in the descending order of magnitude. Figure 2 provides a graphical comparison of all recessions' magnitudes in EU's countries and Figure 3 shows their geographic distribution. Figure 4 presents a relationship between countries' economic growth prior to a recession and recession magnitudes and Figure 5 illustrates a relationship between countries' population and recession magnitudes.

4.2. A comparison of EU recession with the Great Depression of the 1930s

The Great Depression officially began in the USA on October 29, 1929 as a Wall Street stock market crash, and ended in 1934. During the Great Depression, the unemployment rate peaked at 25 %, GDP declined by more than 50 %, and industrial decreased by 45 % (BEA, Bernanke, 2000). This recession influenced economies of almost all countries in the world for more than one decade.

The Great Depression lasted for 4 years and during this period the mean yearly decline of GDP was 14.1 %. From relations (1) and (2) the resulting magnitude of the Great Depression is $M=9.14$. This result implicates that the Great Depression in the USA during 1929-1933 was more than eight times worse than the recession in the European Union of 2008-2009.

4.3. The relationship between the recession magnitude and the economic growth prior to the recession

Comparison of recession magnitudes of EU countries during 2008-2010 period revealed that countries with the higher growth in the years preceding a recession (Latvia, Estonia, Lithuania, Ireland, etc.) experienced recessions with higher magnitudes. To examine this relationship the mean percentage GDP growth rates during 2003-2007 for each country were calculated from Eurostat data and are presented in Table 5.

To examine statistical significance of the above mentioned relationship the following simple linear regression model was considered:

$$y_i = \alpha + \beta x_i + \varepsilon_i \quad (5)$$

In (5) y_i denotes recession magnitude in a country i , $i \in \{1, 2, \dots, 25\}$, x_i denotes corresponding mean percentage GDP growth before the crisis (during 2003-2007) and ε_i is the error term. The regression was performed in Gretl and was corrected for heteroscedasticity. Graphical representation of the relationship is provided in Figure 4. Characteristics of the model are showed in Table 3. As can be seen, the model is statistically significant at 0.01 level; and the regression takes the following form:

$$y = 5.202 + 0.263x \quad (6)$$

Because beta in (6) is positive, the recession magnitude correlates positively with the prior growth indeed. *The higher is the economic growth prior to a recession (for a period of five years) the higher is a recession magnitude.*

The relationship can be interpreted in the following way: when a country's growth doesn't correspond to its economic reality in the long term (the growth is too high as in case of Latvia or Ireland), then after several years a 'correction' in the form of a recession occurs. The relation (6) allows to quantify this effect: increase of mean GDP growth rates prior to a recession by 1 % results in an increase of recession magnitude of 0.26 point.

It must be stressed out that rule stated above applies for a global financial crisis in the EU only, and its eventual general validity (or invalidity) has to be resolved by further research focusing on a larger set of economic recessions around the world.

α (error)	5.2017*** (0.172)
β (error)	0.26295*** (0.041)

R^2 (adjusted)	0.630
Akaike crit.	98.08
Schwarz crit.	100.51
Hannan-Quinn crit.	98.75
F signif. (p -value)	1,33e-06

Table 3. Characteristics of the model. Sign ‘****’ denotes statistical significance at 0.01 level.

4.4. The relationship between the recession magnitude and the population

Comparison of EU’s recession magnitudes during 2008-2010 period also revealed that less populous countries (Latvia, Estonia, Lithuania, Ireland, etc.) experienced recessions with higher magnitudes. To explore this relationship (see Figure 5), countries were ranked according to their population and recession magnitudes from 1 to 25³. Then Spearman’s rank correlation coefficient was evaluated: $r_s = -0.33$, $R^2 = 0.11$. The negative value of r_s indicate that less populous countries indeed suffered bigger recessions, but the value of r_s was not statistically significant at $\alpha = 0.05$ level, and thus evidence for the claim that recession magnitude can be influenced by a population is weak.

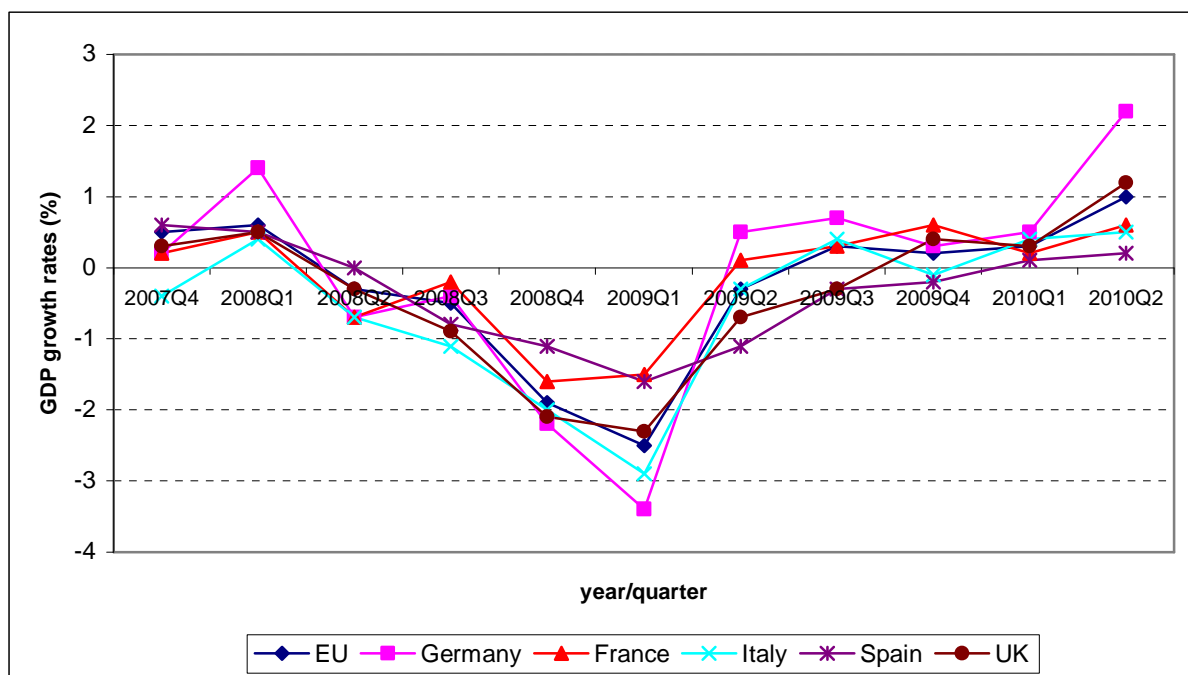


Figure 1. Time evolution of quarterly GDP growth rates of major EU economies and EU itself during 2008-2010 global financial crisis.

Source: Eurostat (2010).

³ Countries’ populations in millions was not used because of huge differences among populous countries such as Germany, France or UK and Luxembourg, Cyprus or Malta on the other side.

Country	Mean decline of GDP (%)	Duration (quarters)	Magnitude	Classification
Latvia	3.56	8	8.15	severe
Estonia	3.20	7	7.81	severe
Lithuania	4.44	4	7.47	severe
Ireland	1.91	8	7.26	severe
Finland	2.55	4	6.67	major
Slovenia	3.36	3	6.66	major
Luxembourg	1.78	5	6.48	major
Romania	2.06	4	6.36	major
Hungary	1.35	6	6.34	major
Sweden	1.55	5	6.28	major
Bulgaria	1.45	5	6.18	major
Denmark	1.78	4	6.15	major
Italy	1.40	5	6.13	major
Germany	1.68	4	6.07	major
United Kingdom	1.10	6	6.05	major
Greece	0.84	7	5.88	major
Netherlands	1.08	5	5.76	major
Austria	1.30	4	5.70	major
Spain	0.85	6	5.67	major
Czech Republic	1.68	3	5.65	major
Belgium	1.44	3	5.43	major
Portugal	1.00	4	5.33	major
France	1.00	4	5.32	major
Malta	1.14	3	5.09	major
Cyprus	0.58	5	4.86	minor

Table 4. Magnitudes and classification of all EU recessions during 2008-2010 global financial crisis.
Notes: Greek recession continued in 2010 and 2011, so its final magnitude has to be estimated yet.
Source: author.

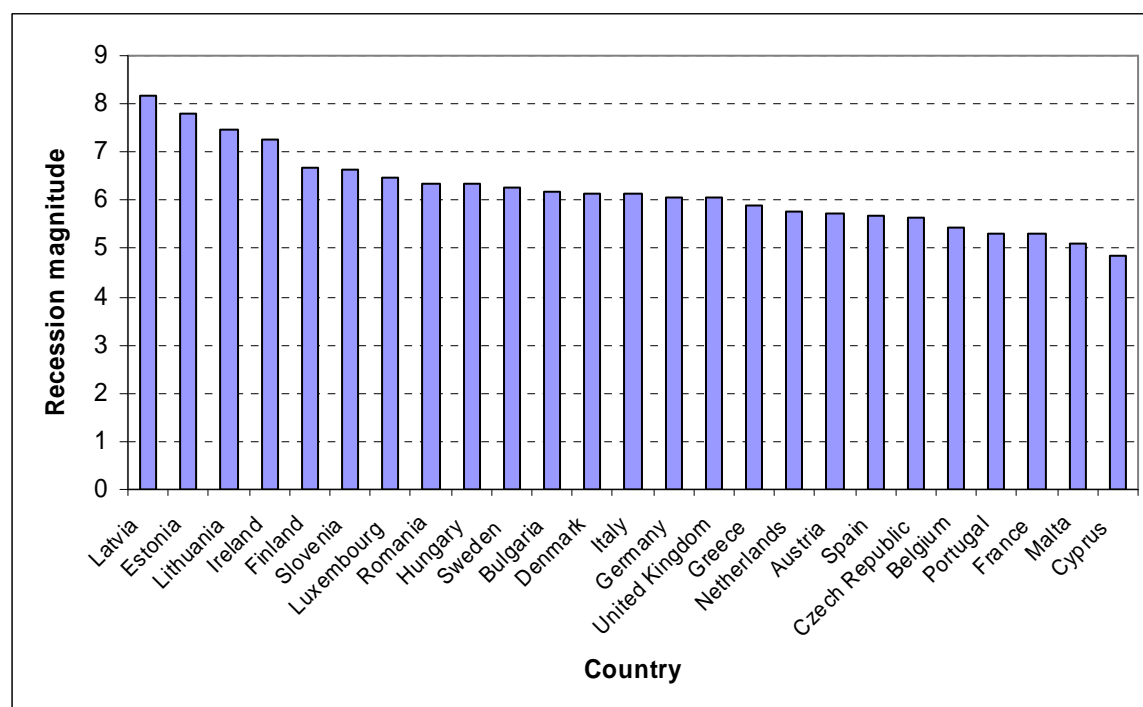


Figure 2. The graphical comparison of all EU recessions during 2008-2010 global financial crisis.
Notes: Greek recession continued in 2010 and 2011, so its final magnitude has to be estimated yet.
Source: author.

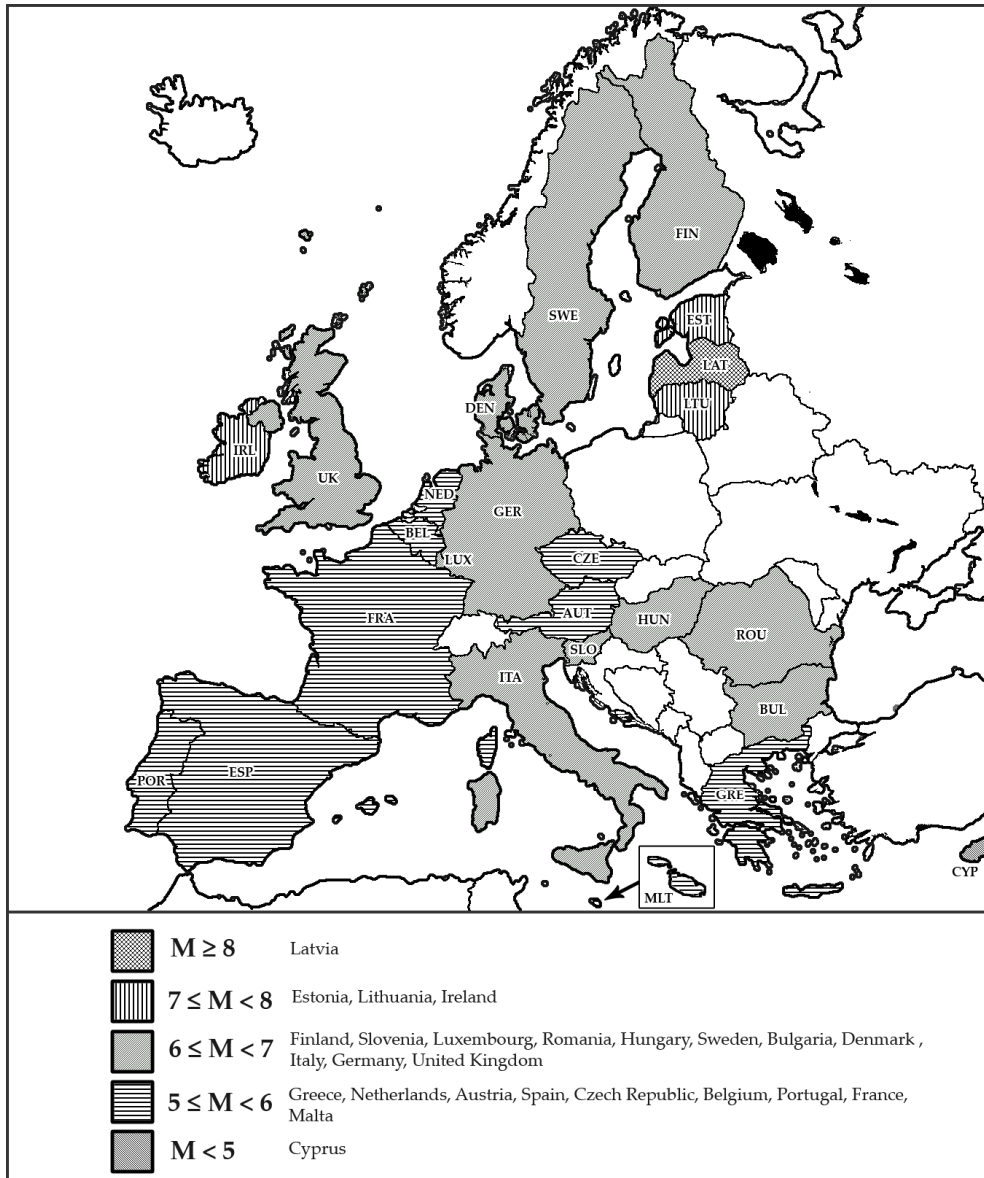


Figure 3. The geographic distribution of recession magnitudes across Europe.
Source: author.

Country/year	2003	2004	2005	2006	2007	mean annual growth rate (%)
Austria	0.8	2.5	2.5	3.6	3.7	2.26
Belgium	0.8	3.2	1.7	2.7	2.9	5.45
Bulgaria	5.5	6.7	6.4	6.5	6.4	2.02
Cyprus	1.9	4.2	3.9	4.1	5.1	1.57
Czech Republic	3.6	4.5	6.3	6.8	6.1	8.33
Denmark	0.4	2.3	2.4	3.4	1.6	5.18
Estonia	7.6	7.2	9.4	10.6	6.9	4.27
Finland	2	4.1	2.9	4.4	5.3	3.52
France	1.1	2.5	1.9	2.2	2.4	2.02
Germany	-0.2	1.2	0.8	3.4	2.7	1.14
Greece	5.9	4.4	2.3	4.5	4.3	3.83
Hungary	4	4.5	3.2	3.6	0.8	9.73
Ireland	4.4	4.6	6	5.3	5.6	8.59
Italy	0	1.5	0.7	2	1.5	4.57
Latvia	7.2	8.7	10.6	12.2	10	3.21
Lithuania	10.2	7.4	7.8	7.8	9.8	2.48
Luxembourg	1.5	4.4	5.4	5	6.6	2.35
Malta	-0.3	0.9	4.7	3.3	3.9	2.61
Netherlands	0.3	2.2	2	3.4	3.9	1.05
Portugal	-0.9	1.6	0.8	1.4	2.4	6.41
Romania	5.2	8.5	4.2	7.9	6.3	4.87
Slovenia	2.8	4.3	4.5	5.9	6.9	3.73
Spain	3.1	3.3	3.6	4	3.6	3.46
Sweden	2.3	4.2	3.2	4.3	3.3	2.70
UK	2.8	3	2.2	2.8	2.7	6.30

Table 5. Annual GDP growth rates (in %) for EU countries during 2003-2007 period with a mean GDP growth (in %) for the same period. Source: Eurostat (2010).

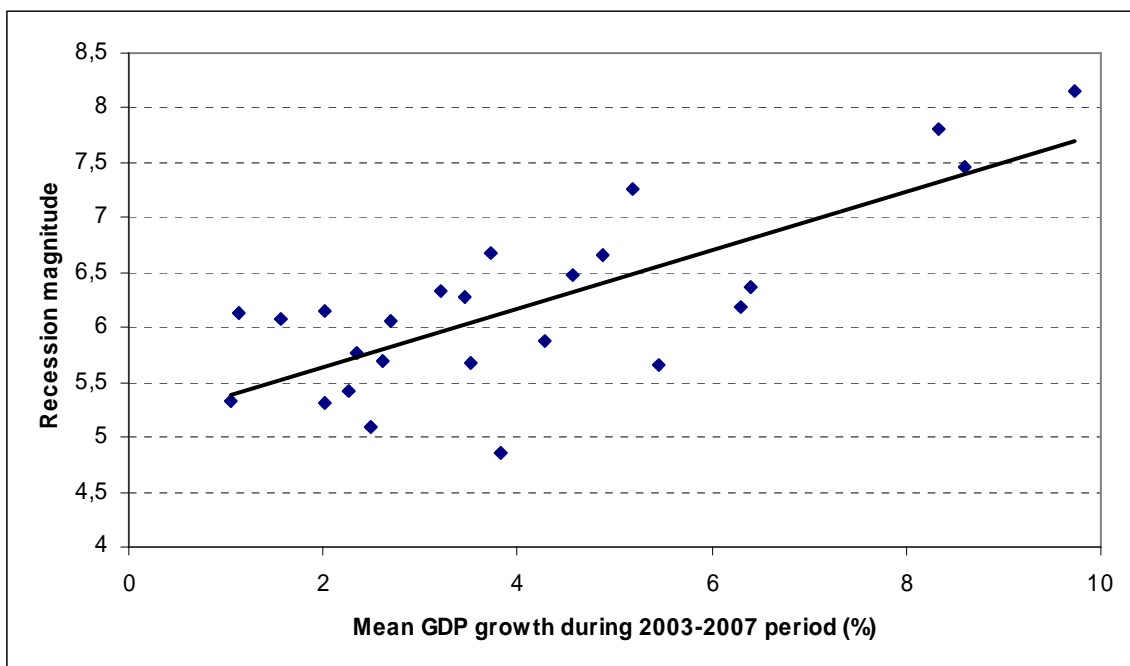


Figure 4. A relationship between mean GDP growth during 2003-2007 and a recession magnitude for EU countries. Source: author.

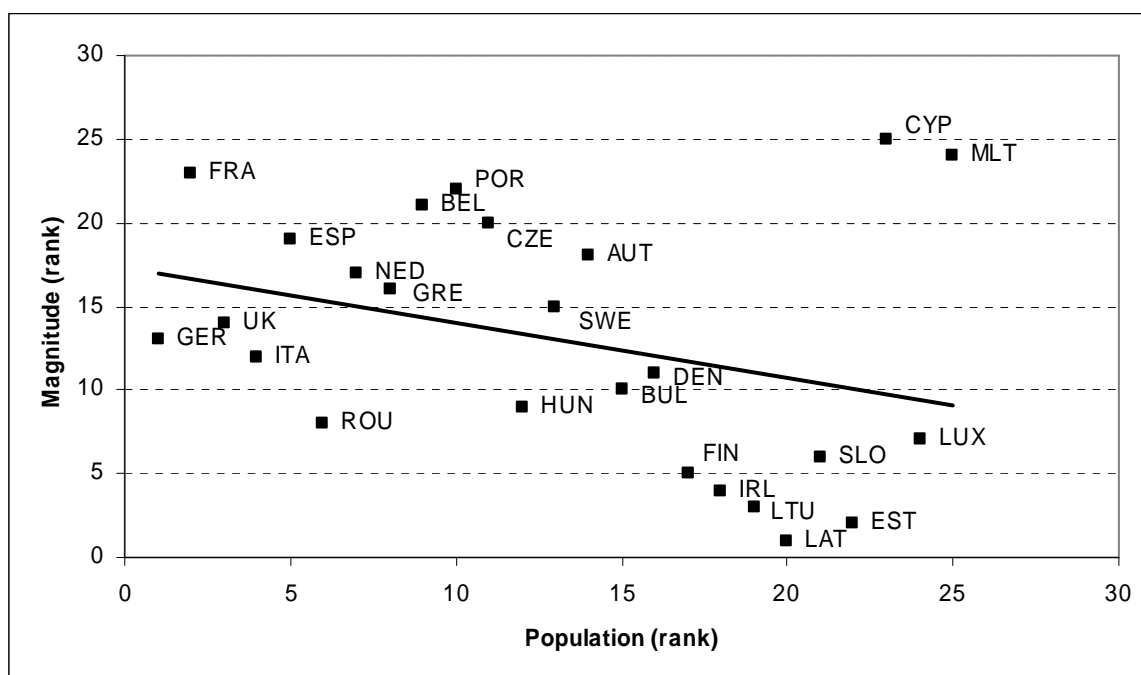


Figure 5. Relationship between countries' population (more populous countries are on the left-hand side) and recession magnitudes. Both variables are given as ranks from 1 to 25. Source: author.

5. Conclusions

The aim of the article was to compare magnitudes ('strength') of recessions that took place in EU countries during the global financial crisis of 2008-2010, as its impacts were markedly different in various countries. For a recession comparison the recession magnitude scale derived from a decline of GDP growth rates during a recession and its duration is used.

From 27 national EU's economics, 25 economics (with exception of Poland and the Slovak Republic) experienced the biggest recessions in the post-war era. The most affected countries by the crisis were Latvia, Lithuania and Estonia followed by Ireland. All these recessions were classified as severe recessions and their magnitudes exceeded degree 7. The smallest recessions occurred in France, Malta and Cyprus. Greece was the only economy still in recession during 2010 and 2011, so its final magnitude will almost certainly be 'upgraded' from major to severe or ultra category. Generally, among the most suffering countries prevailed new EU member states and also small and open economies.

Nevertheless, the most interesting finding was a relationship between a recession magnitude and economic growth prior to a recession. It was found that the higher is economic growth given as a mean percentage GDP growth prior to a recession (for a period of five years in our study) the higher is a recession magnitude. This relationship was statistically significant at 0.01 level. However, this result is limited only to the evaluation of the global financial crisis in EU countries, its eventual general validity have to be determined by further research.

The European Union experienced major recession of magnitude 5.8. When compared with the Great Depression of the 1930 in the USA with magnitude 9.1, the EU's recession was more than eight times smaller than that of US. Thus, the scope of the recent global financial crisis is sometimes exaggerated in media. However, the latest developments (in the

beginning of 2012) indicate that many EU countries (such as Portugal, Ireland or Slovenia) are slipping into another recession.

Though the magnitude scale used for comparisons is constructed from only one macroeconomic indicator, namely GDP, it allows objective and exact evaluation of economic recessions, and thus enables their comparison. That, in consequence, may help to understand the severity of recessions from the past or to identify the most suffering countries or regions at the present.

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