

Differences in Regional Economic Prosperity: Do State Policies Matter? – An Empirical Investigation of Data from the German States

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ABSTRACT

Different regional economic theories come to different conclusions with regard to the impact of (state) policies on the economic prosperity of regions. This article provides empirical evidence that determinants like geography, urbanization, industrial mix and social capital explain 68 percent of the variation in GDP per worker among West German regions. One element that all these factors have in common is that they cannot, at least in the short run, be influenced by state policies. Determinants like infrastructure and human capital, both of which can be influenced by state policies, only account for another 11 percent of the variation in GDP.

Key words: regional economic development, state policies, fiscal equalization scheme

JEL: H7, O1, R1

1 Introduction

The economic performance of the different German federal states (*Länder*) varies greatly; this is also true beyond the easily explained differences between West German regions and the former socialist East German regions. The gross domestic product (GDP) per worker in the richest West German federal state Hessen in 2009 was 68,963 Euros while in the poorest West German federal state Saarland this figure was as low as 56,373 Euros. Questioning what role state policies play in these differences produces controversy. On the one hand, the numerous politics related to *Länder*-rankings suggests

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that state policies partly share responsibility – and not to an insignificant extent – for the economic prosperity of the state. So, for example, in Bertelsmann Stiftung (2005, p. 11) it is stated that the »states can influence, to a noticeable extent, how dynamically the economy and employment situation develops in the respective regions«.

On the other hand, there are a series of historical *Länder* case studies that tend to indicate the opposite. Mathias et al. (1980) and also Schmidt (1989) and Fuchs (1992), for example, emphasize the fact that the economic development of the Saarland in the past was significantly influenced by the importance of the coal and steel industry, which led to a regularly changing political affiliation in the region. This in turn had a negative impact on the business investment relationship and slowed the development of new economic sectors. In a similar manner – albeit the other way round – when looking at Hessen, the development of the economic prosperity of the Rhine-Main region can be considered a result of the interplay of historical factors (e.g. a tradition as a place of banks, stock markets and fairs dating far back into the past) and the fact that this is a geographically advantageous location (central position in the federal territory, a railroad and motorway junction dating to the pre-war era, and one of the most important continental European nodal points for air traffic). See Krenzlin (1961), Freund (1991) or Bördlein & Schickhoff (1998) for more information on this point.

In spite of the fact that there is no clear cut empirical evidence regarding the impact state policies have on a state's economic prosperity, many politicians support the idea of a reduction in the level of redistributive transfers between the *Länder* on the basis of the argument that the economic performance of the individual states, whether performing well or poorly, and the accompanying high or low revenue from taxation are the result of »good« or »bad« economic and fiscal policy. These demands are made with the aim of using the »fiscal surplus« of the financially strong *Länder* as a basis for increasing their future growth potential (see Berthold & Fricke, 2007). Empirical evidence on the effect of state policies on regional economic prosperity therefore has direct consequences for the political debate on the adequate level of re-distributive transfers. If the influence of state policies on the economic development in Hessen and Saarland is marginal, then the economic consequences of the disincentives for the economic growth policy in both states, which result from the current fiscal equalization system, is also relative.

In the first part of the paper, a very brief outline of regional economic theory is provided focusing on the contributions of different theories with regard to the question of policy impact (section 2). This section concludes that the established theoretical approaches do not provide satisfying answers to the »Do policies matter«-question. The question has therefore to be addressed empirically (section 3). Using a potential function with the average gross domestic product per worker for the years 2007–2009 as a dependent

variable, factors that can only minimally be influenced by state policies in the short and medium term (such as the structure of urban and industrial development, geography and social capital) are differentiated from those factors which can indeed be influenced by state policies in both the short and the medium term (such as transport and educational infrastructure). The empirical analysis covering 112 West German functional urban regions shows that differences in state policies do not explain more than twelve percent of the variation in GDP per worker among the regions. The final section of the paper discusses some political implications for the debate on the reform of Germany's fiscal equalization system emerging from the results presented (section 4).

2 Regional economic development and politics – theoretical approaches

2.1 Spatial Dimension of »Old« and »New« Economic Growth Theories

From the point of view of traditional growth theory, the economic development of states is determined by the three major saving ratios: capital accumulation, population growth (employment) and technical development (see for the basics of traditional economic growth Solow, 1956, and Swan, 1956; see for a summarised description Capello, 2007, p. 83 et seq.). Although the extent of capital accumulation in this model is accorded a significant weight in terms of economic growth, this factor does not have an original influence if one considers that capital accumulation follows a growth path predetermined by population growth and technical development. Traditional growth theory assumes a decreasing marginal productivity of the production factor capital, which ensures the convergence of state income per capita. In addition, the mobility of production factors leads to a regional balancing of the factor price. If interregional trade occurs, price equalization results even if there is no adjustment of the factor proportions. In this theoretical approach, state policy is not a decisive factor in (regional) economic growth. Economic policy can at best accompany the convergence process, which would in any case occur »naturally«, by means of the removal of mobility and market entry barriers (see for example Caselli et al., 1996).

It is worth noting that the models of new economic development theory allow for a more optimistic assessment of the role of state policies in regional economic development. New growth theory can be traced back to the work of Lucas (1988) and Romer (1986). From the perspective of this approach, long term economic development is only guaranteed through technical development (see for example Arrow, 1985; see also Smolny, 2000). Bearing this in mind, the primary focus of newer growth theory approaches is the explanation of long term growth by means of specifying the determinants of technological change. From a spatial perspective, these approaches imply

that, in contrast to traditional growth theory, there does not have to be a tendency towards regional convergence. One of the main reasons for this is the fact that spatial proximity in terms of the generation and use of technical advances and knowledge is considered of crucial importance.

Regional knowledge networks emerge most easily where substantial human capital and the necessary know-how is already available. This is particularly true for urban agglomerations considered as hubs for the generation of new knowledge with their research infrastructure and above average population of knowledge intensive industries (for an overview Bretschger, 1999; Breschi & Lissoni, 2001; Döring & Schnellenbach, 2006). In addition, it is assumed that regional regeneration occurs through the generation of new knowledge where both the immediately affected region benefits as well as border regions. Based on these considerations and the federal division of competences in Germany, both human capital accumulation and technological externalities in the form of knowledge spillovers can be used as starting points for political activity aimed at positively influencing regional economic development.

2.2 Growth Pole Theories and New Economic Geography

Similar to the proponents of new growth theory, the advocates of polarization theory assume that economic development does not inevitably converge. Here, efforts are made to (dynamically) explain the frequently observed disparities in the economic activities of regions (see Hansen 1967; see Perroux (1955) as a proponent of industrial polarisations models; see in contrast Myrdal (1957) and Hirschman (1958) as proponents of regional polarisations models). In doing so it is assumed that imbalances emerge in economic development processes that start off a cumulative development process. Once this has begun, the process of development exacerbates existing imbalances and leads to sectoral and regional polarization effects, which can emerge in the form of (increasing) divergence between the centre and the periphery.

From this perspective, the market mechanism produces an intensification of differences in development; hence, a balance between states can only be achieved through the introduction of state funded measures. The aim of economic policy thereafter must be to start off a positive, circular-cumulative process. In this case, measures to support capital transfer in economically weak states as well as the introduction of state trade barriers to limit the negative effects of interregional competition can be reckoned with. An increase in investments in transport and communications infrastructure and also an increased public demand for commodities and services from economically weaker states are among the responsibilities of regional decision makers (federal states).

Within the concept of new economic geography, and similar to polarization theories, it is assumed that the economic development of regions occurs in different ways, along the lines of a centre-periphery structure (see

Krugman, 1991; see also Ottaviano & Puga, 1998 as well as Schmutzler, 1999, both of which cover the basic approaches of new economic geography). The interplay of economies of scale based on market-size effects and (spatial) transaction costs (trade barriers, transport costs) are both considered as central to the heterogeneous economic development of regions. Seeing as some of the factors are mobile (mobile businesses and their employees), a cumulative causation effect can result: i.e. firms locate where the demand is high and access to the necessary input factors is best. This is the case in regions where there has been an agglomeration of businesses and where mobile production factors – partly of historical coincidence – have already become concentrated. If one casts an eye on the political economic implications of this model, it can be assumed that the availability of public infrastructure capacities (transport, information and communications infrastructure) makes a significant contribution to the reduction in spatial transaction costs, which is important for agglomeration processes. In addition to this, individual political instruments such as taxation (tax competition), subsidies, the location of authorities or state institutions in periphery regions or a »home market«-oriented public purchasing are analyzed to show how political measures can influence economic activities in a state (see for example Brakman et al., 2002; Baldwin et al., 2003; Brüllhart & Trionfetti, 2004; Dupont & Martin, 2006).

In the new economic geography models these measures generally ensure positive economic development in »disadvantaged« regions. However, this does not occur without – at the same time – increasing the costs of business investments and thereby reducing the macroeconomic growth (see Martin, 1999; Martin, 2003; Boldrin & Canova, 2001). The fact that regions can have a »natural advantage« over other regions points to a basic relativisation of the influence of state policies. In light of this, a high or low concentration of population or the number of regional businesses can be explained by a coincidental combination of favorable or unfavorable natural characteristics of a state. Within new economic geography this situation is taken into account in the use of the terminology »first nature, second nature« (Krugman, 1993). In addition, historical factors (the location of official government offices, displacement of an economically important group of population etc.) can have an effect on the possible concentration of economic activities in a particular location. These location factors, which can have considerable initial effects for the economic development of regions, are often the result of historical coincidences (see Roos, 2002 for related empirical results for Germany).

2.3 Influence of Institutional Factors on Regional Economic Development

In addition to the previously mentioned factors such as geography, industrial structure, human capital and transport infrastructure, which may prove responsible for economic differences between states, institutional factors are also considered relevant. In the economic approaches presented above

it has generally been the case, at least until recently, that these institutional factors have been neglected. When considering the question of whether political decisions and measures have an influence on regional development »it is not possible to ignore the institutional level of economics« (Wößmann, 2001, p. 74). In other words, in order to explain the spread of economic activity in a region it is necessary not only to consider natural and economic location factors, but the institutional conditions of economic action must also be examined more closely. From an economic perspective, it is possible to distinguish between both formal and informal institutions (see in place of many others North, 1991).

From an economic clustering approach (see for example Porter, 1990; Maine et al., 2011), and even more so from an innovative milieu and network structures perspective (see amongst others Granovetter, 1973; Camagni, 1991), it is less the development of formal institutions and much more so that of informal institutions that are considered of importance for regional economic development, as the regional variance of formal institutions (e.g. of constitutions) is small. In these models the existence and innovation capability of such clusters and networks depends on the norms of the actors concerned. In economic terminology, the available »social capital« at the location becomes highly relevant for the economic development of a region, as differences in regional social capital can lead to increasing economies of scale and comparative advantages for a region (see for example Putnam, 1993; Helliwell & Putnam, 1995; for Germany see also Miegel, 1991; Blume & Sack, 2008). The term social capital combines factors of influence such as network preferences and civil society engagement, which – according to the literature – are only subject to a very limited political influence, if any at all.

3 Varied Economic Prosperity in West German Federal States: A Quantitative Investigation of the Determinants

3.1 Methodological Approach

A glance at the theoretical approaches that have been considered above results in following the conclusion: It is not possible to make a clear statement as to whether or not, and/or to what extent, policies in general, and state policies in particular, influence the economic development of regions. The contradictory nature of the different theoretical models points towards the need for empirical research on this topic. In the following section, an empirical approach will be presented that builds on a so-called potential function, as is used in both traditional and current empirical regional development research (see Biehl et al., 1975; Eckey & Kosfeld, 2004).

The basic assumptions of this approach are comparable to the methodological procedures applied in comparative country studies of level regression carried out in the much-cited paper by Hall & Jones (1999). Based on this, in order to

explain the differences in the long term development of regions, regressions with differences in the levels of economic prosperity as a dependent variable are considered better suited than Barro-type growth regressions. These models (e.g. Barro, 1991; Barro & Sala-i-Martin, 1992) assign the growth of an economic region in a particular timeframe as the dependent variable and contain the GDP per worker in the starting year as the key explanatory variable. They are particularly well suited to conducting convergence-divergence studies. Long term differences in growth paths accumulate in differences in economic prosperity and when it comes to identifying the structural determinants for these differences, level regression should be applied.

This approach is also applied here. Accordingly, economic prosperity measured against gross domestic product (GDP) per worker represents the dependent variable to be explained in the potential function. As GDP is characterized by business cycle variations, an average value (arithmetic mean) of the years 2007 to 2009 is used. For the Hall-Jones approach, it is important to apply an exogenous variable with high temporal persistency. This is the main reason for the choice of determinants mentioned in section 3.2 such as geography, urban and industry structure or social capital. A common feature of these exogenous variables is that they are all referred to in regional economic literature as key potential factors which influence the competitiveness of regions, investment behavior and hence income, and in their development a high temporal stability can be accounted for both theoretically and empirically. The temporal variance was studied for all the exogenous variables used, as far as the data date back in the past. In order to balance out small fluctuations, when possible an average for the decade was assigned.

In the empirical analysis carried out within this paper, a regional science approach to the explanation of *Länder*-specific differences in economic prosperity has been chosen. This is because in both regional economics (regional and sectoral polarization theories, new economic geography) and economic growth theories (traditional and new growth theory) spatial areas with a high intensity of economic integration («regions») are identified as relevant units for empirical analysis. In the following section economically integrated spatial units in the form of employment market regions are used, which are differentiated on the basis of commuter relationships in the region (for the demarcation of the employment market regions used see Eckey et al., 2006). As in these regions employment and living largely coincide according to the definition, the results presented here do not react in a sensitive way to the choice of benchmark for the economic output, regressions with GDP per inhabitant as a dependent variable show similar results.

Considering the potential function method determines that only variables with high temporal persistency can be used as explanatory variables, the analysis will only be carried out for 112 West German employment market regions. The average (yearly) gross domestic product per worker for the years

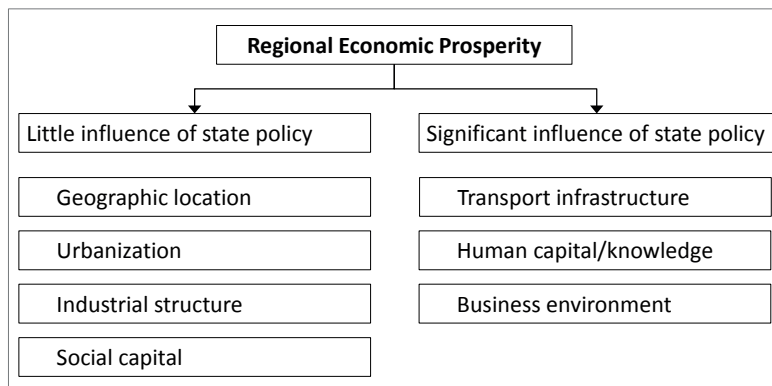
2007–2009 in these regions ranges from EUR 48,309 (Daun employment market) to EUR 72,436 (Munich employment market).

3.2 Hypotheses and Statistical Operationalization

In order to provide empirical evidence of the influence of state policies, the theoretical information on the determinants of economic prosperity of regions mentioned in section II will be divided into different groups of variables.

The first group incorporates the endogenous development potentials of a region or federal state, to which geographic factors, social capital and industry and urban structure will be counted. A common feature of the factors summarized in this group is the fact that *Länder* politics has only a very minimal influence on them in the short and medium term. In contrast, the other group includes the major factors like education and transport infrastructure that the *Länder* can at least partly control (Figure 1).

Figure 1: Determinants of Regional Economic Prosperity



Source: Own illustration

First, the chosen determinants will be explained in connection with the hypotheses relating to their effect on regional economic prosperity before the empirical results are presented and discussed in the following sub-section. The data used is taken from official statistics (see Bundesamt für Bauswesen und Raumordnung, 2007; Statistische Ämter des Bundes und der Länder, 2006), unless otherwise stated.

In order to take differences in geographic factors into consideration, the following variables are used: a dummy for the location of a region on navigable rivers; a dummy for regions with a capital city; a dummy for the location of a region on the eastern border as well as for the rainfall between 1962 and 1990 in millimeters per year. As the German regions only minimally vary in terms of their average yearly temperature, the rate of rainfall is chosen (measured

over at least a 10-year average) in order to portray the climatic conditions. According to the observations of Roos (2002), a positive effect of the first two factors and a negative effect of the last two factors on the economic prosperity of the region are to be expected. Historic trade routes developed on big navigable rivers, while raw materials in particular were transported over the waterways. Industrial settlements followed, giving regions on navigable rivers an economically advantageous starting point. In capital city regions, both infrastructure related location advantages (historic traffic and transport intersection) reaching far back into the past and settlement related factors play a role, as capital cities as a rule developed into large agglomerations with the accompanying market potential. State borders, on the other hand, are seen to hinder the exchange of goods and services. This was true in particular for the borders to the former eastern block states. Based on the hypothesis that mobile production factors (high income, businesses) are likely to settle in regions which are characterized by a good climate and low rainfall, the influence of the climate on economic development will also be included in the investigation.

In order to include the implied positive influence of urbanization of regions on their prosperity level, as is indicated in the models of new economic geography, a number of different variables from official statistics can be used. In specific, the number of inhabitants per square kilometer of land area (density of population), the number of inhabitants per square kilometer of the settlement and traffic area (settlement density), the proportion of settled area in the entire area, and the proportion of inhabitants in municipalities with a population density of less than 150 per square kilometer (proportion of rural population). All of these settlement related structural indicators are highly correlated among themselves. It therefore stands to reason that a factor analysis with this data is carried out, in order to consolidate the information held in the variables. Based on the assumption that all the named variables measure a common latent variable (that of agglomeration), according to the Kaiser-Criteria one single factor can be extracted with a main component analysis, which explains 74% of the variance of the five starting variables. The factor values of the factor »agglomeration« will be used as a determinant in order to improve the clarity of the regression analysis. A regressions analysis, which directly includes the five starting variables, shows comparable results.

The regional sectoral structure will be mapped over the proportion of workers in the industry branches as a further determining factor with high temporal persistency, as added value data is not available in an appropriate sectoral and spatial breakdown. The sectors included represent the classifications in the official statistics (WZ 93) and relate to the arithmetical mean of the years 1995–2007. As other studies show (e.g. Gornig, 2000), an above average proportion of people employed in the primary sector, in construction and in consumption related services, is generally accompanied by a below average level of prosperity. In contrast, an above average spread of business related

services is accompanied by above average economic development. The branch proportions on the one-digit level of WZ 93 for these sectors will accordingly be included in the analysis. In addition, for the processing industry at the two-digit level of the classification scheme of the economic sector the proportion of workers of a region will be summarized as an »old industry« variable in those branches which between 1982 and 2007 were characterized by a decline in employment of more than 40 percent (including iron and steel production, ship building, clocks, leather and shoe production, textile and clothing industry).

As indicated in section 2, in new regional economic literature the term *social capital* is understood as stable norm beliefs and governance preferences of the population that can be traced back to settlement related structural differences, socio-demographic and historic differences between the regions. In this analysis the attitude variable »political interest« is chosen as a proxy from regionalized FORSA data from the year 1997, for post material values and civil society engagement (on a scale from 1=very weak to 4=very strong). The variable »church going frequency« as a proxy for conservative values such as market preferences and citizen networks originates from the same data source (as a percentage of people who go to the church very often). The variable »party membership« as a percentage of the population in 1998 is taken from the Institute for Regional Geography Leipzig's national atlas of Germany as a proxy for political networks, which in social capital literature – in contrast to the first two factors named – is linked with a negative welfare effect through rent seeking and exclusion. The choice and interpretation of these variables takes place on the basis of their correlation with other social capital indicators as shown in Blume & Sack (2008). A two-level least square estimation, which ascribes these variables to socio-demographic factors such as family structure (measured against the percentage of single households) and the employment structure (measured against the proportion of workers, salaried workers, and self-employed), shows comparable results.

In order to identify the proportion of the variance in regional economic prosperity that relates to regionally specific factors, it is enough to include dummy variables for the individual *Länder* in the analysis. The proportional importance of these dummy variables can then be interpreted as the maximum contribution of differing state policies to the differences in economic prosperity. This can be regarded as the maximum contribution because *Länder*-specific influences can also be ones that cannot be influenced by politics, such as natural tourist attractions (e.g. the Alps). The inclusion of variables with a 0/1-codification for the individual *Länder* makes the results of the analysis robust, in contrast to doubts about the subdivision adopted in Figure 1. Such a codification is used here. In order to avoid total collinearity, a reference region has to be chosen when regional dummies are included, in this case the region Rhineland-Palatinate/Saarland. Keeping in mind the potential regional autocorrelation, the regional capitals Hamburg and Bremen were not

considered in isolation from the surrounding state area. Neither the choice of reference region nor the combining of Schleswig-Holstein/Hamburg and Lower Saxony/Bremen had an observable influence on the results.

In order to enrich the information content of the analysis, an attempt is made at the same time to separately illustrate two determinants of regional economic prosperity, which can be influenced by state policies in the short and medium term. These include transport infrastructure and educational infrastructure both of which fall under the responsibility of the *Länder* based on the assignment of political tasks within the German federal system. Standard variables are available for both groups, which can again be consolidated with the help of a factor analysis for both an indicator »transport« and an indicator »knowledge«.

For transport infrastructure the variables are »average car travel time from each district to the next motorway junction in minutes«, »average car travel time from each district to the main centre in minutes«, and »average travel time to the next three agglomeration centers in railway traffic in minutes«. The variables for a regional knowledge basis include the proportion of highly qualified employees (Bundesamt für Bauwesen und Raumordnung, 2007; a higher qualification refers to a final examination from a higher professional college, university of applied sciences, college or university), the quota of people with a school leaving exam as well as the number of registered patents per worker (in keeping with Greif, 2006, always as an average value for the period 2000–2004).

3.3 Empirical Results

As the first column in Table 1 shows, the selected geographical and settlement related structural variables – considered in isolation – explain some aspects of the differences in regional GDP per worker. Here the variables on settlement structure (capital city, degree of agglomeration) show a significant positive effect, while the border location shows a significant negative effect. If the proximity of the region to other regions is considered using a spatial error term (in a spatial-error-model), this leads to the relative importance of settlement structure and geographic location increasing to above 40%. The Moran Coefficient, significant to a 99 percentage level, shows with 0.334 spatial autocorrelation for these estimations.

The same is true for the estimations in columns 2, 3 and 5. Only the estimations in columns 4 and 6 show no error specification in the Moran Test (0.034 respectively 0.035). The same is also true when looking at the normal division of residuals. The Jarque-Bera Test is only insignificant here for columns 4 and 6. The estimations in columns 1–3 and 5 are as such only to be considered as an illustration and not as correctly specified models.

Table 1: Least square estimations with the average GDP per worker for the years 2007–2009 as a dependent variable (n = 112 labour market regions)

	(1)	(2)	(3)	(4)	(5)	(6)
Navigable rivers (dummy)	-81,5 (0,06)			98,4 (0,08)		-408,7 (0,51)
Location on east border (dummy)	-2245(*) (1,63)			-1426 (1,50)		-2023,5* (2,04)
Federal state capital (dummy)	6972** (3,51)			4190** (2,53)		4011** (2,88)
Rainfall (mm per year)	-2,48 (0,92)			-3,69(*) (1,67)		-2,39 (1,22)
Factor »agglomeration«	1198* (2,11)			886,9 (1,53)		1650** (2,66)
Farming/Forestry/Fishery		-134012(*) (1,72)		-154648(*) (1,89)		-49819 (0,68)
Old industry		-61308** (3,27)		-62047** (3,34)		-46927** (3,08)
Construction		-78468** (2,51)		-61760(*) (1,63)		-39494 (1,21)
Transport/Communication		54845 (1,59)		55766 (1,60)		56034(*) (1,82)
Banking and Insurance		266307** (6,62)		189656** (4,32)		125566** (3,41)
Services		-32521** (3,32)		-37749** (3,41)		-35212** (3,96)
Organizations		-96542(*) (1,79)		-122706* (2,07)		-133515** (2,75)
Public bodies/ Social insurance		-71804** (3,44)		-60594** (2,64)		-35674(*) (1,86)
Interest in politics(1–4)			21572* (2,42)	14987** (2,18)		8302 (1,39)
Church-going frequency (%)			115,6(*) (1,60)	91,29 (1,37)		31,58 (0,52)
Political party membership (%)			-197,2** (2,98)	-116,1* (2,21)		-46,00 (0,88)
Factor »transport«					961,5* (1,99)	-693,5 (1,34)
Factor »knowledge«					3427** (7,08)	1279* (2,35)
Bavaria (dummy)						6067** (5,26)
Baden-Württemberg (dummy)						1816 (1,40)
Hessen (dummy)						6898** (4,73)
Schleswig-Holstein/Hamburg						4883* (2,23)
Niedersachsen/Bremen						1508 (1,02)
Constant	58299	68923	7083	36904	56388	48237
R ²	0,240	0,578	0,139	0,684	0,332	0,797

The table shows the β -coefficients of the OLS-regressions, the numbers in parentheses are the absolute t-values based on White's heteroskedasticity-consistent standard errors (HCSE) '***', '*' or '(*)' indicate that the estimated parameters are significantly different from zero on the 1, 5, or 10 percent level, respectively.

Source: Own Calculation

As the second column in Table 1 shows, the regional sectoral structure measured against the proportion of people employed in selected branches

– again considered in isolation – explains 58% of the variance in regional GDP per worker. The third column indicates the same for the three social capital indicators chosen here, which when taken together explain another ten percent of the differences in regional GDP per inhabitant. As the fourth column in Table 1 shows, geography, settlement structure, branch structure and social capital determine to a large extent the economic situation in the regions. The spatial variance of differences in economic prosperity between regions can be explained up to 68% by these factors. All these factors are temporally very persistent factors, i.e. that they can be influenced by the economic policy of the *Länder* only minimally in short and medium terms.

In comparing the estimations with and without the influence of the *Länder* (column 4 vs. column 6 in Table 1) it becomes clear that taking the different locational conditions of the regions into consideration, beyond the geographic location, settlement structure, industry structure and social capital, provides an additional relative influence of eleven percentage points. It is important to stress here that the extent to which *Länder* have an influence on the level of welfare of a state was not investigated, but just what contribution the *Länder* make to the explanation of differences between the welfare levels of the states. If one looks at the factors »transport« and »knowledge« in isolation (column 5), the variance of regional income differences is 33.2%. The influence of this factor, however, clearly decreases if the other determinants of regional economic prosperity are also taken into consideration. This can be interpreted in such a way that large parts of regional differences in transport infrastructure and regional knowledge basis relate back to differences in the settlement structure or the industry structure and cannot be attributed to other differences such as state policies.

4 Political Related Conclusions

The empirical results presented in this work suggest that the main differences in the economic prosperity between West German *Länder* is less a result of differences in state policies and much more due to differences in the starting conditions of the states. If the regional differences in settlement structure, industry structure and social capital are investigated, the region's belonging to a German federal state only explains eight percent of the differences in regional GDP per inhabitant. And even this explanation for the *Länder* borders can only partly be traced back to differences in state policies, as there are other *Länder*-specific but politically independent influences which are also conceivable, such as special natural potential that has not been included in the model. In other words, the transformation, for example, of Bavaria from an agriculturally structured state to a dynamic location of high-tech industry is not simply a result of politically related factors, but can mainly be traced back to long term determinants such as the plant re-locations of the post war period resulting from the division of Germany and the important effects they had on further settlement of business.

This empirical result not only points to the limitations and feasibility of the politically related *Länder*-rankings mentioned in the introduction to this paper, this outcome is also relevant for the central arguments of the current discussion about reform of the federal state fiscal relations. On the one hand, this relates to the demand for a reduction in the equalization level of the *Länder* fiscal equalization scheme, in order to realize the full possible efficiency potential of a strengthened competition between the *Länder* – so that the fruits of successful economic policy of individual states will not be largely redistributed and made accountable for the failure of others. Among other things, this has an effect on the closely related demand to strengthen the financial autonomy of states by means of an additional state taxation source, in order to reduce the measure of tax sharing between the *Bund* and *Länder*.

Given these demands, many authors support the idea of a competition-oriented reform of the vertical and horizontal finance equalization relationship between the *Bund* and *Länder* assuming that the growth contribution of such a reform would be significant (on the basis of the disincentive effect of the current fiscal equalization system). The results of the quantitative analysis presented here suggest, however, that economic and financial prosperity can only be marginally shaped by regional political decisions and measures (and the disincentive effect from a growth political perspective is therefore of less importance). It should, however, be pointed out that an extension of existing political opportunities on the expenditure side through additional competition elements could have an influence on the income side for individual *Länder*, and would mean that individual *Länder* could play a more active role in shaping the economic development within their own state borders. But, it is also true that in this case determinants such as settlement and industrial structure, which can only minimally be influenced by state policies in the short and medium term, lead to major differences in the economic prosperity of regions. Moreover, neither a higher rate of fiscal retention nor an increased financial autonomy will have much influence on this.

In the political trade-off between the insurance function of redistributive systems such as the German federal fiscal equalization scheme and the related disincentive effects of these systems on economic growth, the results presented here would seem to strengthen the argument for the insurance function. Without a significant but not excessive fiscal equalization and the shared use of existing taxation revenues, the dominating determinants of economic development – which cannot be influenced by *Länder* – would lead to even stronger regional disparities, which as a final consequence could result in the end of a competitively oriented federalism.

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POVZETEK

RAZLIKE V REGIONALNEM GOSPODARSKEM NAPREDKU: ALI JE DRŽAVNA POLITIKA POMEMBNA? – EMPIRIČNA RAZISKAVA PODATKOV IZ NEMŠKIH ZVEZNIH DEŽEL

*Ključne besede: regionalni ekonomski razvoj, državne politike, shema fiskalne
izravnave*

Gospodarska uspešnost se v različnih nemških zveznih deželah zelo razlikuje; velike, sicer lahko razložljive razlike so tudi med zahodnonemškimi regijami in nekdanjimi socialističnimi vzhodnonemškimi regijami. Bruto domači proizvod (BDP) na zaposlenega v najbogatejši zahodnonemški zvezni deželi Hessen je bil v letu 2009 68.963 evrov, medtem ko je bil v najrevnejši zahodnonemški zvezni deželi Saarland (Posarje) 56.373 evrov. Na vprašanje, kakšno vlogo ima državna politika pri teh razlikah, ni enotnega odgovora. Na eni strani številne politike, povezane z obstoječim rangiranjem zveznih dežel, kažejo, da je državna politika delno odgovorna za gospodarski napredek zvezne dežele – in to v precejšnji meri. Po drugi strani pa številne raziskave razvoja zveznih dežel kažejo nasprotno. Tako je na primer očitno, da je imela na gospodarski razvoj zvezne dežele Posarje v preteklosti pomemben vpliv industrija premoga in jekla, kar je privedlo do velikih sprememb politične pripadnosti v regiji. To pa je negativno vplivalo na vsebino poslovnih naložb in upočasnilo razvoj novih gospodarskih sektorjev. Podobno – čeprav obratno – če pogledamo Hessen, lahko razvoj gospodarskega napredka regije Ren-Main štejemo kot rezultat medsebojnega vplivanja zgodovinskih dejavnikov (npr. tradicije bank, borz in sejmov, ki segajo daleč nazaj v preteklost) in dejstva, da gre za geografsko zelo ugodno lego (središčno lego na zveznem ozemlju, priključek železnice in avtoceste, ki izhaja iz predvojnega časa, in enega od najpomembnejših kontinentalnih evropskih vozlišč za zračni promet).

Kljub dejstvu, da ne obstajajo jasni empirični dokazi glede vpliva politike države na gospodarski napredek zvezne dežele, mnogi politiki podpirajo zamisel za znižanje prerazporeditvenih transferjev med deželami na podlagi argumenta, da je gospodarska uspešnost posamezne dežele, skupaj z visokimi ali nizkimi prihodki iz obdavčitve, rezultat »dobre« ali »slabe« gospodarske in davčne politike. Te zahteve se izražajo z namenom, da se uporabi »proračunski presežek« finančno močnih dežel kot podlaga za povečanje njihovega prihodnjega potenciala rasti. Zato imajo empirični dokazi o vplivu državne politike na regionalni gospodarski napredek neposredne posledice na politično razpravo o ustrezni ravni prerazporeditvenih transferjev. Če je vpliv državne politike na gospodarski razvoj v Hessnu in Posarju postranskega pomena, potem so relativne tudi gospodarske posledice negativnih spodbud za politiko gospodarske rasti v obeh državah, ki izhajajo iz sedanjega izravnalnega fiskalnega sistema.

Različne regionalne ekonomske teorije pridejo do različnih ugotovitev glede vpliva (državne) politike na gospodarski napredek regije. Z vidika tradicionalne teorije gospodarske rasti določajo gospodarski razvoj države trije glavni dejavniki varčevanja: akumulacija kapitala, rast prebivalstva (zaposlenost) in tehnični razvoj. Pri tem pristopu državna politika ni odločilen dejavnik regionalne gospodarske rasti. Ekonomska politika lahko v najboljšem primeru podpira proces konvergence, ki bi se v vsakem primeru zgodil »naravno«, ko bi odstranili mobilnost in ovire za vstop na trg. Tukaj naj omenimo, da novejša teorije gospodarskega razvoja bolj pozitivno ocenjujejo vlogo državne politike pri regionalnem gospodarskem razvoju. S prostorskega vidika tak pristop pomeni, da v nasprotju s tradicionalno teorijo rasti ni nujno, da razvoj teži k regionalni konvergenci. Eden od glavnih razlogov za to je dejstvo, da je bližina za ustvarjanje in izkoriščanje tehničnega napredka in znanja ključnega pomena. Na podlagi teh ugotovitev in državne delitve pristojnosti v Nemčiji lahko akumulacija človeškega kapitala in tehnološki učinki prelivanja znanja postanejo izhodišče za politične dejavnosti, katerih namen bi bil večji vpliv na regionalni gospodarski razvoj.

Podobno kot zagovorniki nove teorije rasti predvidevajo zagovorniki teorije polarizacije, da gospodarski razvoj ne bo nujno konvergirala. Prizadevajo si pojasnjevati pogosto opažene razlike v gospodarskih dejavnostih regije. Pri tem se predpostavlja, da se pojavljajo neravnovesja v procesih gospodarskega razvoja, ki sprožajo kumulativen proces razvoja. Torej mora biti cilj gospodarske politike, da zažene pozitiven, krožno-kumulativen proces. V tem primeru je treba računati z podpornimi ukrepi za transfer kapitala v gospodarsko šibkih zveznih deželah, kot tudi, na primer, s povečanjem investicij v transport in komunikacijsko infrastrukturo. V okviru koncepta nove gospodarske geografije in podobno kot pri teoriji polarizacije, se predpostavlja, da se gospodarski razvoj regij pojavlja na različne načine, podobno kot struktura središča širšega prostora. Povezava ekonomije obsega, ki temelji na učinkih velikosti trga, in (prostorskih) transakcijskih stroškov pa ima osrednji pomen za heterogeni gospodarski razvoj regij. Dejstvo, da imajo ene regije lahko »naravno prednost« pred drugimi regijami, kaže, da je vpliv državne politike v bistvu relativen. Poleg tega lahko zgodovinski dejavniki (lokacija uradnih vladnih uradov, predstavitev gospodarsko pomembne skupine prebivalstva itd.), ki so pogosto posledica zgodovinskih naključij, vplivajo na morebitno koncentracijo gospodarskih dejavnosti na določeni lokaciji. Razen prej omenjenih dejavnikov, kot so geografija, struktura industrije, človeški kapital in prometna infrastruktura, ki se lahko izkažejo kot odgovorni za ekonomske razlike med deželami, so pomembni tudi institucionalni dejavniki. Zaradi ekonomskega združevanja in še bolj zaradi inovativnosti okolja in strukture omrežja je za regionalni gospodarski razvoj pomemben tudi razvoj neformalnih institucij. Tedaj sta obstoj in inovativna sposobnost takšnih združenj in omrežij odvisna od norm vpletenih udeležencev. V ekonomski terminologiji postane razpoložljivi »socialni kapital« zelo pomemben za gospodarski razvoj regije, saj lahko razlika v regionalnem socialnem kapitalu vodi do večje ekonomije obsega in

primerjalne prednosti za določeno regijo. Pojem socialnega kapitala združuje dejavnike vpliva, kot so struktura omrežja in angažiranje civilne družbe, ki sicer niso odvisni od politike.

Če upoštevamo omenjene teoretične pristope, moramo ugotoviti, da ni mogoče preprosto trditi, da lahko politika na splošno, in zlasti državna politika, vpliva na gospodarski razvoj zveznih dežel in v kolikšni meri. Nasprotujoča si vsebina različnih teoretičnih modelov kaže na potrebo po empiričnih raziskavah o tem vprašanju. Zato uporabimo empirični pristop, ki temelji na tako imenovani potencialni funkciji in se uporablja pri tradicionalnih in sodobnih empiričnih raziskavah regionalnega razvoja. Osnovne predpostavke tega pristopa so primerljive z metodološkimi postopki, ki se uporabljajo v primerjalnih raziskavah stopnje regresije v državah. Za zagotovitev empiričnih dokazov o vplivu državne politike se teoretične informacije o dejavnikih gospodarskega razvoja regij, navedenih v teoretičnih pristopih, razdelijo v več skupin spremenljivk. Prva skupina vključuje potenciale endogenega razvoja regije ali zvezne dežele, h katerim se prištejejo geografski dejavniki, socialni kapital, industrijska in urbana struktura. Druga skupina pa zajema pomembne dejavnike, kot so izobraževanje in prometna infrastruktura, o čemer lahko regionalni politiki vsaj delno odločajo.

Empirični rezultati kažejo, da glavne razlike v gospodarskem razvoju med nemškimi zveznimi deželami verjetno niso nastale zaradi razlike v državni politiki, temveč bolj verjetno zaradi razlik v izhodiščnih pogojih zvezne dežele. Če raziskujemo regionalne razlike v strukturi naselja, industrijski strukturi in socialnem kapitalu, potem regije, ki pripadajo nemškim zveznim deželam, pojasnjujejo le osem odstotkov razlik v regionalnem BDP-ju na prebivalca. Z drugimi besedami, preobrazba, na primer, Bavarske iz kmetijsko strukturirane dežele v dinamično lokacijo visokotehnološke industrije, ni zgolj posledica politično pogojenih dejavnikov, temveč posledice segajo večinoma nazaj do dogodkov z dolgoročnim vplivom, kot je preselitev elektrarne na novo lokacijo v povojnem obdobju, ki izhaja iz delitve Nemčije in pomembnih posledic, ki so jih imeli na nadaljnje reševanje poslovanja. Rezultati empirične analize poudarjajo, da regionalne politične odločitve in ukrepi lahko le delno vplivajo na gospodarski in finančni uspeh. Treba pa je omeniti, da bi lahko razširitev obstoječih političnih možnosti vplivala na uspešnost rasti nemških zveznih dežel, kar bi pomenilo, da bi lahko imele bolj aktivno vlogo pri oblikovanju gospodarskega razvoja znotraj lastnih deželnih meja. Vendar je res tudi, da bi v tem primeru dejavniki, kot so na primer naseljenost in industrijska struktura, na katere državna politika v kratkoročnem in srednjeročnem obdobju lahko le minimalno vpliva, lahko privedli do velikih razlik v gospodarskem razvoju regij.