

STUDY OF THE FACTORS INFLUENCING REGIONAL COMPETITIVENESS IN THE CASE OF GERMANY AND FRANCE

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ABSTRACT – The intensifying regional competition in the past decades has a serious impact on the work of decision makers, as well as on science. The presence of the concept of regional competitiveness in the documents of the European Union dates back to a considerable period. One needs only think of the development of the union’s regional (cohesion) policy. On the other hand, the reevaluation of the topic is shown by the number of related scientific papers, including, of course, the investigation of the causes leading to the process. In my paper, I examine the factors defining and influencing regional competitiveness. The regional framework of the analysis is provided by two major economies of the European Union, Germany and France, and their NUTS2 regions. In the analytical part, using the method of PLS-Path Analysis (PLS, partial least squares), a model explaining competitiveness is developed, which includes the latent variables representing the elements of the examined concept. Analysing the effect mechanisms between these latent variables help explore which capital factors can be considered important or less significant in terms of competitiveness in the studied regions.

Keywords: Regional competitiveness, PLS Path Analysis, Germany, France

INTRODUCTION

Germany and France today are the leading countries of the European Union in economic and political terms. Their crucial role within the union has been holding in the past decades of course, but it has become even more evident with the withdrawal of the United Kingdom. It has not always been the case, and this statement is true even if we only study the period after the Second World War. That time, i.e. after the war, as Kiss aptly points it out (2013, p. 3), France was not only a sovereign “great nation”, but also a victorious power, while the Federal Republic of Germany was a defeated and divided nation. Then, as the author adds, “...*the FRG rose in symbiosis with the European integration*”.

Engberg (2019, p. 3) aptly summarises that “...*the backbone of European integration is reconciliation between two warring protagonists of 19th and 20th-century Europe: France and Germany*”. Furthermore, since the beginning of integration, Germany’s number one ally has been France in European policy making (Krotz-Schild, 2018). At the same time, after the war, as it is suggested by Stretea (2018), it did not mean that the rivalry between the two nations ceased to exist. Also, the author adds that, what is more, the Schuman Plan was clearly a French initiative, which was, of course, accepted by Germany unconditionally, in order to redeem itself in political terms as well.

If we look at the present operation of the European Union, it can be seen that the two countries have a different position in several questions, thus they are forced to compromise in many cases, which is usually followed by the other countries (Grant, 2017). Obviously, it is possible and practical to examine how much the duo of Germany and France can be considered to be the axis of the European Union in political terms (e.g. Taksás, 2013), but their economic dominance is beyond question. The mentioned two countries produce over forty per cent² (42.1%) of the Union’s GDP. Of course, comparing the two, Germany’s primacy in economic terms is unquestionable, as itself is able to produce one-fourth (24.7%) of the EU gross domestic product.

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² All values in the introductory part are from the Eurostat database from 2018.

On the other hand, if we look at the economic spatial structure of the two countries and we examine development simply with regard to GDP per capita at the level of NUTS 2 regions, we find substantial differences. France³ clearly has a capital-centred structure⁴. The leading role of Paris is evident and unquestionable from the aspect of almost every function within the country. The Île-de-France region, covering the capital and its surroundings with its population of over twelve million and exceptionally high gross domestic product per capita, worthy of the name, stands out as an actual island from the area of the country. The other areas outside the capital region cannot even come close to this economic performance. Almost every other region moves somewhat below the EU average. The French “countryside” in this respect, especially compared to the territorial coverage of the country, can be considered relatively homogenous, i.e. there are not any stark differences between the areas outside Paris. In terms of the examined indicator, the Picardie region has the lowest continental value, performing seventy-four per cent of the EU average, while the most developed region after Paris, the Rhône-Alpes exceeds the EU average by four per cent.

The situation of Germany is completely different⁵. Besides the capital of the country, there are other power centres and e.g. München and Hamburg carry out several functions. Beyond a century of historical development, the period after the Second World War itself explains the development of the spatial structure as mentioned. In a way it is “natural” that the regions with the lowest GDP per capita in the country are located in the area of the former Eastern Germany. Nevertheless, it is definitely interesting that the frequently “contemned” eastern regions have values of about eighty or ninety per cent of the related EU average (Mecklenburg-Western Pomerania today has eighty-three per cent of the EU average). The other end of the list involves Hamburg, “functioning” as an independent NUTS 2 region (and Länder), where the GDP per capita is the double of the EU average (196%), but the values of Oberbayern (177%), Darmstadt (157%) and Stuttgart (156%) are also fairly high. Meanwhile, the capital, Berlin, exceeds the EU average by “only” twenty per cent (121%).

REGIONAL COMPETITIVENESS

If we examine the European, or only the European Union’s context, we can establish that there are considerable differences in the development of regions. These differences can be interpreted on economic, social, and other levels. The European Union itself also declares the importance of regional competitiveness, which may assist to achieve the objectives of social cohesion (Gardiner et al., 2004).

In the past decades, regional competition has been intensified, proven by the increasingly growing number of related papers as well. There are several conceptualisations regarding regional competitiveness. The approach of the Union is relatively widely accepted (EC, 1999, p. 75), defining the concept as “...the *'ability to produce goods and services which meet the test of international markets, while at the same time maintaining high and sustainable levels of income' or, more generally, 'the ability of companies, industries, regions, nations and supra-national regions to generate, while being exposed to international competition, relatively high income and employment levels'*”.

At the same time, as for a scientific approach, one of the complex approaches says competitiveness is “...a process that occurs among territorial units aiming to increase the welfare of the people living in the cities or regions by promoting the development of regional and local economy, a development that certain groups try to influence explicitly or often implicitly through local policies by competing and being in rivalry with other territorial units” (Lengyel, 2009, p. 18).

It must be emphasised that regional competitiveness differs from competitiveness at national level (between countries). On the one hand, compared to national level, at regional level absolute

³ My paper is only concerned with the continental regions of France, the overseas territories are not involved in the analysis.

⁴ Of course, there was a top-down, so-called “counter” regional policy for a long time in the country, regarding which Nemes Nagy and Szabó (2016) describe that it has been recently given up and regional competences are increasingly strengthening.

⁵ Nemes Nagy and Szabó (2016, p. 32) categorise Germany among the countries where “...the historical and social roots of regionality are the deepest”.

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(dis)advantages have a more important role compared to relative ones, and, on the other hand, spatial connections are more intensive (Aiginger–Firgo, 2015).

The fact that we can discuss competition in terms of areas – thus at the level of nations, regions or cities – is closely linked to the globalisation processes gaining increasing significance in the past years and the related economic and social changes (Ashworth–Voogd, 1997; Enyedi, 1996, 2000; Koltai, 2006; Porter, 1998; Storper, 1997), especially as globalisation intensifies uneven regional development (Timár, 2003).

Due to globalisation, the actors of the global economy are increasingly dependent on each other (level of financial markets, interconnectedness of real economies, expansion of transnational companies). On the other hand, the physical (to put it simply, landline is replaced by the internet) and non-physical (intensifying deregulation policies) obstacles standing in the way of the free flow of production factors (inputs) are gradually phased out (Enyedi, 2000; Lengyel, 2000/a, 2000/b, 2003; Palánkai, 2001; Szentes, 1999).

Adding the serious decentralisation of public administration in the countries with respect to the past and the simultaneous increase in regional and urban autonomy to the above, it becomes evident that the number of locations potentially available as premises, raw material deposits or even residences has been multiplied, which helps one of the important functions of the competition, the element of choice. Thus, the reevaluation of global and local levels over national economic level entails the interpretation of the competition under new economic framework conditions (Horváth 2001; Koltai 2006).

The sources ensuring higher corporate competitive advantages are concentrated in the central regions, i.e. knowledge-creating regions. These advantages are inaccessible for less developed regions, i.e. neo-fordist, possibly knowledge-applying regions (Enyedi 1996; Lengyel 2000/b, 2003; Malecki 2002; Porter 1996, 1998; Storper 1997). Thereby the spatial aspect of concentration also raises questions regarding the underdeveloped regions and their development, but it has several additional aspects.

Regional competitiveness can be best captured quantitatively through the indicators of business environment, consisting of human capital, innovation capacity and the quality of local infrastructure (Huggins et al., 2013). Furthermore, for the quantification of the concept I reviewed the relevant rankings of the theme (IMD, 2019; RCI, 2019; WEF, 2019; WB, 2020), which helped with selecting the adequate indicators/themes.

METHODOLOGY

The path model is a series of successive regression models, whose logic is detailed by Székelyi and Barna (2005, pp. 301–310) and Füstös et al. (2004).

A special version of the regression models is when we intend to build a path model between factors. It requires the simultaneous run of factor analysis and regression models, and a possible solution can be provided by the PLS-Path Analysis. Researchers have approved of and applied this method for decades to examine the connections between latent variables (Henseler et al., 2009). In our country, however, its use has become common only in the past decade (Kazár, 2014). A more detailed description about the methods and their application is found in the articles of Kazár (2014), Kovács (2015), and Krenyácz (2015).

One of the advantages of the model is that it can be used in the case of variables with non-normal distribution and a small sample size (Hair et al., 2012); Henseler, 2010). It is also important that the development of latent factors and the analysis of their correlations can be simultaneously conducted with a regression model among the indicators included in the procedure.

The methodology of the procedure is described by Kovács and Bodnár (2016, 2017) in detail. In my present paper, I outline the results of the developed model. The test results of the procedure are shown in the Annex. Overall, the analysis was managed to be conducted.

The analysis itself involved 39 indicators (Table 1). I obtained all of them from the Eurostat database and conducted a PLS-Path Analysis on each to study the relationships between the latent factors having an identical content, by using SmartPLS 3.2.7. software. By using the “resulting” latent variables,

I intended to apply a regression model which can explain which factors, and to what extent, have an effect on the competitiveness of the 38 German and 22 French NUTS 2 regions.

Table 1. *List of involved latent variables*

Latent variables	number of variables
Target variable	
REGIONAL COMPETITIVENESS (38 German + 22 French NUTS 2 regions)	three variables
Explanatory variables	
Research & Development	five variables
Conditions for Social Innovation	five variables
Tourism	three variables
Social Capital	five variables
Social Exclusion	seven variables
Demography I.	seven variables
Demography II.	four variables

* - the list of indicators forming the latent variables are found in the Annex

Source: own construction

I developed eight latent variables in total. The target variable is the *Regional Competitiveness*, explained by seven factors: *Research & Development*, *Conditions for Social Innovation*, *Social Capital*, *Tourism*, *Social Exclusion*, *Demography I.*, and *Demography II.*

RESULTS

As I have mentioned, the detailed methodology of the procedure is described by Kovács and Bodnár (2016; 2017). Nevertheless, it must be noted in the context of the present article that after testing the latent variables, the question arises whether the direct links found in the model are significant. As the significance of the path coefficients cannot be examined directly in the analysis, we conducted the procedure through bootstrap sampling of 5000 subsamples (Table 3, Annex 2).

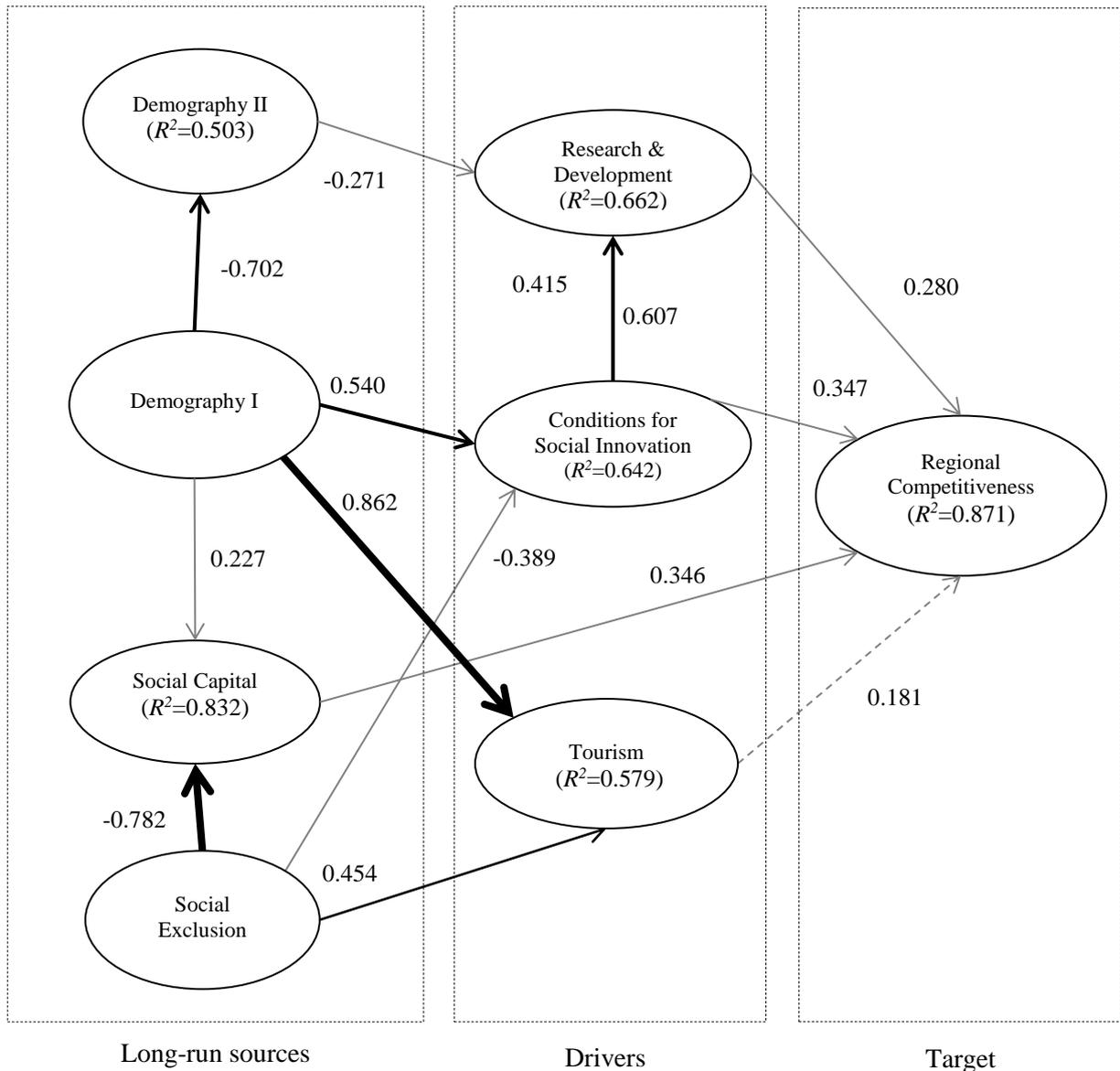
The results of sampling indicate that the thirteen direct paths are significant in the model with a significance level of five per cent. In this case, only one path is close to the margin (in the case of the effect of tourism on competitiveness).

It must be noted that due to the specificities of the indicators used to capture the factors of Social Exclusion and Demography II, the related path coefficients are negative, however, in the present case it is “alright”, it is logical. Thus, for instance, in the case of the unemployment indicator, lower values are more desirable.

Leaving the non-significant direct paths, the factor of competitiveness is explained by all the other seven factors indirectly or directly in my final model. Four paths influence the target variable directly, while three factors indirectly.

Similarly to the logic of the endogenous-type renewed Pyramid Model (Lengyel, 2017), the factors of the model can be categorised as follows: long-run source(s), driver(s) and target (Figure 1). It is a fact that the involved latent variables are significantly different from the original model but based on the logic they represent in the system I found it practical to use the names. In my model, Social Capital, Social Exclusion and the two Demography factors qualify as long-run sources. The factors of Research & Development, Conditions for Social Innovation and Tourism represent the drivers, while Competitiveness means the target. Based on the model, the variance of this factor can be explained to over 87 per cent ($R^2=0.871$), i.e. it is influenced by other factors not included in the model to less than 13 per cent.

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* - the thickness of the arrows demonstrates the strength of paths

Figure 1. Interactions of factors explaining regional competitiveness

Source: own construction

Competitiveness is directly affected by R&D, Conditions for Social Innovation, Tourism, and Social Capital. It is interesting that the target variable is influenced to nearly the same extent by Conditions for Social Innovation (0.347) and Social Capital (0.346) included in long-run sources, but these effects cannot be considered strong, what is more, they slightly come close to medium. It should also be noted that the significant nature of the effect of Tourism (which is weak, 0.181) is questionable ($P=0.067$), that is why this path is represented with a broken line in the model (Figure 1).

The model contains indirect effects in several cases. The most interesting may be how the factor of Demography I influences Competitiveness in an indirect way. Although the factor does not affect the target variable directly, it has an indirect effect in five paths. Firstly, through the factor of Conditions

for Social Innovation; secondly, through Social Capital; thirdly, through Conditions for Social Innovation and Research & Development. Furthermore, it also has an effect on Competitiveness through Tourism, and influences Competitiveness through the latent variables of Demography II and R&D. Based on the total of these paths $((0.540 * 0.347) + (0.227 * 0.346) + (0.540 * 0.607 * 0.280) + (0.862 * 0.181) + ((-0.702) * (-0.271) * (0.280)) \sim 0.567$) the effect of the factor can be considered significant in terms of the target variable.

Regarding the effects, the extent of the direct and indirect effect of the latent variables on each other is also worthy of examination. The direct effects correspond with the coefficients of the Path Analysis (see Figure 1), while the total effect is showed by Table 2.

Table 2. *Values of total effect*

	Demography II	Tourism	Research & Development	Conditions for Social Innovation	Social Capital	Regional Competitiveness
Demography I	-0.702	0.862	0.518	0.540	0.227	0.567
Demography II			-0.271			-0.076
Tourism						0.181
Research & Development						0.280
Conditions for Social Innovation			0.607			0.517
Social Exclusion		0.454	-0.236	-0.389	-0.782	-0.390
Social Capital						0.346

Source: own construction

In terms of the total effects, it can be established that apart from the factor of Demography I, the already discussed Conditions for Social Innovation has a more significant effect (0.517) on the development of Competitiveness. The latter factor, besides the above-mentioned direct relationship, influences Competitiveness in an indirect way, through R&D.

In addition, it can be observed that through the indirect effect of Demography I it also has a noticeable impact on Research & Development (0.518). However, this value slightly falls short of the direct effect of Conditions for Social Innovation on the factor of R&D (0.607).

The effect of Demography I (0.862) on Tourism is surprisingly strong, and the factor of Social Exclusion also has a strong effect on Social Capital (-0.782), although the latter effect is less unexpected. It is also interesting to see the mathematically positive relationship between Social Exclusion and Tourism. As I have already mentioned, the path coefficients of Social Exclusion and Demography II related to latent variables are negative, but it can be considered logical due to the indicators forming the factors, i.e. the positive direct effect discussed in the present case (0.454) basically expresses the inverse proportion of the relationship between the two latent variables.

The evaluation of the model includes Cohen's f^2 -values (effect size) (Table 3). The measure shows how the variance of an endogenous variable changes when eliminating an exogenous variable (Hair et al., 2017). Based on the mentioned authors, an actual effect applies over a value of 0.02, and f^2 -values are medium over 0.15, while significant over 0.35 in terms of the endogenous variable.

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Table 3. Values of *f* Square

path	<i>f</i> ²
Demography I -- > Demography II	0.973
Demography I -- > Tourism	1.370
Demography I -- > Conditions for Social Innovation	0.631
Demography I -- > Social Capital	0.239
Demography II -- > Research & Development	0.119
Tourism -- > Regional Competitiveness	0.229
Research & Development -- > Regional Competitiveness	0.213
Conditions for Social Innovation -- > Research & Development	0.600
Conditions for Social Innovation -- > Regional Competitiveness	0.310
Social Exclusion -- > Tourism	0.380
Social Exclusion -- > Conditions for Social Innovation	0.328
Social Exclusion -- > Social Capital	2.819
Social Capital -- > Regional Competitiveness	0.499

Source: own construction

Consequently, if we test the specific *f*-values in our model, it is clearly indicated that each path exceeds the threshold of 0.02, and the value of 0.15 with the exception of only one. The mentioned exception is the relationship between the latent variables of Demography II and Research & Development (0.119). The effect of Social Exclusion on Social Capital (2.819), the relationship between Demography I. and Tourism (1.37), and the link between the two Demography factors (0.973) are interesting and outstanding, i.e. the values indicate that the effect of the former factors on the latter ones is significant.

CONCLUSIONS

In my paper, I investigated regional competitiveness and its elements. After a brief review of the academic literature, I constructed my model with the help of PLS-Path Analysis, whose regional focus was represented by the NUTS 2 regions of Germany and France. By using the indicators involved in the model and categorising them into groups I developed latent variables (factors) which can capture the different aspects of regional competitiveness. I formed eight latent variables in total, out of which Social Capital and Social Exclusion, as well as the two Demography factors qualify as long-run sources. Research & Development, and the elements of Conditions for Social Innovation and Tourism represent the drivers in the system, while the target variable is, of course, embodied by Regional Competitiveness.

The study of the direct effects suggests that none of the latent variables influence competitiveness at a significantly high level. The two strongest (practically identical) direct effects are exerted by Conditions for Social Innovation (0.347) and Social Capital (0.346).

The situation is different in terms of the total effects. Here, through indirect paths, the effect of Demography I latent variable (0.567) can be assessed significant (medium strong), and in this respect Conditions for Social Innovation also needs to be accounted. This factor influences Competitiveness in an indirect way as well. Thus, the total effect exerted by this latent variable (0.517) can be considered as medium strong.

Finally, the applicability of the model needs to be addressed. In this connection, it is important to note that the model examined the regions of the two largest economies of the European Union, which provided a special framework. Thus, using a similar model to study the regions of other countries/country groups even within the union may lead to different conclusions.

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Annex 1. List of variables involved

Latent variable	Variable
Regional Competitiveness	GDP (PPS) per inhabitant, in percentage of the EU average, 2017
	Employment rates (From 15 to 64 years), 2017
	Labour productivity (GDP/employees, 2017)
Research & Development	Community design (CD) applications (Per million inhabitants) 2015
	Community designs (CD) (Per million inhabitants), 2016
	Registered Community designs (RCD) (Per million inhabitants), 2016
	European Union trade mark (EUTM) applications (Per million inhabitants), 2015
	Intramural R&D expenditure (GERD) (Percentage of GDP), 2017 ⁶
Conditions for Social Innovation	Employment in technology and knowledge-intensive sectors - High-technology sectors (Percentage of total employment), 2017
	Employment in technology and knowledge-intensive sectors - High and medium high-technology manufacturing, (Percentage of total employment), 2017
	Employment in technology and knowledge-intensive sectors - Knowledge-intensive high-technology services (Percentage of total employment) 2017
	Total R&D personnel and researchers - numerator in full-time equivalent (FTE), 2017 ⁷
	Households with broadband access (Percentage of households), 2018
Tourism	Nights spent at tourist accommodation establishments (Per thousand inhabitants), 2017
	Net occupancy rate of bed-places and bedrooms in hotels and similar accommodation (Bedrooms, Percentage), 2017
	Net occupancy rate of bed-places and bedrooms in hotels and similar accommodation (Bedplaces, Percentage), 2017
Social Capital	Activity rate (From 15 to 64 years), 2017
	Activity rate - Tertiary education (levels 5-8) (From 15 to 64 years), 2017
	Employment rates of young people not in education and training, years since completion of highest level of education, All ISCED 2011 levels, From 1 to 3 years (From 15 to 34 years), 2017
	Employment rate - Less than primary, primary and lower secondary education (levels 0-2) (From 15 to 64 years), 2017
	Persons with tertiary education (ISCED) and/or employed in science and technology (Percentage of active population), 2017
Social Exclusion	Unemployment rate (From 15 to 64 years), 2017
	Unemployment rate (From 15 to 74 years), 2017
	Long-term unemployment (12 months and more, Percentage of active population), 2017
	Long-term unemployment (12 months and more, Percentage of unemployment), 2017
	Participation rate in education and training (last 4 weeks, From 25 to 64 years, Percentage), 2017
	Young people neither in employment nor in education and training (NEET rates), 2017
	Individuals who have never used a computer (Percentage of individuals) 2019
Demography I	Change of population (percentage, 2007-2017)
	Median age of women at childbirth (year), 2017
	Mean age of women at childbirth (year), 2017
	Crude birth rate (permille), 2017
	Crude rate of natural change of population (permille), 2017
	Crude rate of net migration plus statistical adjustment (permille), 2017
	Crude rate of total population change (permille), 2017
Demography II	Age dependency ratio, 1st variant (population aged 0-14 and 65 and more to pop. aged 15-64), 2017
	Old dependency ratio 1st variant (population 65 and over to population 15 to 64 years), 2017
	Women per 100 men (percentage), 2017
	Crude death rate (All causes of death (A00-Y89) excluding S00-T98, rate), 2016

Source: based on Eurostat data

⁶ In the case of the regions of France data from 2013 were available.⁷ In the case of the regions of France data from 2013 were available.⁸ In the case of Germany only NUTS 1 data are available.⁹ In the case of Germany only NUTS 1 data are available.

STUDY OF THE FACTORS INFLUENCING REGIONAL COMPETITIVENESS IN THE CASE OF
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Annex 2. Results of testing direct correlations in the model - P-values of the model

Path	Original Sample	T-Statistics	P Values
Demography I --> Demography II	-0.702	10.299	<0.001
Demography I --> Tourism	0.862	8.186	<0.001
Demography I --> Conditions for Social Innovation	0.540	4.246	<0.001
Demography I --> Social Capital	0.227	2.355	0.019
Demography II --> Research & Development	-0.271	2.873	0.004
Tourism --> Regional Competitiveness	0.181	1.833	0.067**
Research & Development --> Regional Competitiveness	0.280	3.210	0.001
Conditions for Social Innovation --> Research & Development	0.607	6.797	<0.001
Conditions for Social Innovation --> Regional Competitiveness	0.347	3.305	0.001
Social Exclusion --> Tourism	0.454	2.472	0.013
Social Exclusion --> Conditions for Social Innovation	-0.389	3.495	<0.001
Social Exclusion --> Social Capital	-0.782	10.222	<0.001
Social Capital --> Regional Competitiveness	0.346	2.604	0.009

* significant correlation for value $p < 0.05$

** - Above the expected value

Source: own construction

Annex 3. Attributes of forms of capital

Factor	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Demography I	0.835	0.872	0.515
Demography II	0.704	0.828	0.563
Tourism	0.771	0.864	0.695
Research & Development	0.879	0.915	0.689
Conditions for Social Innovation	0.771	0.847	0.529
Social Exclusion	0.925	0.944	0.714
Social Capital	0.769	0.860	0.584
Regional Competitiveness	0.641	0.812	0.599

Source: own construction

Annex 4. Correlation between factors

	Demography I	Demography II	Tourism	Research & Development	Conditions for Social Innovation	Social Exclusion	Social Capital	Regional Competitiveness
Demography I	1.000							
Demography II	-0.702	1.000						
Tourism	0.647	-0.361	1.000					
Research & Development	0.670	-0.677	0.256	1.000				
Conditions for Social Innovation	0.724	-0.670	0.312	0.788	1.000			
Social Exclusion	-0.473	0.520	0.046	-0.641	-0.645	1.000		
Social Capital	0.597	-0.622	0.169	0.639	0.646	-0.890	1.000	
Regional Competitiveness	0.768	-0.704	0.419	0.822	0.848	-0.722	0.780	1.000

Source: own construction

Annex 5. Values of HTMT indexes

Pairs of Latent Variables	Heterotrait-Monotrait ratio (HTMT)
Demography II. --> Demography I.	0.936*
Tourism --> Demography I.	0.782
Tourism --> Demography II.	0.574
Research & Development --> Demography I.	0.601
Research & Development --> Demography II.	0.739
Research & Development --> Tourism	0.374
Conditions for Social Innovation--> Demography I.	0.874
Conditions for Social Innovation--> Demography II.	0.865
Conditions for Social Innovation--> Tourism	0.631
Conditions for Social Innovation--> Research & Development	0.900*
Social Exclusion --> Demography I.	0.723
Social Exclusion --> Demography II.	0.806
Social Exclusion --> Tourism	0.255
Social Exclusion --> Research & Development	0.722
Social Exclusion --> Conditions for Social Innovation	0.729
Social Capital --> Demography I.	0.923*
Social Capital --> Demography II.	0.987*
Social Capital --> Tourism	0.449
Social Capital --> Research & Development	0.797
Social Capital --> Conditions for Social Innovation	0.877
Social Capital --> Social Exclusion	1.040*
Regional Competitiveness --> Demography I.	1.032*
Regional Competitiveness --> Demography II.	1.038*
Regional Competitiveness --> Tourism	0.606
Regional Competitiveness --> Research & Development	0.965
Regional Competitiveness --> Conditions for Social Innovation	1.048*
Regional Competitiveness --> Social Exclusion	0.875
Regional Competitiveness --> Social Capital	1.084*

* Above the expected value

Source: own construction