

Decentralization as a Factor Influencing Economic Imbalances in the European Countries¹

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Abstract

This paper deals with the potential connections of decentralization with economic imbalances in the European countries. Two indicators have been chosen for measuring economic imbalances: an indicator dispersion of regional GDP per capita as a representative of the performance imbalances within countries (it measures the economic development gap among regions in European countries) and a multidimensional inequality-adjusted human development index as a representative of inequalities in the distribution of wealth in the countries. According to this analysis quite weak links were proved between the tested variables. Decentralization does not belong among the strong factors influencing economic imbalances. Despite this weak link it is still possible to conclude that decentralization is more connected with differences in economic performance than with differences in distribution.

Keywords: decentralization, economic development, human development, inequality, regional disparities

JEL Classification: R11, R50, O10

Introduction

One of the most important policies of the European Union in terms of both sustainable growth and the amount of financial resources is the cohesion policy. Its main objective is to reduce economic and social inequalities between regions, also called regional disparities. Territorial cohesion reinforces the basic orientation of the EU cohesion policy. It is not interpreted as a “mere” redistributive

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tool, but is defined as a policy of development. Territorial cohesion is about mobilizing the potential, not about compensating for geographical differences. One of its principles is the rule of subsidiarity, which emphasizes decentralization and the role of public administration. The result has been a shift from the concept of “government” to the concept of “governance” (Laboutková, 2009).

This article aims to identify and assess the relations of two factors – inequality of human development and the economic development gap among regions with decentralization in European countries. There are already existing empirical studies, that have focused on the relationship between decentralization (fiscal) and economic growth, such as Barro (1990) Zhang and Zou (1998; 2001) Davoodi and Zou (1998), Xie, Zou and Davoodi (1999), Akai and Sakata (2002) but there is no consensus about the effect of fiscal decentralisation on economic growth Laleona, Madrazo and Jano (2010) provided a "reading guide" for this line of investigation and concluded that a status quo of the influence of fiscal decentralization on economic growth exists in this kind of research.

This presented paper sets out the research questions: whether there is causality between decentralization and the imbalance in performance within the economy, and in the distribution of output in the economy, and if so, whether the causality is strong. The authors of this article assume that if the causality between the studied variables is demonstrated, it will be ambiguous. For the measurement of regional disparities an indicator of dispersion of the regional gross domestic product (GDP) per capita is used. Previous studies focusing on the relationship between decentralization and regional disparities have also not reached a clear outcome. Most authors are again engaged mainly in fiscal decentralization (Proud'homme, 1995; Panizza, 1999; Gil Canaleta et al., 2004; Letelier, 2005; Bodman and Hodge, 2010; Sepulveda and Martinez-Vazquez, 2011). The reason for their narrower focus is the fact that political decentralization is less suitable for quantification. Another weakness of these studies is that most of them are based on national rather than regional sources. Regional data are either aggregated collectively from individual states, or they are not available at all. Yet, if we are to examine the relationships between decentralization and the regional disparities, it is necessary to work with the regional data. The main goal of such an investigation is to detect regional differences rather than differences between countries.

In this context, the decision-making competences are more essential than executive powers (Laboutková, 2012). Among the recent works which comprehensively investigated the influence of decentralization on regional disparities, one should include the work of Rodríguez-Pose and Ezcurra (2009). They analyzed the relationship between the fiscal and political decentralizations and the development of regional disparities in a sample of twenty-six countries. The

study concluded this relationship is significantly influenced by the overall economic level of the given state. While political decentralization in developed countries does not affect the development of regional disparities, the fiscal decentralization defuses them. In contrast, fiscal decentralization in the emerging economies deepens inequalities between regions.

This negative effect cannot be compensated for by the observed positive effect of political decentralization. The main cause of this is a weak redistributive capacity in these countries, in comparison to the developed ones. Such a conclusion strengthens the argument that the cohesion policy should not be understood as a synonym for redistributive policies. The authors of the presented article are inclined to accept the modern concept of cohesion policy and they understand decentralization as a set of quantitative and qualitative factors (financial decentralization and decentralization of decision-making), which complement each other.

For these reasons, an index of decentralization is utilized in this work, in which both mentioned components are included – this is the first contribution of this article on the issue. The second benefit of the provided paper is the focus, not only on imbalances in economic performance, but also on a qualitative point of view through the Human Development Index (HDI), or its modified version, the Inequality-adjusted Human Development Index (IHDI). The HDI aims to extend the concept of economic levels in a single summary indicator. This effort reflects the belief that a standard using GDP per capita is too narrow and ignores the importance of other factors, especially the qualitative characteristics of economic development. The concept of the human development index highlighted the importance of those factors (in addition to gross national income per capita), which is also closer to the quality of life from the perspective of human resources (educational characteristics and life expectancy). Economic inequality, also known as income inequality, the gap between rich and poor, wealth disparity, or wealth and income differences, distribution and redistribution of income, etc. comprises disparities in the distribution of economic assets and income within or between nations or individuals. The term usually refers to inequality among individuals and groups within a society, but can also refer to inequality among countries. In the classic text by Sen (1973), the theory of welfare economics was related to the study of economic inequality. A systematic treatment of the conceptual framework was presented there, as well as the practical problems of measuring inequality. For the purpose of the article the “loss” between the HDI and IHDI was selected. Although IHDI has been developed only recently and therefore does not yet provide long-term data, it offers a real picture of human development.

Key Indicators

Decentralization can generally be divided into three categories (Sharma, 2009): political, fiscal, and administrative. An indicator of political decentralization is the form of election of the top representatives of the local government, which is further supplemented by formal and informal mechanisms of public consultations for planning and implementation of public projects. Fiscal decentralization is considered to be the core of decentralization. It includes two aspects: the first is the division of responsibilities for expenditures and revenue sources among the national, regional, and local levels of government: the second is the extent of the regional and local governments power in terms of determining their own spending and revenues. To make decentralized functions effective, regional governments must either gain an adequate level of income locally, or a transfer from the central government together with the power to decide spending. While local governments are usually responsible for public services on the expenditure side, this obligation does not automatically imply their right to levy taxes. This imbalance in autonomy on the revenue and expenditure sides indicates the central attempts to maintain economic, and thus political, power rather than delegating it to the lower levels of public administration. As regards administrative decentralization of public services, there are many dimensions, such as planning, implementation and operation, and management of public services.

In this respect, there is a unique empirical research *From Subsidiarity to Success: The Impact of Decentralization on Economic Growth*, which was carried out in the spring of 2009 by AER² in cooperation with the BAK Basel Economics.³ It examined the link between the degree of autonomy of regions (data has been collected from 234 regions in 16 European countries), respectively the degree of decentralization of the state, and the economic development.⁴

For measurements of decentralization, all public powers were compared (powers are used here as a synonym for the regulatory power) in a country with different levels of governance: from the highest state level to the municipal level. The more powers are delegated to regions and municipalities, the more these countries are regarded as countries with greater decentralization. From the point of view of regions and municipalities, it means greater autonomy for

² The Assembly of European Regions (AER), founded in 1985, is the largest independent network of regions in the wider Europe. It comprises 270 regions from 33 countries and 16 inter-regional organizations.

³ BAK BASEL – a private economic institute, based in Basel, founded in 1980, specializes, among other things, in international comparisons of regions.

⁴ For more details about the sets of data see AER (2009).

them. Decentralization cannot be studied or measured directly for its multidimensionality and complexity. However, many individual aspects in the vertical organization of the country can be observed. These observable aspects (altogether, there were 185 of them) were systematically collected, and the measured information was aggregated into the so called index of decentralization. *The Decentralization Index (DEX)* contains both quantitative and qualitative components. Financial decentralization has the weight of 40% and it includes mainly quantitative information about the amount of income and expenditure in relation to the central government. However, it also comprises qualitative information on competence in decision-making about financial matters, such as taxation (does the region have the power to determine the tax base or tax rate?) or the public debt (does the region have the right to issue debt securities?). Decentralization in decision-making has a weight of around 60% of the whole index. Apart from the information on the relative number of officials, the index of decentralization contains multiple qualitative information regarding the structure and distribution of decision-making in public affairs between the various levels of government of the state.

The cause of *uneven regional development* is the occurrence of spatial variability in the socio-economic development leading to the emergence of spatial inequalities. Imbalance of spatial structures in different regions represents the regional disparity and signifies a dissimilarity or disproportion of phenomena or processes having a unique spatial distribution. In terms of a theoretical explanation, it is difficult to define the causes of uneven regional development. Factors such as the size of the country (Williamson, 1965), core-periphery models, technological equipment, and infrastructure affect the local allocation of private capital, and thus predetermine redistribution processes within the economy. Specific factors of regional inequality can be traced in the transition countries in connection with the change of the coordination mechanism (Petraikos, 2001; Ezcurra and Pascual, 2007). In the last twenty years, the ambiguous impact of liberalization and globalization of trade has been discussed in the context of regional development (Milanovic, 2002; Rodríguez-Pose and Gill, 2006). Models of “new economic geography” emphasize the relationships between the uneven spatial development and economic growth (Krugman, 1998; Fujita and Thisse, 2002).

Economic performance of the administrative unit (region) is characterized by creation of the GDP. The comparison of the GDP per capita against the average level EU-27 measured by the purchasing power standards (PPS) is the most frequently provided one. Use of this indicator leads to the conversion of the values of all components of GDP to the average price level within the EU, and thus to

the elimination of differences in price levels (or deformations related to the exchange rates of national currencies against the Euro). European regions with the highest GDP per capita in 2009 are situated in the south of the United Kingdom, in southern Germany, in northern Italy, and in Belgium, Luxembourg, the Netherlands, Austria, Ireland, and Scandinavia. Highly developed regions in the surroundings of capital cities are traditionally added: around Madrid, Paris, Prague, and Bratislava. The weakest regions are assembled in the southern, south-eastern, and south-western periphery of the European Union: in eastern Germany and in the new EU member states. The dispersion of the regional GDP per capita ranges from 27% (6 400 PPS) of the EU-27 average GDP (23 500) in the north-west of Bulgaria called Severozapaden to 332% of the EU-27 average of GDP (78 000 PPS) in inner London in the UK, which is 12 times more than the lowest value from the 275 statistically measured EU regions (271 NUTS2 regions in the EU plus three regions of Croatia and Macedonia). In thirteen out of twenty-three NUTS2 countries, the measurements revealed more than twice as high differences in the regional GDP per capita (EC, 2011; 2012; 2013).

For assessment of the development in the regions within the member states, Eurostat has published an *Indicator of Variance (Dispersion, D) of the Regional GDP per capita* since 2007. For a given country, the dispersion 'D' of the regional GDP of the level 2 regions is defined as the sum of the absolute differences between regional and national GDP per inhabitant, weighted on the basis of the regional share of population and expressed in percent of the national GDP per inhabitant. The indicator of the dispersion of the regional GDP is calculated as follows (EC, 2011):

$$D = 100 \frac{1}{Y} \sum_{i=1}^n |y_i - Y| \left(\frac{p_i}{P} \right) \quad (1)$$

In the above equation:

- y_i – the regional per-inhabitant GDP of region I,
- Y – the national average per-inhabitant GDP,
- p_i – the population of region,
- P – the population of the country,
- n – the number of regions of the country.

The value of the dispersion of GDP per inhabitant is zero if the values of regional GDP per inhabitant are identical in all regions of the country.

Human Development Index has been published since 1990 in periodical Human Development Reports (HDR) within the United Nations Development Program (UNDP). The annual HDR in November 2010 brought a new methodology and a change in some of the index parameters:

- a partial factor approach to education was investigated using the education index,
- factors in life expectancy and level of health care use the life expectancy index;
- a new use of the income index (calculated from Gross National Income – GNI per capita in PPP USD data) as an indicator of the standard of living.

Individual sub-index values are calculated using both the maximum and minimum reported figures, plus the actual reported figures for each country; for example in 2011 the longevity had an interval of 20 – 83.2 years; the education component intervals consisted of: expected total years 0 – 20.6, average education period 0 – 13.2 years and a combined index ranging from 0 – 0.951. The interval for GNI was 163 – 108 211 USD per capita in purchasing power parity (UNDP, 2011).

$$Subindex = \frac{actual\ value - minimum\ value}{maximum\ value - minimum\ value} \quad (2)$$

The resulting sub-index value ranges from 1 (best outcome) to 0 (worst outcome) and there is a geometric mean value of the HDI (the original HDI was constructed as an arithmetic mean, i.e. without weights). An accompanying indicator of human development is the new multidimensional *IHDI* which is based on the same principles as the HDI (i.e. life expectancy, education, and economic level), but also reflects the unequal distribution of each sub-factor in the population (the inequality of access to the available resources). It can be concluded that *IHDI* is the real indicator of the level of human development, while HDI can be interpreted as an index of human development potential, or maximum level of *IHDI*, which could be achieved in the absence of inequalities in the distribution of wealth. The *Overall Loss (L)* caused by the human development inequalities is responsible for the difference between *IHDI* and HDI, and can be expressed as a percentage. The average loss in the HDI due to inequality is about 23% – that is, adjusted for inequality, the global HDI of 0.682 in 2011 would fall to 0.525. Countries with less human development tend to have greater inequality in more dimensions – and thus larger losses in human development (UNDP, 2011).

Methods

For the following calculations and statistical analysis, the mutual relations between decentralization and regional disparities were measured for period 2008 – 2011. The values of index of Dispersion of Regional GDP per capita are available for 21 EU countries (Austria, Belgium, Bulgaria, Croatia, Czech Republic,

Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden, United Kingdom), the data for the remaining 5 countries (Estonia, Latvia, Lithuania, Norway, Switzerland) are not calculated (Eurostat, 2013). The mutual relations between decentralization (AER, 2009) and inequality loss (UNDP, 2011; 2012; 2013) were measured for period 2010 – 2013 for all 26 countries.

Although Index of Decentralization was calculated only for 2009, its construction is so unique and complex that authors decided to use just this one for both analyses. The authors also supposed that the changes in the values were negligible for observed countries in the examined period.

To determine the links between the data, the methods of simple regression analysis were used, which makes it possible to compare not only the statistical power (robustness) of the identified links (statistically significant at the customary 5% or 10% significance level), but also the intensity with which decentralization (independent variable) is connected to economic imbalances (dependent variables). The statistical software STATGRAPHICS Centurion XVI was used. The blue line represents the estimated regression model, the green bordered lines show the confidence interval for the mean forecast; the broader light gray bounded strip is the confidence interval for predictions. It can be assumed that the average values for a given level of DEX will fluctuate with a 95% confidence within the green limits. The expected individual values of the dependent variable will then, with the same probability, fall into the area between the light gray borders.

Results

A. Relationship between Decentralization and Regional Disparities

The following analytical part presents the results of examining the interacting ties of the selected indicators of decentralization DEX and the regional disparities D (see Table 1 and Figure 1).

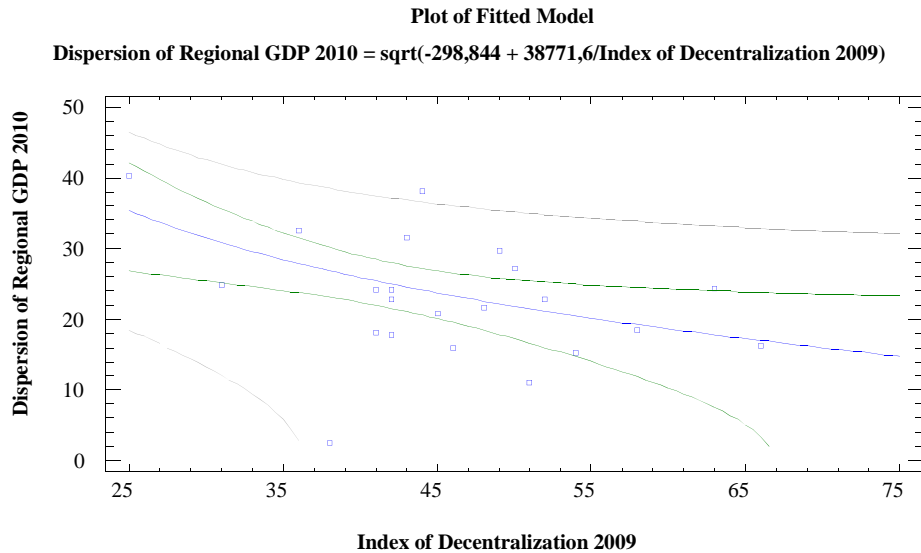
Table 1

Simple Regression – Dispersion of Regional GDP vs. Index of Decentralization

Model equation	P-value (F-test)	P-value (T-tests)		Index of determination (R ²)
$D_{2008} = \sqrt{-159.254 + 30714.3/DEX_{2009}}$	0.0409	0.6333	0.0409	20.2067
$D_{2009} = \sqrt{-269.479 + 37972.3/DEX_{2009}}$	0.0184	0.4030	0.0184	25.9138
$D_{2010} = \sqrt{-298.844 + 38771.6/DEX_{2009}}$	0.0126	0.3793	0.0126	27.3013
$D_{2011} = \sqrt{-290.865 + 38227.7/DEX_{2009}}$	0.0143	0.3954	0.0143	26.4543

Source: Own construction.

Figure 1
The Relationship of Indices of Decentralization (%) and Regional Disparities (%)



Source: Our own construction.

From the Figure 1, it is possible to see that countries with a high degree of decentralization, such as the Netherlands, Austria, Italy, Spain and Germany, with decentralization values over 50%, reported low levels of variance of regional GDP per capita (less than 25%). On the other hand, countries with the highest coefficient of variance of regional GDP per capita at more than 25%, such as Bulgaria, Slovakia, Greece and Romania, also report indices of decentralization less than 40%. In these economies, the decentralization process is partly influenced by a change of the coordination mechanism (the transition from a planned to a market economy).

Based on the values of indicators of decentralization DEX 2009 and regional variance (dispersion) D 2010, a statistically significant association was demonstrated, even though the correlation coefficient (0.52) indicates a weaker bond between the selected indicators. Only approximately one quarter of the variability of regional variance can be explained through the selected function mentioned in Table 1.

B. The Relationship between Decentralization and Inequality Loss

The results of examining the relation of the selected indicators of decentralization DEX and the inequality loss L are summarized in the Table 2 and Figure 2.

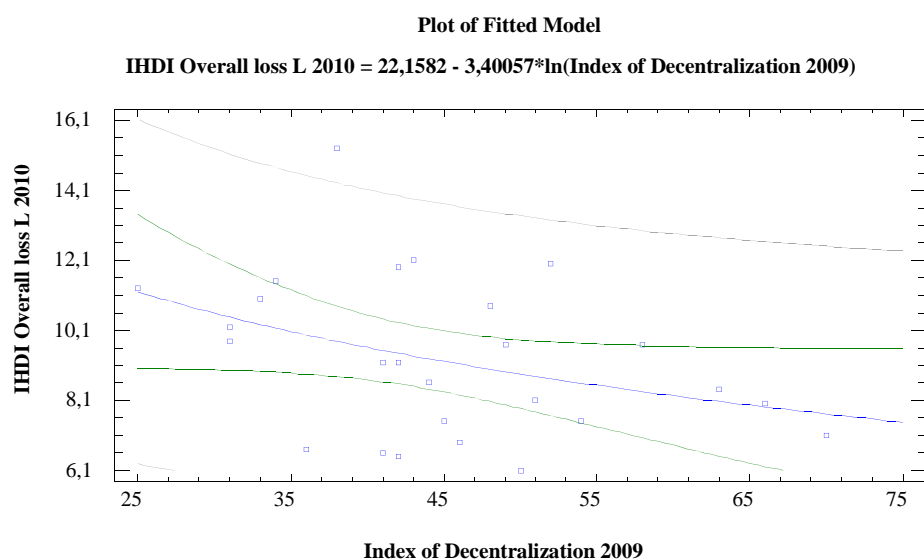
Table 2

Simple Regression – IHDI Overall Loss vs. Index of Decentralization

Model equation	P-value (F-test)	P-value (T-tests)		Index of determination (R ²)
$L_{2010} = 22.1582 - 3.40057 \cdot \ln \text{DEX}_{2009}$	0.0623	0.0026	0.0623	13.7364
$L_{2011} = \sqrt{0.911651 + 3311.26/\text{DEX}_{2009}}$	0.0416	0.9806	0.0416	16.1793
$L_{2012} = \exp(1.73806 + 16.6124/\text{DEX}_{2009})$	0.0723	0.0000	0.0723	12.8382
$L_{2013} = \sqrt{30.2843 + 1992.9/\text{DEX}_{2009}}$	0.0858	0.2708	0.0858	11.7996

Source: Own construction.

Figure 2

Relationships between Decentralization (%) and Inequality Loss (%)

Source: Our own construction.

From Figure 2, it is possible to see that countries with a high degree of decentralization, such as the Switzerland, Netherlands, Austria, Belgium and Germany, with decentralization values over 50%, reported low levels of variance of inequality loss less than average of observed countries (9.2%). On the other hand, countries with higher value of indicator of inequality loss than average, such Croatia, Romania, Greece, and Latvia also report indices of decentralization less than 40%.

Since the P-value in the analysis of the variance table is greater than 0.05, there is not a statistically significant relationship between the index of decentralization and inequality loss at the 5% significance level. The authors of this paper have proved a statistically significant relationship at the 10% significance level.

The fitted statistic model explains only 13.73% of the variability of inequality loss. The correlation coefficient (-0.37) indicates a relatively weak relationship between the variables.

Concluding Discussion

The basic argument in favor of decentralization is that it improves the effectiveness and efficiency of the public sector, stimulates regional development, and promotes long-term economic growth (Iimi, 2005; Thieben, 2005; Bodman, 2011).

Negative effects of decentralization are represented by the additional costs of decentralization of power, frustration from income redistribution, achieving minor savings of scale in providing public goods, and the additional costs associated with collecting local taxes (Feld, Kichgässner and Schaltegger, 2004). Outcomes from empirical researches mentioned in the introduction of the article however, are not clear.

The authors of this provided paper have contributed to the discussion by statistically testing the relationship between decentralization and disparity of economic performance or inequality in the human development. According to this analysis quite weak links were proved between the tested variables. Decentralization does not belong among the strong factors influencing economic imbalances.

Although there was only a statistically weak link demonstrated in general, it is still possible to conclude that decentralization is more connected with differences in economic performance than with differences in distribution. This is likely to be as a result of population preferences and the industrial structure which are often very heterogeneous (varying from one region to another); the single state policy hardly meets all the requirements. In addition, the regions have the best knowledge of the preferences of their citizens and the needs of local businesses and companies. In the case of unequal human development it is demonstrated that the share of decentralization is essentially negligible on its reduction.

This is probably due to the composition of used index IHDI. Education and health care belongs to the areas with high fixed costs or slowly declining marginal costs, which are among the valid arguments in favor of centralized decision-making.

Another cause of the ambiguous results might be the index of decentralization itself. The question arises, what results would be achieved if the individual components of decentralization were used in the analysis separately.

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