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# DEVELOPMENT OF SMALL COUNTRIES IN THE BUSINESS ENVIRONMENT OF THE EUROPEAN UNION

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**Abstract**

In this study, we examined whether small countries, when joining the European Union and transferring a part of their sovereignty to the EU institutions, become economically stronger or weaker. We have conducted our assessment based on the index of relative concentration of power (IRC), which was developed for the purpose of this analysis, modifying the Herfindahl-Hirschman Index. Our analysis has shown that in the analyzed period between 2000 and 2015, the relative economic power of small member states of the EU grew stronger, while, at the same time, the relative economic power of large countries weakened. We started from the assumption that small countries, prior to their entry into the European Union, have lower competitiveness due to the relatively higher fixed costs in the public and private sector. Large single market of the European Union produces relatively stronger effect of economies of scale for small countries compared to large countries, which is why their relative economic power grows faster than the relative power of large countries.

**Keywords:** small countries, large countries, the European Union, business environment, development, index of the relative concentration of power (IRC).

## 1. Introduction

The global economic crisis 'hit small countries hardest' (Rachman, 2009). As explained in the Financial Times (Rachman, 2009), a few years before the crisis it seemed that 'the era of small countries' was about to come because during the time of prosperity they succeeded in attracting foreign investment which changed significantly the quality of life of the population (e.g. Ireland, New Zealand, Chile, the Baltic countries, Slovenia, etc.). But, when in the time of crisis foreign investors withdraw a relatively small amount of money from small countries, it has significant consequences for the economic development, which is why the Financial Times concludes that 'the international political circumstances are not in favor of small countries' and that 'large countries are now back in fashion'. After the first shock of the crisis on their economies, large countries, gathered as 'G20', together with OECD, have launched a major international campaign on abolishing tax reliefs ('tax havens') and privileged interpretation and application of the rules, which has been precisely the specificity of a large number of small countries in recent decades.

By entering the path towards European integration, inspired by Euro-optimism, sovereign countries voluntarily limit and transfer a part of their national sovereignty to the European Union institutions. Along with Euro-optimism, which affirms many advantages of European integration and strengthening the role of the European institutions in all countries of the European Union with major or minor impact, there are those who are Eurosceptic, and even Europhobic, who oppose any form of impairment of national sovereignty in favor of European integration. In the mid-2000, when the citizens of France and the Netherlands rejected the European constitution in a referendum, it was clear that Euro-skepticism was much more widespread than it was expected, and that it was not exclusively linked to the nationalist and right-wing parties and movements. Last year's exist of the United Kingdom from the European Union confirmed that Euro-skepticism is not merely a hypothetical democratic possibility relative to Euro optimism, but a real alternative to the integration processes in Europe. There are many public assessments which say that skepticism reached a peak last year. Attitudes toward the EU (Wright, 2016) warn of the spread of Euroscepticism, particularly in the larger EU countries (France, Germany, Spain, the Netherlands, Greece, etc.). Fewer and fewer people believe in the European Union (The Economist, 2016), whereas more people believe that in the future the European Union will have to return the jurisdiction to the national states (Wright, 2016). Strengthening of Euro-skepticism increasingly encourages the analyses of advantages and disadvantages of the European Union in many areas. Euro-optimists see the advantages of the European Union in the tremendous effects of the free trade between member states, opening new possibilities for education and employment, preserving the national identity of the people within the Union (preserving statehood, language, culture, etc.), a single currency, monetary policy as an option potentially available to all member states, strengthening the peace and tolerance among the member countries.

Recently, in the scientific community of small European countries a new approach to European integration has been developed in the form of 'Euro-realism' (Bukovskis, 2016). 'Euro-realism' is a direct support to Euro-optimism and a negation of Euro-skepticism, or, perhaps, more precisely, a variant of Euro-optimism, specific for small countries of the European Union. Namely, Euro-realists think that economic and security advantages provided by the European Union to small countries outweigh the losses in political and institutional concession which small countries make when joining the Union. Therefore, even though 'Euro-realists' can accept a part of criticism of the European Union, their view is that the alternative environment for small countries, if they were outside the Union, is much worse and more uncertain than the current environment in the Union.

There is a very specific form of Euro-skepticism in small former socialist countries which is sometimes even paradoxical. The citizens in these countries (e.g. Latvia (Austers, 2016), Bulgaria (Primatarova, 2016), Croatia (Samardžija, 2016)) are disappointed with the speed of economic development and improvement of living conditions in the European Union, but still, their political elites persist on Euro-realism.

The authors who research the financial effects of European integration on member states indicate that these are only estimates based on different methods (Baele *et al.*, 2004; De Santis and Gérard, 2006; Acemoglu *et al.*, 2014). On the other side, Emerson *et al.* (1992) point out that 'there is no ready-to-use theory for assessing the costs and benefits of economic and monetary union'. Namely, there are a few authors who are focused on the exact calculation of its effects (Abadie and Gardeazaba, 2003; Badinger, 2005; Kutan and Yigit, 2007; Campos, Coricelli and Moretti, 2014a).

In addition, a special methodological problem is the diversity of the member countries (level of development, level of productivity, economic structure, the degree of dependence on foreign trade, etc.), which makes it very difficult to isolate the pure effects of integration on economic development. We must also bear in mind that 'the European Union is neither a state, nor a federation, because it does not have a key determinant of the country: the monopoly of force against its citizens' (Alesina, Spolaore and Wacziarg, 2005, p. 1537). Based on this, we will set the basic hypothesis of the research we want to prove:

H0: Small countries strengthen economically within the European Union, that is, the relative economic power of small countries increases within the European Union as a whole.

Auxiliary hypothesis, which supports the basic hypothesis is:

H1: Relative economic power of large countries decreases within the European Union as a whole.

The expansion of the European Union increases its economic power in relation to the rest of the world. However, as in the context of a whole, the power of 'small' countries strengthens, the relative power of large countries decreases. Of course, this does not mean that large countries do not develop within the Union, and that

small countries slow the development of large countries. With their economic power, large countries constitute the dominant part of the economic power of the European Union. The expansion of the European Union contributes to their growth too, but the large single market and the reduction of fixed costs contribute relatively more to the growth of small economies. Specified dimension of the single European market creates relatively greater effects of economies of scale for small countries rather than for large countries.

## 2. Theoretical overview

In more than six past decades of experience with European integration, a considerable literature has been accumulated on the advantages and disadvantages of the EU membership. Although there is no strict classification of research, it could be said that there are basically two groups of works: (a) papers dealing with the political dimension of integration, starting from security to government aspects of integration, and (b) papers dealing with economic and development aspects of integration. Of course, one should not forget that political and economic integrations are interconnected; therefore, very often literature from these two groups includes both economic and political aspects of integration. However, there is no complete agreement in the literature on the relations between economic and political integration. The views are even opposite: economic and political integrations are in relation of substitution (Alesina, Spolaore and Wacziarg, 2000), or in relation of complementarity (Martin, Mayer and Thoenig, 2012). Despite the extensive literature on European integration, which discusses the benefits of the single market and monetary union (Campos, Coricelli and Moretti, 2014a), it is wrong to believe that there is a vast literature which demonstrates economic advantages of the EU membership. In one of the first major works dedicated to the impact of the European integration on the economic growth, Henrekson *et al.* (1997, p. 1550) determined that membership in the European Union has a positive and statistically significant impact on the economic growth, that is, it has annual growth of 0.6 to 0.8% of real income. Also, the same analysis showed that the transfer of technology is the most important mechanism for increasing growth, while the impact of investment was not confirmed. Analyzing the continuous growth of the fifteen members of the Union in the period 1950-2000, Badinger (2005) estimated that the GDP per capita in the European Union would be lower by approximately one-fifth if there was no integration since 1950. Crespo Cuaresma, Silgoner and Ritzberger-Gruenwald (2008, p. 16) also analyzed the impact of European integration on the growth in the fifteen-member states. Their analysis confirmed a significant impact on the economic growth, which is relatively higher in the poorer EU member states. Convergence within the Union contributes to the long-term economic growth. Trying to answer the question whether deep integration into the European Union can be 'paid' through higher GDP per capita and greater productivity, Campos, Coricelli and Moretti (2014a, p. 25) found that GDP per capita and labor productivity increased after joining the European Union in Denmark, Ireland, the UK, Portugal, Spain,

Austria, Estonia, Hungary, Latvia, Slovenia and Lithuania. The effects were also slightly lower but positive in Finland, Sweden, Poland, Czech Republic and Slovakia. What authors find surprising is the fact that only Greece had lower GDP per capita and lower labor productivity after joining the European Union. New assessment of the effects done by the same authors (Campos, Coricelli and Moretti, 2014b, p. 4) confirmed the positive effects of the EU membership for all member states (26 countries), with the exception of Greece. On average, GDP per capita is now 12% higher than it would be for the same countries outside the European Union. Anyhow, the effects in the growth of GDP are higher than the costs of integration into the Union. LSE study on the impact of the single market on cohesion (LSE Enterprise, 2011, p. 8) shows that entry into the European Union, that is, the single market, increased the GDP of twelve member states by about 6.7% due to the effects of trade. Additional effect of the GDP growth of 3.9% comes from the increased cohesion, so the overall effect of GDP growth in the period 2007-2009 for 12 members of the Union was 10.6%. Considering the literature on the implications of the United Kingdom's membership into the European Union, Crafts (2016, p. 10) realizes that literature proves that the EU membership raised the income level of the United Kingdom significantly higher than the advocates of joining the Union expected in 1970. This is due to the success of the European Union in increasing trade and the pressure of stronger competition on the growth of labor productivity in the United Kingdom.

In the European Union, there is no distinction between 'large' and 'small' countries. This is one of the reasons why the literature on the effects of European integration on the development of small countries within the European Union is scarce. Academic literature on small countries within the European Union is diverse and fragmented (Thorhallsson and Wivel, 2006, p. 651). There is no consensus on what is meant by a small country in the European Union, what similarities some small countries have in their foreign policy, and what impact they have on international relations.

## 2. Research methodology

### *2.1. Classification of the member states into 'small' and 'large' countries*

To be able to conduct the necessary analysis that will prove or disprove the hypotheses, it is necessary to first define a 'small country' within the European Union. It has already been mentioned that in the literature there is no complete agreement on the concept of a 'small country'. To avoid a debate on the subject, in this paper we use Kuznets definition of a small country (Kuznets, 1960). Sixty years ago[1] Kuznets put forward arguments based on which it could be said that a 'small country' represents

1 International Economic Association held an international conference in the Hague in September 1957 on the subject 'Economic Consequences of the Size of Nations' and the works were published in 1960.

a country with less than 10 million people. Today, there are assessments that his work has stood the test of time although the international environment has changed significantly. Small open countries managed to overcome the 'penalties of smallness' thanks to globalization and the fact that large countries rely on the development of economies of scale to provide endogenous domestic growth (Laurent, 2008, p. 2). Meanwhile, new terms such as 'micro-states', 'giant states' and 'embedded states' have appeared in the literature (Laurent, 2008, pp. 30-32). Within the Commonwealth a small country implies a country with less than 1.5 million inhabitants (Commonwealth Advisory Group, 1997). Based on the criteria of Kuznets, 28 members of the European Union can be classified into two groups: 'small EU countries' and 'large EU countries'. The group of 'small EU countries' consists of: Bulgaria, Denmark, Estonia, Ireland, Croatia, Cyprus, Latvia, Lithuania, Luxembourg, Malta, Austria, Slovenia, Slovakia, Finland, and Sweden. The group of 'large EU countries' includes: Belgium, Czech Republic, Germany, Greece, Spain, France, Italy, Hungary, Netherlands, Poland, Portugal, Romania, and the United Kingdom.

### *2.2. Measurement of the economic power of the EU members*

Each member of the Union is different. Therefore, bringing them into the same business environment results in the generation of different intensity and different forms of impact of the environment on development. To avoid this methodological problem, we will try to measure the relative power of 'small' and 'large' countries according to the GDP of the Union as a whole. That is, in accordance with our goal, we will try to answer the question whether the European Union represses or encourages the development of small countries, whether they are economically weaken or strengthen within the Union.

The basis for the analysis of the concentration of economic power of 'small' and 'large' countries of the European Union will be data on GDP of the Union states in the period from 2000 to 2015. During this period 13 new countries, out of which 9 'small' and 4 'large' countries, joined the European Union. In order to compare the concentration of economic power before and after joining the European Union, we have included GDP data from 2000 for 13 new member states. Although we are aware that GDP does not describe all aspects of the development of a country, keeping in mind its great analytical value for a synthetic assessment of the economic situation in a country, we will observe it as a basic feature for comparison of the development of the member states of the European Union.

In our analysis, we start from two assumptions:

1. If there is an equal distribution of GDP of a community to entities that constitute this community, the economic power of all subjects of the community is equal.
2. If there is an unequal distribution of GDP of a community to entities that constitute this community, the economic power of the subjects of the community is uneven.

Therefore, we start from the assumption that inequality in the distribution of the total GDP of the European Union between the member states results in inequality of their economic power, i.e. unequal impact on social relations in the Union. It is common, although not justified, that the relative inequality of any economic characteristics is measured in the same manner as the inequality of natural features. For example, the concentration of 9% of acetic acid is not the same as the concentration of 9% of income of one person in a community. Higher or lower concentration of income of the equal entities within a whole results in the establishment of higher or lower level of social significance or power that is manifested in mutual relations. Analysis of market structures shows that the increase in the concentration of supply under the control of a producer is followed by the growth of its market power, that is, market power becomes an instrument for increasing profits as well as the productivity of labor.

If we suppose that entities *A* and *B* have the same formal and legal status in one whole (the community) *X*, but different values of relative share in the division of some size *k*, so that $k_A > k_B$, then the entity *A* has a higher concentration of *k* than the entity *B*. If it is:

$$k_X = k_A + k_B, \text{ then:} \tag{1}$$

$$s_A = \frac{k_A}{k_X} \quad \text{and} \quad s_B = \frac{k_B}{k_X}, \tag{2}$$

are the rates of participation of entities in the distribution of the total value *k*. Accordingly, it follows that:

$$s_A + s_B = 1 \tag{3}$$

Entities *A* and *B* are active entities in the community *X*. They participate in the decision-making in the community *X*, communicate with each other, contribute to the joint problem solving, gain trust of the entities outside the community *X*, gain or lose trust of other entities in the community, etc. Their possession of the relative part of the size *k* of the community *X* has an impact on the functioning of the whole community.

Among the member states of the European Union there are major differences in the resulting GDP, and in GDP per capita and labor productivity. In our analysis we will look at the differences in the relative distribution of the Union's GDP. In order to measure the concentration of GDP by member states of the European Union, we will use the logical base of Herfindahl Index of concentration (Rhoades, 1993). This is an index which was proposed in 1945 by Hirschman (Hirschman, 1945), and its mathematic form was set in 1950 by Herfindahl (Herfindahl, 1950).

Hirschman-Herfindahl Index (HHI) is calculated as the sum of squared relative participation of enterprises in the total turnover of the branch:

$$HHI = \sum_{i=1}^{n} s_i^2$$

In the HHI Index, adding the squared relative participation of enterprises in the total sales in the market, increases the relative share of large enterprises and reduces the relative share of small enterprises in total, which indicates a relatively higher power of large companies. So, for the *HHI* it is:

$$\sum_{i=1}^{n} s_i = 1 \quad \text{and} \quad \sum_{i=1}^{n} s_i^2 < 1$$

For the needs of our analysis, using the displayed relations, we will formulate an index of relative concentration of power (*IRC*) of the *i* entity as:

$$IRC_i = \frac{s_i^2}{\sum_{i=1}^{n} s_i^2} \tag{4}$$

In this particular case it will be:

$s_A^2 + s_B^2 < 1$, where: (5)

$s_A^2 < s_A$ and $s_B^2 < s_B$, but also:

$$IRC_A = \frac{s_A^2}{s_A^2 + s_B^2} > s_A \quad \text{and} \quad IRC_B = \frac{s_B^2}{s_A^2 + s_B^2} < s_B \tag{6}$$

where $IRC_A$ and $IRC_B$ present a relative measure of squared coefficients of participation of entities *A* and *B* in the distribution *k*, that is, indices of relative concentration of power of entities *A* and *B* due to the unequal distribution of *k*. Accordingly, it applies:

$IRC_A + IRC_B = 1$, where $IRC_A > IRC_B$. (7)

In general, it applies:

$$\sum_{i=1}^{n} \frac{s_i^2}{\sum_{i=1}^{n} s_i^2} = \sum_{i=1}^{n} IRC_i = 1 \tag{8}$$

So, the sum of *IRC* is equal to one. Squared participation rates of individual entities in the distribution of a common size are absolutely lower than authentic rates, and the sum of squares of relative participation is less than 1. Therefore, the *IRC* shows greater relative power of the entity with a larger relative participation and reduction in the power of the entity with smaller relative participation in the distribution. Thus, the relative increase in the power of one entity, due to uneven distribution, is a result of the loss of power of entities in an inferior position in the distribution of a given magnitude (Tomaš, 2013).

For each entity, which is a member of the analyzed community, we get *IRC* of distribution of some common size. Single *IRC* can be grouped according to similarities of entities, i.e. we can determine the sum of *IRC* for similar participants. By comparing

the obtained sum for each of isolated groups, we come to the conclusion on the size of the concentration of power regarding the distribution of the given common sizes. In our case, the member states of the European Union ($i$ = 1,…, 28) are classified into 'small' ($s$), where ($j$ = 1,..., 15) and 'large' ($l$) wherein ($l$ = 1, ..., 13). Accordingly, the following applies:

$$\sum_{j=1}^{15} IRC_j + \sum_{l=1}^{13} IRC_l = IRC_s + IRC_l = 1$$

Comparing the values of $IRC_s$ and $IRC_l$ in the analyzed period, we will come to the conclusion whether the small countries increased or decreased their economic power in the European Union.

**3. Research results**

Using the previously explained method of measuring the relative concentration of economic power (*IRC*) of the European Union member states in the period from 2000 to 2015, we showed the distribution of the relative economic power of the 'small' and 'large' countries of the European Union. In doing so, we used data about nominal and real GDP of the member countries in the analyzed period expressed in euros. Also, following the dynamics of enlargement of the European Union in the analyzed period, we performed calculations for the concentration of economic power relative to the dynamics of the entry of individual countries into the Union, as well as calculations for all 28 current member states, disregarding the year of entry into the Union. It was also challenging to analyze the relative concentration of the relative economic power in the Eurozone and for the EU member states outside the Eurozone, as well as to analyze the consequences of the United Kingdom's exit from the European Union.

Applying *IRC* to the GDP data of the European Union members (28), expressed in current prices in the period 2000-2015 (Table 1), we found the following:

1. $IRC_s$ shows a general upward trend. The exceptions are 2001, 2009 and 2014 when the $IRC_s$ goods declined, retaining a higher level than the previous lowest level, which confirms the general trend of growth (Figure 1).
2. $IRC_l$ shows a general downward trend, with the exception of 2001, 2009 and 2014, when the $IRC_l$ goods slightly increased (Figure 2).
3. Movement of *IRC* reveals the interdependence between the economy of small and large countries in the European Union. Decline in $IRC_s$ in 2001, 2009 and 2014 was preceded by the decline in $IRC_l$ in 2000, 2008 and 2013, which confirms the high degree of dependence of the economy of small countries on the dynamics of the economy of large countries.

Calculation of *IRC* on the basis of data on GDP (EU 28) at constant prices during the same period, confirms the already observed trends (Table 2), with minor fluctuations in changes:

1. $IRC_s$ shows a general upward trend with minor variations in value than in the calculation of the current price. The exceptions are 2001, 2008 and 2009, when

the $IRC_s$ showed a slight decline, but even then it was higher than the previous lowest level (Figure 3).

2. $IRC_l$ shows a general downward trend, with the exception of 2001, 2008 and 2009, when $IRC_l$ slightly increased (Figure 4).
3. The fact that the $IRC_s$ increased in 2014, measured in constant prices, while the same year it decreased compared to the previous year, measured in current prices, indicates a relatively higher real growth of GDP in 2014 in 'small' countries in relation to 'large' countries.

The described tendencies are the result of calculating *IRC* for all 28 EU member states in the period from 2000 to 2015. However, in order to resolve the dilemma of whether GDP achieved outside the Union, that is when a country was not a member of the Union, has a crucial influence on the described trends, we performed calculation of *IRC* for the actual full members for each analyzed year. At the beginning of the analyzed period, when the European Union comprised 15 countries, the value of *IRC* for small countries amounted to 1.64 and for large countries it amounted to 98.36. Shortly before the enlargement of the European Union in 2004, the value of *IRC* was 1.69 for small and 98.31 for large countries. Before Bulgaria and Romania's entry into the European Union, the value of *IRC* for small countries was 1.85 and for large countries it was 98.15. Prior to Croatia's entry into the European Union *IRC* was valued at 1.89 for small countries and 98.11 for large countries. The obtained result fully confirms the previous findings (Figure 5 and Figure 6), which suggests that the European Union has unique criteria in defining business environment for its member states, and that in the preparatory period countries, potential members, apply almost the same business principles as full members of the Union.

After the decision of the United Kingdom to leave the European Union, a particular challenge was the simulation of *IRC* in the Union under the assumption that in the analyzed period, the United Kingdom was not a member of the Union. It is obvious that in the future the decision will result in restructuring the ratio of the relative economic power between member states and between 'small' and 'large' countries. Calculation of *IRC* at current prices shows that the exit of the United Kingdom from the Union caused a loss of about 25% of its economic power (Figures 7, 8 and 12). Accordingly, in the European Union without the United Kingdom more than 70% of economic power (*IRC* values) will be concentrated in Germany and France. Currently, about 90% of economic power, measured by *IRC*, is concentrated in four countries: Germany, France, Italy and the United Kingdom. After the exit of the United Kingdom from the Union about 90% of the economic power of the European Union will be controlled by Germany, France and Italy. If we bear in mind that throughout the analyzed period *IRC* of Italy is declining and that France has almost cyclical trends of *IRC*, the only thing we can conclude is that in the future Germany will have an increasing role in determining the performance of the European economy.

Also, the challenge was to check *IRC* movement in the Eurozone and the EU member states outside the Eurozone. From 2000 to 2003 *IRC* of Eurozone showed increas-

ing trend, from 2003 to 2007 it showed decreasing trend, just to rise sharply in 2008 and 2009, and then it had downward trend until the end of 2015. At the same time, there are asymmetric trends in countries that are not members of the Eurozone. Since 2009 there has been a stable trend of strengthening their relative economic power within the Union, while reducing the relative economic power of the Eurozone (Figures 9 and 10).

A common feature of *IRC* movement for 'small' and 'large' countries is noting the economic crisis with strong impacts in 2007, 2008 and 2009. Also, it is interesting that before the crisis 'small' countries had mostly increasing *IRC*. After 2009, the values of *IRC* are very uneven, which confirms that the large European market has become more volatile for small countries.

Previous analysis, conducted on the basis of the value of *IRC*, unambiguously confirms that in the analyzed period 'small' countries within the European Union had general trend of faster growth and strengthening of their own economic power than the 'large' countries of the EU (Figure 11). Therefore, small countries within the European Union strengthen their relative economic power. At the same time, the relative economic power of large countries weakens. The determined values of $IRC_s$ and $IRC_l$ confirm our basic hypothesis ($H_0$) and auxiliary hypothesis ($H_1$). It is clear that joining the large market for small countries, which have relatively higher fixed costs of the public and private sector, creates relatively greater effects of economies of scale for small countries than for large countries. Large market increases demand faster than small countries increase production, which is an important initial precondition for the success of the economy. Of course, one should bear in mind that 'small' EU countries produce only about 15% of the total GDP of the Union, and that they cannot significantly change the overall economic situation in the EU, which primarily depends on the situation in the economies of the leading 'large' countries. Also, all countries of the Union, 'small' and 'large', are not equally efficient and their values of *IRC* do not always match with the general trends of the group.

**4. Conclusion**

Experience with the first more serious economic crisis has shown that the European Union is not so economically solidary as much as member states expect, and that member states are not ready to protect the general interests of the Union stronger than their national interests. The idea of European integration implies the removal of all forms of protectionism and discrimination between member countries. Restriction and transfer of a part of national sovereignty to the European Union institutions are motivated by the expected benefits of the European business environment for the development of sovereign state. In small European countries, a variant of Euro-optimism is increasingly expanding under the name 'Euro-realism'. This is a specific view on European integration from the perspective of Euro-optimists from small countries. According to this approach, economic and security benefits provided by the European Union to small countries far outweigh the losses in the political and

institutional concessions that small countries make when accessing the Union. In contrast to Euro-optimism that drives European integration and promote the benefits of a single European Economic Area, in almost all countries of the European Union, with more or less political influence, there are Eurosceptics who oppose the reduction of national sovereignty in favor of European integration. The proliferation of Euroscepticism in times of economic crisis, especially in countries where it is more intense, confirms that the European Union has not found its true identity and has not provided a permanent reproduction of its system of values yet. It turned out that the idea of a unified Europe is vulnerable to internal crisis and the crisis in the region. In such circumstances, it is reasonable to ask the question about the situation and perspectives of small countries in the European Union which connect their development and future with the Union.

Our goal was to check whether the European integration threatens the development of small countries, that is, whether their economic power strengthens or weakens within the Union. Unfortunately, while there is extensive literature on the benefits of the European single market and the history of the EU, few studies demonstrate the benefits of membership in the European Union (Campos, Coricelli and Moretti, 2014a). Also, as we have demonstrated, evaluations of the real contribution of membership in the European Union to economic growth are very uneven. Even authors who investigate financial effects of European integration on member states warn that these estimates are based on different methods, because in the achieved economic growth it is difficult to determine which part of it is the result of integration into the Union. Accepting the empirical research on the development of small countries (International Monetary Fund, 2013), according to which small countries have limited competitiveness due to high fixed costs of the public and private sector, we started from the belief that the integration of small countries into the European Union leads to their economic strengthening. Accession to the great single market of the European Union produces relatively greater effects of economies of scale for small countries than for large countries, which means that their economic power grows relatively faster than the power of large countries.

The European Union does not classify member states into 'large' and 'small', nor does it maintain a special development policy of the countries based on their size. In such circumstances, we have applied Kuznets' definition of small countries to classify the EU member states into 'small' and 'large'. Our goal was not to measure the relative contribution of economic integration to GDP growth, but to confirm or deny whether the integration into the European Union strengthens or weakens the economic power of small countries. Measurement of the economic power of the Union member states was done by using the concentration index of relative power (*IRC*). The basis for calculating the value of *IRC* was data on the relative structure of GDP of the Union member states in the period from 2000 to 2015.

Our analysis has shown that, measured with value of *IRC*, the economic power of small countries relatively grows in the European Union, that is, the relative power of

large countries weakens in favor of small countries. At the beginning of the analyzed period, in 2000, for the group of small countries *IRC* had a value of 1.66 and in 2015 it was 2.04. Within this period there were slight decreases in its value compared to the previous years, 2001 (1.65), 2008 (1.88) and 2009 (1.86). Although the decline was registered in the movement of individual *IRC* values in all small countries after the crisis in 2008, with the exception of Malta, its value remained higher than the value each of the small countries had before joining the European Union, with the exception of Croatia and Cyprus. In terms of constant prices, at the end of 2015 all small countries had a higher *IRC* value than in 2000. The exceptions are Denmark and Finland. However, measured at current prices, all small countries recorded growth in *IRC*. At the same time, the value of *IRC* for large countries declined from 98.34 in 2000 to 97.96 at the end of 2015. This has confirmed that accession of a relatively small country to a large market results in the creation of relatively stronger effect of economies of scale for it than in the case of accession of a relatively larger country to the same market. Strengthening the relative economic power is not necessarily a guarantee of economic progress of small countries within the European Union. This will be the case if GDP of small countries is growing more at the same time as the GDP of the Union is increasing. In our case it has been confirmed. Compared to 2000, GDP of small countries grew faster than the GDP growth of the Union and large countries. Also, our research has shown that the European Union is a good business environment for the former socialist countries in transition. All of them, measured by *IRC*, except for Croatia, have achieved the strengthening of relative economic power in the European Union relative to the relative power they had before accession.

The research that we have carried out is limited to the European Union. Changes in the concentration of economic power were observed between the member states. In this way the relative relationship of the Union to the rest of the world is neglected. To get a more complete picture of the relative concentration of economic power within the Union in relation to the rest of the world it would be necessary to conduct a similar analysis on the relative distribution of the world GDP. Such an analysis would fully eliminate the dilemma that can be present in this type of analysis: do small countries become relatively stronger because they grow faster or because they weaken more slowly from the Union as a whole? Also, such an analysis could provide an answer to the question of the relative status of small countries in conditions of globalization of the world economy. It will be a subject of a new study.

***Disclosure statement***

Authors are declared that they not have any competing financial, professional, or personal interests from other parties.

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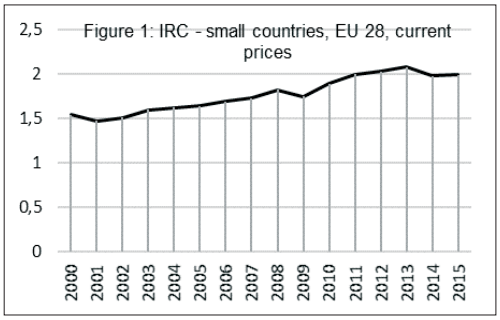
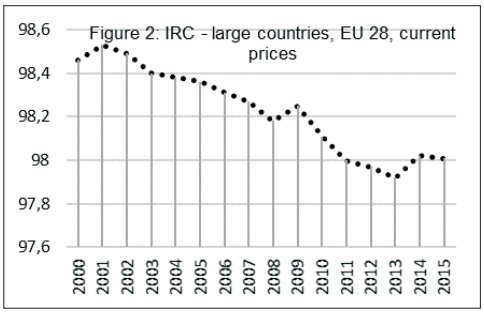
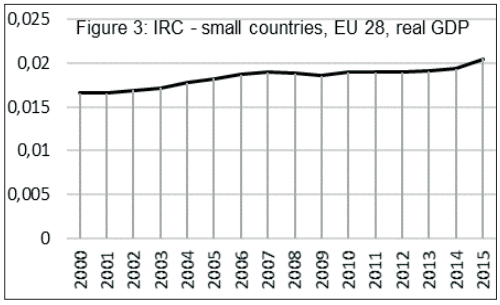
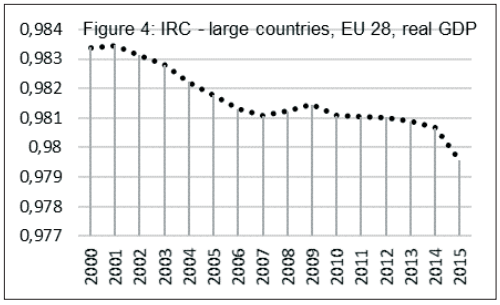
## Appendices

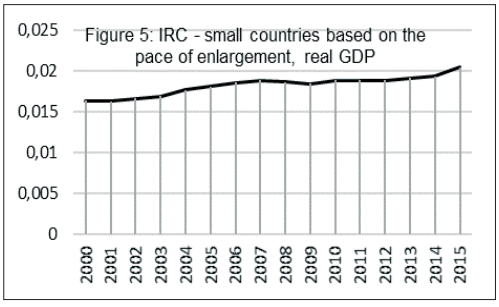
Appendix 1: Graphical review of IRC movement for the 'small' and 'large' EU countries

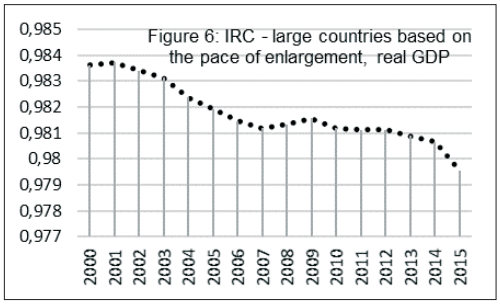


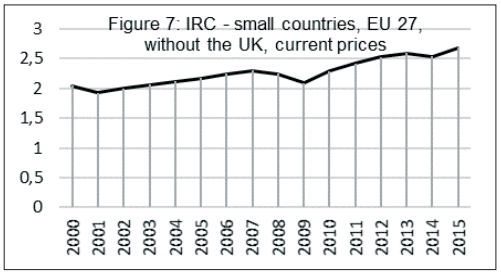



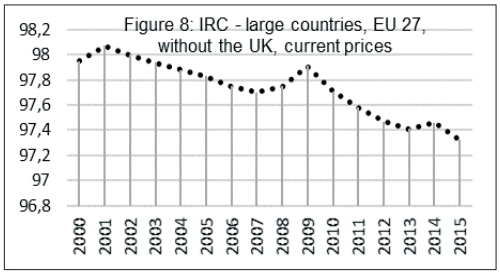



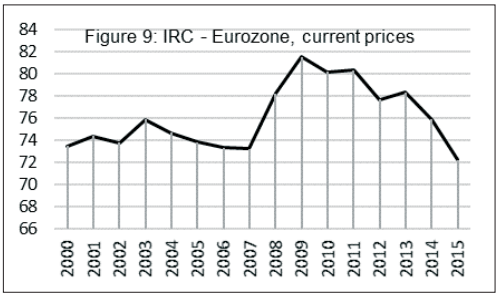



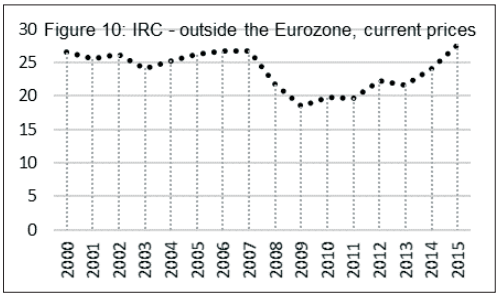



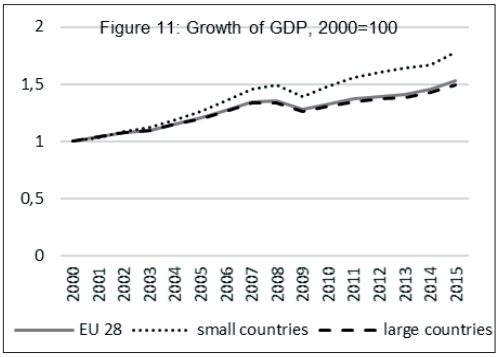



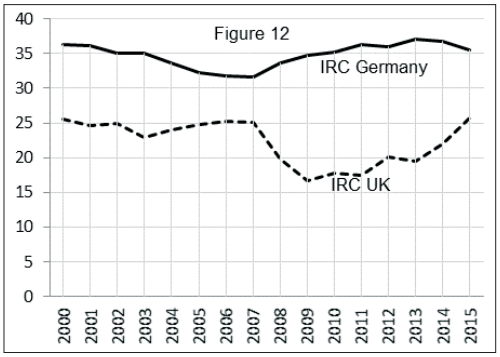



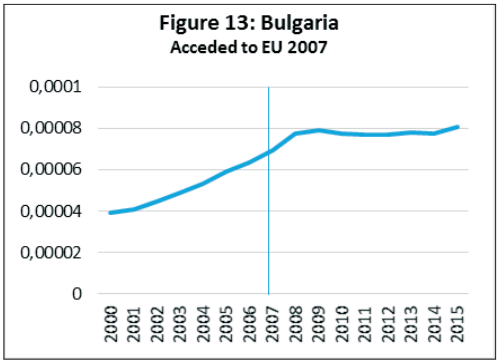


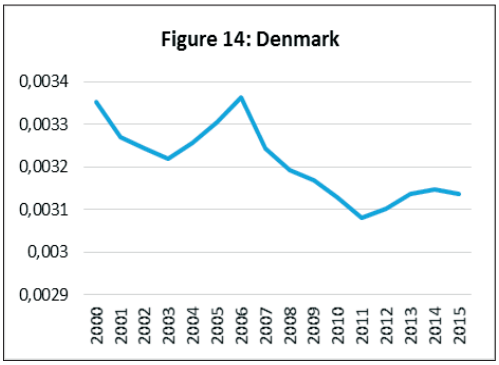



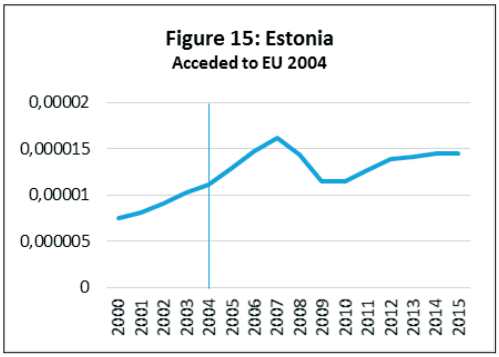




Appendix 2: Graphical review of IRC movement for the EU 'small' countries, constant prices



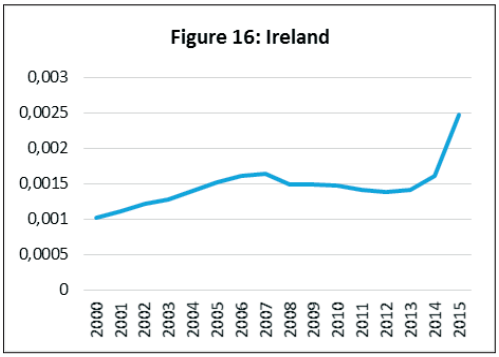



**Figure 17: Croatia**
**Acceded to EU 2013**

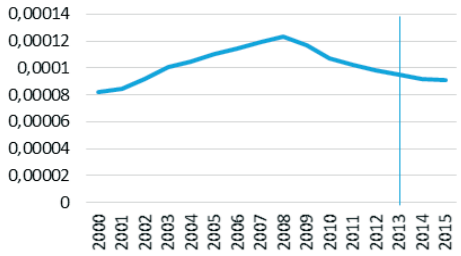



**Figure 18: Cyprus**
**Acceded to EU 2004**

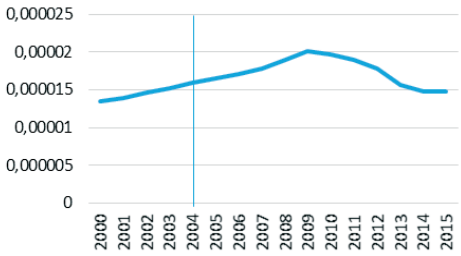



**Figure 19: Latvia**
**Acceded to EU 2004**

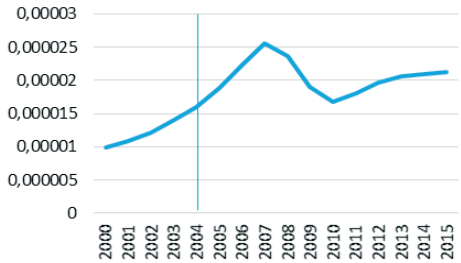



**Figure 20: Lithuania**
**Acceded to EU 2004**

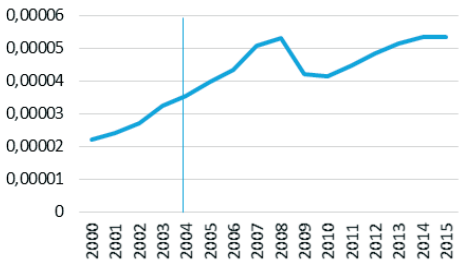



**Figure 21: Luxembourg**

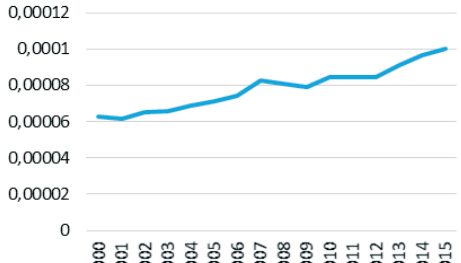



**Figure 22: Malta**
**Acceded to EU 2004**

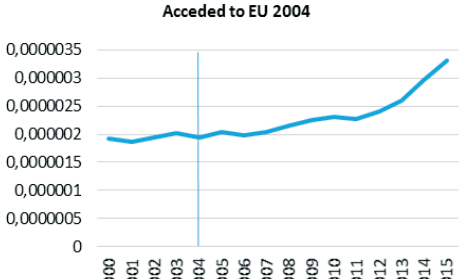



**Figure 23: Austria**

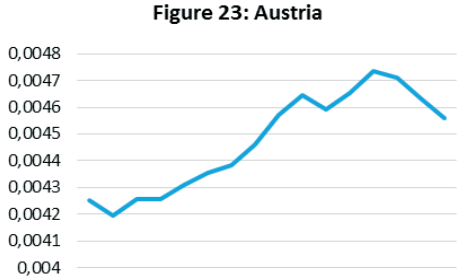
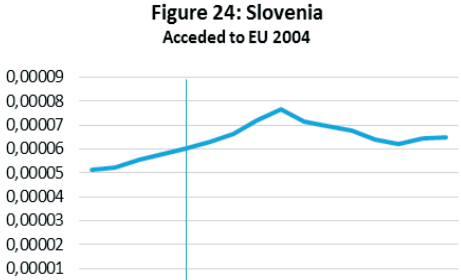
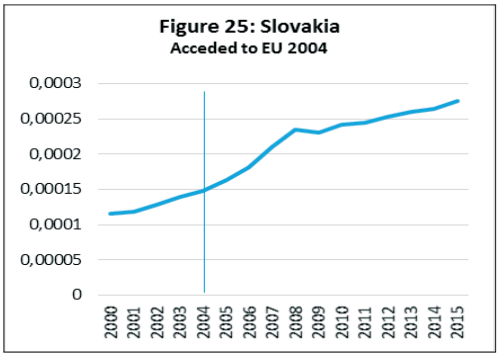
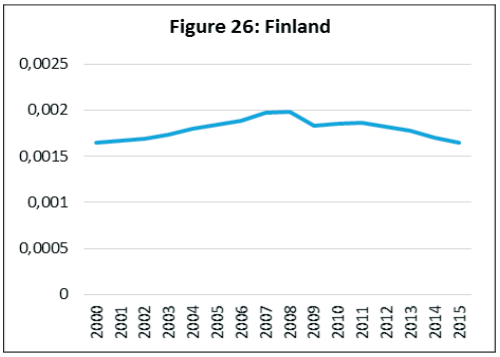
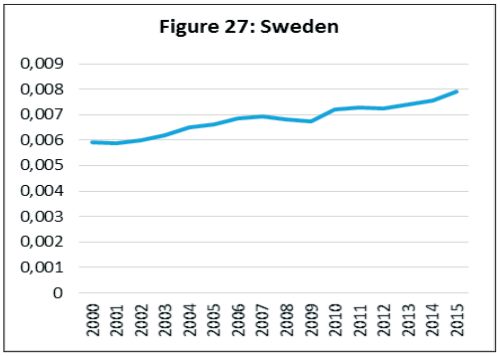



**Figure 24: Slovenia**
**Acceded to EU 2004**

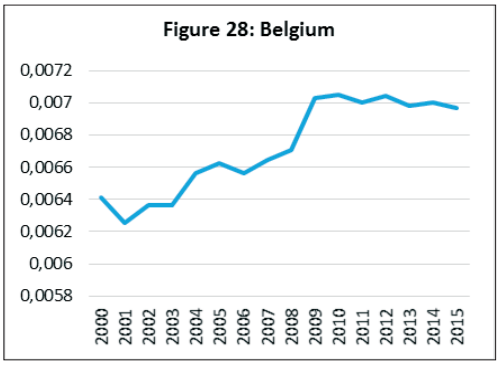


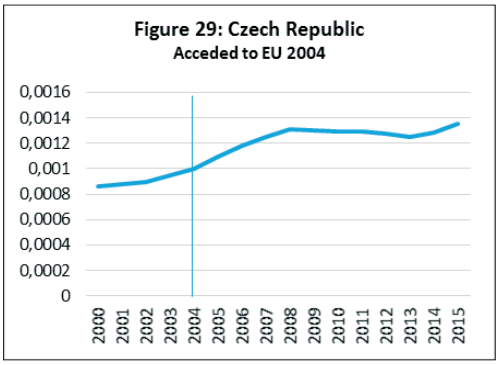


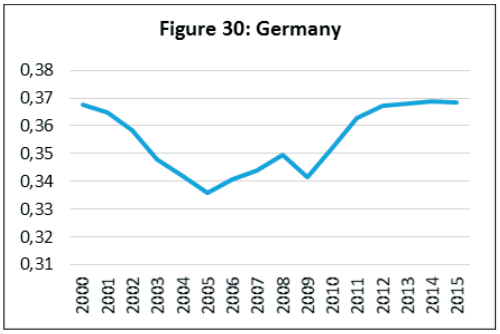



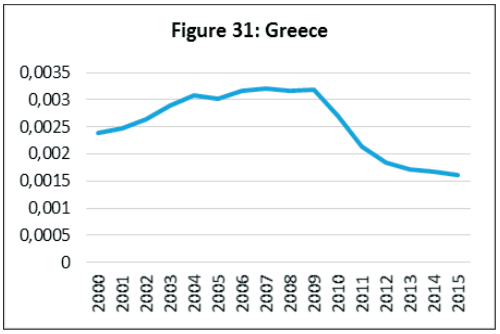




Appendix 3: Graphical review of IRC movement for the EU 'large' countries, constant prices



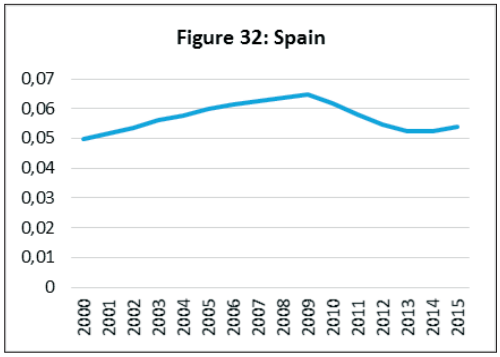


Figure 32: Spain
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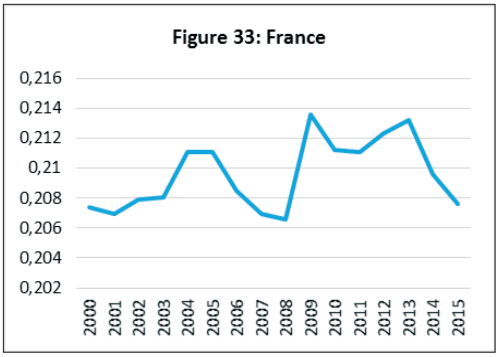
Figure 33: France
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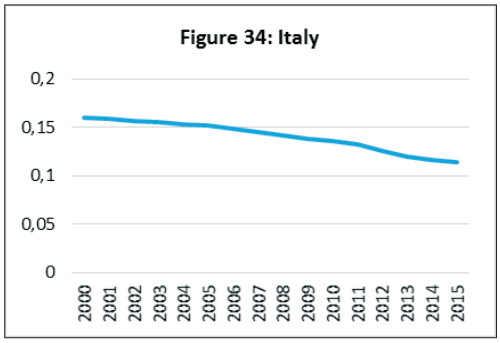
Figure 34: Italy
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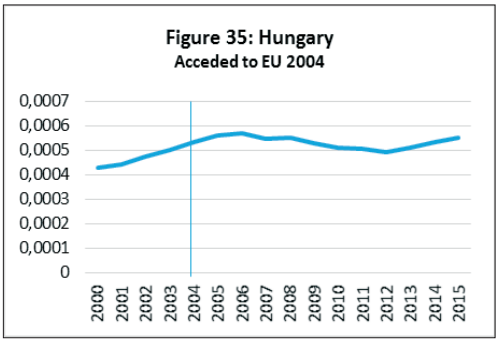
Figure 35: Hungary
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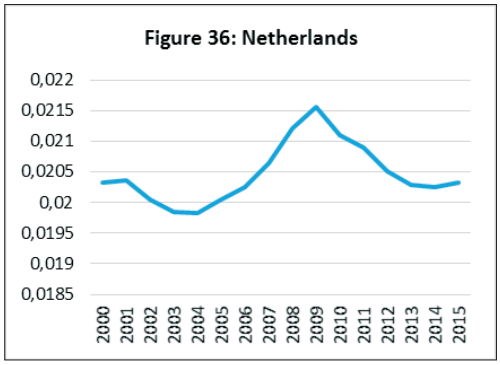
Figure 36: Netherlands
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0,0185
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

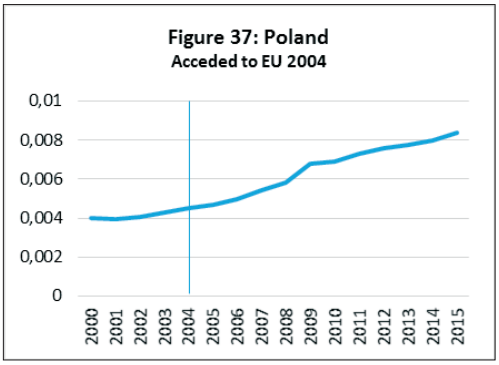
Figure 37: Poland
Acceded to EU 2004
0,01
0,008
0,006
0,004
0,002
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

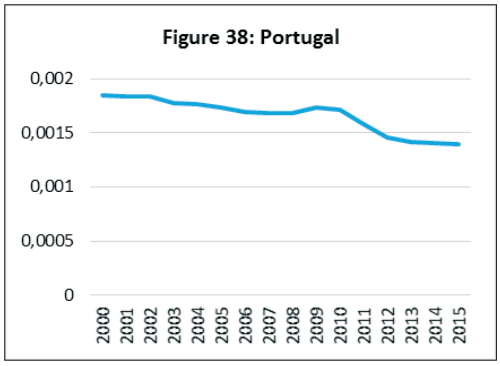
Figure 38: Portugal
0,002
0,0015
0,001
0,0005
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

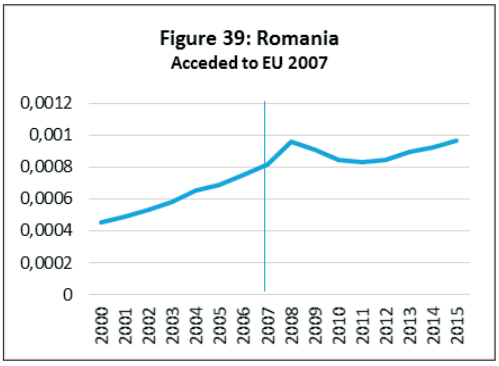
Figure 39: Romania
Acceded to EU 2007
0,0012
0,001
0,0008
0,0006
0,0004
0,0002
0
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

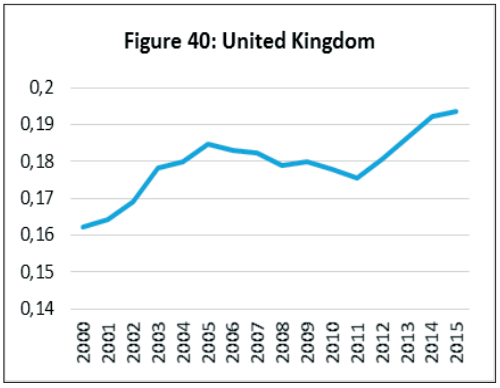
Figure 40: United Kingdom
0,2
0,19
0,18
0,17
0,16
0,15
0,14
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015

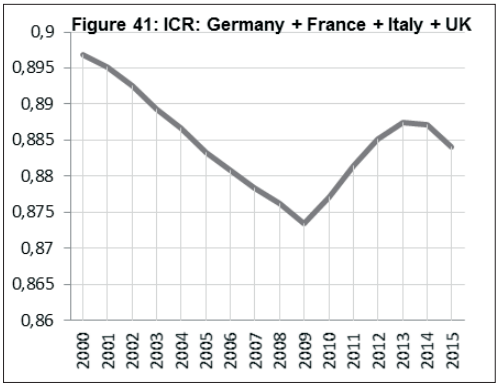
Figure 41: ICR: Germany + France + Italy + UK
0,9
0,895
0,89
0,885
0,88
0,875
0,87
0,865
0,86
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015

**Table 1**: IRC – Index of relative concentration of economic power of 'small' and 'large' countries of the European Union in the period from 2000 to 2015, current prices (shaded period before EU accession)

| Country/year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SMALL COUNTRIES** | | | | | | | | | | | | | | | | |
| Bulgaria | 0,00166 | 0,00189 | 0,00216 | 0,00247 | 0,00285 | 0,00347 | 0,00410 | 0,00528 | 0,00710 | 0,00800 | 0,00773 | 0,00847 | 0,00831 | 0,00818 | 0,00785 | 0,00792 |
| Denmark | 0,25720 | 0,25759 | 0,25898 | 0,26549 | 0,26686 | 0,27612 | 0,28153 | 0,27324 | 0,29960 | 0,30741 | 0,31272 | 0,30526 | 0,30599 | 0,31013 | 0,30203 | 0,28513 |
| Estonia | 0,00031 | 0,00037 | 0,00043 | 0,00054 | 0,00061 | 0,00077 | 0,00101 | 0,00132 | 0,00140 | 0,00115 | 0,00115 | 0,00138 | 0,00152 | 0,00165 | 0,00168 | 0,00158 |
| Ireland | 0,09534 | 0,11308 | 0,13288 | 0,15046 | 0,15879 | 0,17661 | 0,18956 | 0,19526 | 0,18079 | 0,16551 | 0,14772 | 0,14881 | 0,14583 | 0,15044 | 0,16019 | 0,25260 |
| Croatia | 0,00451 | 0,00513 | 0,00586 | 0,00669 | 0,00729 | 0,00812 | 0,00894 | 0,00968 | 0,01189 | 0,01168 | 0,01071 | 0,00993 | 0,00911 | 0,00876 | 0,00793 | 0,00742 |
| Cyprus | 0,00095 | 0,00102 | 0,00105 | 0,00118 | 0,00127 | 0,00138 | 0,00146 | 0,00155 | 0,00185 | 0,00200 | 0,00197 | 0,00193 | 0,00179 | 0,00152 | 0,00132 | 0,00120 |
| Latvia | 0,00060 | 0,00067 | 0,00074 | 0,00078 | 0,00089 | 0,00115 | 0,00165 | 0,00258 | 0,00304 | 0,00202 | 0,00167 | 0,00202 | 0,00229 | 0,00241 | 0,00239 | 0,00229 |
| Lithuania | 0,00127 | 0,00142 | 0,00166 | 0,00197 | 0,00217 | 0,00269 | 0,00321 | 0,00423 | 0,00549 | 0,00417 | 0,00415 | 0,00486 | 0,00525 | 0,00568 | 0,00575 | 0,00538 |
| Luxembourg | 0,00437 | 0,00421 | 0,00441 | 0,00476 | 0,00498 | 0,00539 | 0,00618 | 0,00678 | 0,00727 | 0,00756 | 0,00844 | 0,00912 | 0,00910 | 0,00995 | 0,01042 | 0,01013 |
| Malta | 0,00016 | 0,00016 | 0,00016 | 0,00016 | 0,00015 | 0,00016 | 0,00016 | 0,00017 | 0,00019 | 0,00022 | 0,00023 | 0,00023 | 0,00024 | 0,00027 | 0,00030 | 0,00033 |
| Austria | 0,36889 | 0,36839 | 0,36819 | 0,37894 | 0,37986 | 0,39020 | 0,39304 | 0,39991 | 0,43738 | 0,47070 | 0,45910 | 0,47323 | 0,47479 | 0,48192 | 0,46872 | 0,44594 |
| Slovenia | 0,00390 | 0,00411 | 0,00451 | 0,00491 | 0,00501 | 0,00521 | 0,00551 | 0,00620 | 0,00739 | 0,00752 | 0,00695 | 0,00676 | 0,00612 | 0,00598 | 0,00598 | 0,00574 |
| Slovakia | 0,00405 | 0,00433 | 0,00497 | 0,00642 | 0,00784 | 0,00944 | 0,01147 | 0,01587 | 0,02236 | 0,02356 | 0,02415 | 0,02478 | 0,02496 | 0,02548 | 0,02476 | 0,02390 |
| Finland | 0,15069 | 0,15865 | 0,15809 | 0,16314 | 0,16357 | 0,16472 | 0,16492 | 0,17464 | 0,19258 | 0,18834 | 0,18514 | 0,19255 | 0,18846 | 0,19153 | 0,18107 | 0,16885 |
| Sweden | 0,64477 | 0,54521 | 0,56575 | 0,61150 | 0,61556 | 0,59802 | 0,62070 | 0,63732 | 0,63705 | 0,55114 | 0,72043 | 0,81468 | 0,84613 | 0,87961 | 0,80380 | 0,77129 |
| **Small countries** | **1,54** | **1,47** | **1,51** | **1,60** | **1,62** | **1,64** | **1,69** | **1,73** | **1,82** | **1,75** | **1,89** | **2,00** | **2,03** | **2,08** | **1,98** | **1,99** |
| **LARGE COUNTRIES** | | | | | | | | | | | | | | | | |
| Belgium | 0,54116 | 0,53722 | 0,54396 | 0,56729 | 0,58113 | 0,59140 | 0,59062 | 0,59609 | 0,64339 | 0,69911 | 0,70499 | 0,71403 | 0,70893 | 0,71079 | 0,68970 | 0,64997 |
| Czech Republic | 0,03605 | 0,04303 | 0,05420 | 0,05494 | 0,05987 | 0,07295 | 0,08475 | 0,09554 | 0,13297 | 0,12649 | 0,12932 | 0,13369 | 0,12304 | 0,11527 | 0,10537 | 0,10760 |
| Germany | 36,35511 | 36,13543 | 35,09149 | 35,00118 | 33,57816 | 32,27004 | 31,70200 | 31,68568 | 33,68015 | 34,78656 | 35,20614 | 36,30138 | 35,91939 | 37,00222 | 36,70496 | 35,50398 |
| Greece | 0,16591 | 0,17615 | 0,19210 | 0,22729 | 0,24440 | 0,24198 | 0,26271 | 0,27163 | 0,30054 | 0,32426 | 0,27021 | 0,21294 | 0,17260 | 0,15118 | 0,13594 | 0,11916 |
| Spain | 3,38952 | 3,72126 | 4,03640 | 4,58445 | 4,83279 | 5,27854 | 5,62353 | 5,85996 | 6,39430 | 6,69133 | 6,17931 | 5,69240 | 5,10415 | 4,87298 | 4,61710 | 4,46598 |
| France | 17,90471 | 18,14381 | 18,27318 | 19,04036 | 19,06102 | 19,13973 | 19,01019 | 18,99053 | 20,44371 | 21,60755 | 21,12316 | 21,06808 | 20,56241 | 20,72696 | 19,66092 | 18,36203 |
| Italy | 12,46426 | 12,82995 | 13,02128 | 13,73467 | 13,66226 | 13,52794 | 13,27144 | 12,99595 | 13,67176 | 14,21781 | 13,61589 | 13,32096 | 12,28768 | 11,92732 | 11,27263 | 10,41273 |
| Hungary | 0,02130 | 0,02733 | 0,03697 | 0,04018 | 0,04545 | 0,05002 | 0,04624 | 0,05188 | 0,05946 | 0,05057 | 0,05113 | 0,05050 | 0,04635 | 0,04771 | 0,04729 | 0,04643 |
| Netherlands | 1,62934 | 1,72808 | 1,75805 | 1,82305 | 1,78784 | 1,81461 | 1,85689 | 1,88676 | 2,09666 | 2,19166 | 2,10922 | 2,05361 | 1,96516 | 1,97379 | 1,88725 | 1,76669 |
| Poland | 0,28191 | 0,34309 | 0,31750 | 0,26254 | 0,27670 | 0,36949 | 0,41737 | 0,49421 | 0,68817 | 0,57781 | 0,69232 | 0,71830 | 0,71578 | 0,72176 | 0,72519 | 0,71303 |
| Portugal | 0,13394 | 0,14030 | 0,14626 | 0,15170 | 0,15121 | 0,15343 | 0,15298 | 0,15445 | 0,16421 | 0,17691 | 0,17122 | 0,15418 | 0,13389 | 0,13430 | 0,12861 | 0,12442 |
| Romania | 0,01351 | 0,01575 | 0,01713 | 0,01990 | 0,02456 | 0,03923 | 0,05361 | 0,07889 | 0,10406 | 0,08332 | 0,08496 | 0,08829 | 0,08416 | 0,09640 | 0,09706 | 0,09877 |
| United Kingdom | 25,52463 | 24,69236 | 25,00162 | 22,89301 | 24,07690 | 24,80717 | 25,23458 | 25,10399 | 19,80549 | 16,71566 | 17,77026 | 17,48751 | 20,14692 | 19,43608 | 21,94406 | 25,63935 |
| **Large countries** | **98,46** | **98,53** | **98,49** | **98,40** | **98,38** | **98,36** | **98,31** | **98,27** | **98,18** | **98,25** | **98,11** | **98,00** | **97,97** | **97,92** | **98,02** | **98,01** |

**Source**: Authors' calculation based on data from: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama_10_gdp&lang=en, 3.1.2017

Table 2: IRC – Index of relative concentration of economic power of 'small' and 'large' countries of the European Union in the period from 2000 to 2015, constant prices (shaded period before EU accession)

| Country/year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SMALL COUNTRIES** | | | | | | | | | | | | | | | | |
| Bulgaria | 0,00394 | 0,00407 | 0,00449 | 0,00489 | 0,00531 | 0,00591 | 0,00636 | 0,00694 | 0,00776 | 0,00791 | 0,00773 | 0,00770 | 0,00772 | 0,00780 | 0,00777 | 0,00806 |
| Denmark | 0,33510 | 0,32704 | 0,32431 | 0,32177 | 0,32572 | 0,33033 | 0,33625 | 0,32433 | 0,31916 | 0,31678 | 0,31272 | 0,30791 | 0,31005 | 0,31360 | 0,31470 | 0,31372 |
| Estonia | 0,00075 | 0,00082 | 0,00090 | 0,00102 | 0,00111 | 0,00129 | 0,00148 | 0,00162 | 0,00144 | 0,00115 | 0,00115 | 0,00127 | 0,00139 | 0,00142 | 0,00145 | 0,00144 |
| Ireland | 0,10266 | 0,11085 | 0,12140 | 0,12845 | 0,14051 | 0,15221 | 0,16081 | 0,16412 | 0,14921 | 0,14916 | 0,14772 | 0,14152 | 0,13875 | 0,14080 | 0,16078 | 0,24756 |
| Croatia | 0,00823 | 0,00845 | 0,00920 | 0,01009 | 0,01049 | 0,01103 | 0,01141 | 0,01195 | 0,01238 | 0,01165 | 0,01071 | 0,01021 | 0,00979 | 0,00952 | 0,00915 | 0,00913 |
| Cyprus | 0,00135 | 0,00139 | 0,00147 | 0,00151 | 0,00159 | 0,00166 | 0,00171 | 0,00178 | 0,00190 | 0,00202 | 0,00197 | 0,00190 | 0,00179 | 0,00157 | 0,00148 | 0,00147 |
| Latvia | 0,00100 | 0,00108 | 0,00122 | 0,00141 | 0,00159 | 0,00189 | 0,00223 | 0,00255 | 0,00236 | 0,00190 | 0,00167 | 0,00181 | 0,00196 | 0,00206 | 0,00209 | 0,00213 |
| Lithuania | 0,00222 | 0,00242 | 0,00271 | 0,00325 | 0,00355 | 0,00399 | 0,00434 | 0,00507 | 0,00531 | 0,00423 | 0,00415 | 0,00448 | 0,00484 | 0,00515 | 0,00535 | 0,00536 |
| Luxembourg | 0,00627 | 0,00617 | 0,00651 | 0,00659 | 0,00690 | 0,00712 | 0,00742 | 0,00825 | 0,00807 | 0,00793 | 0,00844 | 0,00842 | 0,00844 | 0,00910 | 0,00968 | 0,01002 |
| Malta | 0,00019 | 0,00019 | 0,00019 | 0,00020 | 0,00020 | 0,00020 | 0,00020 | 0,00020 | 0,00022 | 0,00023 | 0,00023 | 0,00023 | 0,00024 | 0,00026 | 0,00030 | 0,00033 |
| Austria | 0,42529 | 0,41941 | 0,42581 | 0,42557 | 0,43110 | 0,43553 | 0,43855 | 0,44606 | 0,45730 | 0,46452 | 0,45910 | 0,46525 | 0,47334 | 0,47113 | 0,46323 | 0,45598 |
| Slovenia | 0,00514 | 0,00523 | 0,00554 | 0,00577 | 0,00603 | 0,00632 | 0,00665 | 0,00720 | 0,00764 | 0,00713 | 0,00695 | 0,00675 | 0,00641 | 0,00622 | 0,00642 | 0,00649 |
| Slovakia | 0,01160 | 0,01188 | 0,01276 | 0,01396 | 0,01485 | 0,01639 | 0,01817 | 0,02113 | 0,02344 | 0,02301 | 0,02415 | 0,02448 | 0,02536 | 0,02593 | 0,02649 | 0,02757 |
| Finland | 0,16512 | 0,16682 | 0,16945 | 0,17354 | 0,18000 | 0,18413 | 0,18794 | 0,19697 | 0,19866 | 0,18348 | 0,18514 | 0,18676 | 0,18190 | 0,17788 | 0,17022 | 0,16507 |
| Sweden | 0,59329 | 0,58755 | 0,60143 | 0,62069 | 0,64868 | 0,66408 | 0,68610 | 0,69493 | 0,68322 | 0,67416 | 0,72043 | 0,72805 | 0,72561 | 0,73842 | 0,75459 | 0,78941 |
| **Small countries** | **1,66** | **1,65** | **1,69** | **1,72** | **1,78** | **1,82** | **1,87** | **1,89** | **1,88** | **1,86** | **1,89** | **1,90** | **1,90** | **1,91** | **1,93** | **2,04** |
| **LARGE COUNTRIES** | | | | | | | | | | | | | | | | |
| Belgium | 0,64093 | 0,62537 | 0,63647 | 0,63634 | 0,65632 | 0,66247 | 0,65611 | 0,66446 | 0,67052 | 0,70271 | 0,70499 | 0,70046 | 0,70405 | 0,69808 | 0,70020 | 0,69659 |
| Czech Republic | 0,08645 | 0,08814 | 0,08947 | 0,09454 | 0,09999 | 0,10971 | 0,11814 | 0,12462 | 0,13071 | 0,12991 | 0,12932 | 0,12901 | 0,12726 | 0,12513 | 0,12815 | 0,13523 |
| Germany | 36,75684 | 36,49626 | 35,85614 | 34,80020 | 34,20614 | 33,59438 | 34,05628 | 34,39825 | 34,94306 | 34,16450 | 35,20599 | 36,27210 | 36,71710 | 36,81232 | 36,88224 | 36,85143 |
| Greece | 0,23826 | 0,24804 | 0,26318 | 0,28999 | 0,30739 | 0,30125 | 0,31700 | 0,32026 | 0,31628 | 0,31793 | 0,27021 | 0,21392 | 0,18426 | 0,17128 | 0,16743 | 0,16097 |
| Spain | 4,97684 | 5,16816 | 5,37417 | 5,63342 | 5,75799 | 5,99884 | 6,13704 | 6,25985 | 6,36323 | 6,49398 | 6,17929 | 5,80687 | 5,48462 | 5,26119 | 5,24876 | 5,39850 |
| France | 20,73848 | 20,69647 | 20,79085 | 20,80502 | 21,10857 | 21,10366 | 20,85052 | 20,69476 | 20,65520 | 21,35707 | 21,12307 | 21,10403 | 21,23165 | 21,32343 | 20,96263 | 20,76163 |
| Italy | 15,98691 | 15,89754 | 15,69644 | 15,49962 | 15,35936 | 15,15753 | 14,86814 | 14,50225 | 14,11685 | 13,84235 | 13,61583 | 13,20602 | 12,50165 | 11,98694 | 11,65689 | 11,42177 |
| Hungary | 0,04278 | 0,04423 | 0,04746 | 0,05036 | 0,05333 | 0,05627 | 0,05721 | 0,05468 | 0,05534 | 0,05303 | 0,05113 | 0,05074 | 0,04925 | 0,05099 | 0,05358 | 0,05505 |
| Netherlands | 2,03308 | 2,03573 | 2,00417 | 1,98428 | 1,98374 | 2,00491 | 2,02537 | 2,06310 | 2,12142 | 2,15632 | 2,10921 | 2,09019 | 2,05110 | 2,02869 | 2,02552 | 2,03303 |
| Poland | 0,40056 | 0,39423 | 0,40329 | 0,42582 | 0,45201 | 0,46883 | 0,49828 | 0,54075 | 0,58427 | 0,67798 | 0,69231 | 0,73207 | 0,75758 | 0,77323 | 0,80065 | 0,83528 |
| Portugal | 0,18458 | 0,18417 | 0,18373 | 0,17751 | 0,17670 | 0,17375 | 0,16892 | 0,16809 | 0,16778 | 0,17335 | 0,17122 | 0,15823 | 0,14608 | 0,14178 | 0,14009 | 0,13963 |
| Romania | 0,04549 | 0,04869 | 0,05293 | 0,05802 | 0,06543 | 0,06875 | 0,07568 | 0,08186 | 0,09574 | 0,09076 | 0,08496 | 0,08319 | 0,08446 | 0,08989 | 0,09270 | 0,09671 |
| United Kingdom | 16,20668 | 16,41960 | 16,91431 | 17,82617 | 17,99538 | 18,47761 | 18,30168 | 18,23400 | 17,90157 | 17,98485 | 17,77019 | 17,55639 | 18,06336 | 18,62619 | 19,20743 | 19,37047 |
| **Large countries** | **98,34** | **98,35** | **98,31** | **98,28** | **98,22** | **98,18** | **98,13** | **98,11** | **98,12** | **98,14** | **98,11** | **98,10** | **98,10** | **98,09** | **98,07** | **97,96** |

**Source**: Authors' calculation based on data from: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama_10_gdp&lang=en, 3.1.2017