



COHESIFY
The Impact of EU Cohesion Policy
on European Identification

Multidimensionality of implementation and performance of Cohesion Policy in EU regions

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Abstract

The study presents various dimensions of the diversity of European regions in terms of the implementation and effects of Cohesion Policy and present recommendations for the planned analysis of the EU citizens' opinions on Cohesion Policy in varied regional contexts. On the basis of factor analysis, we highlighted three main factors of these differences related to the scale of Cohesion Policy allocation, significance of the reported achievements of this policy and the context of intervention in the form of growth dynamics of the regions. Due to the fact that these factors were uncorrelated, this indicated a weakness of the links between the expenditure incurred and its effects, as well as a broader impact of the intervention on the processes of economic development. Moreover, the classification of European regions proposed using these three factors demonstrated the importance of the national dimension of the differences in this respect, while regional differences played only a minor role and were noticeable above all in those countries whose regions were covered by the different objectives of Cohesion Policy (convergence vs. competitiveness). This suggests that the most important difference between regions is related to the eligibility to use the Cohesion Policy funds. This differentiation originated from the processes of European Union integration and enlargement and the gradual evolution of Cohesion Policy itself.

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INTRODUCTION

The socio-economic development of regions depends on a number of factors that are shaped by the public authorities. The role of the state or of international organisations such as the European Union is, firstly, to lay down the rules and principles that affect the directions of regional development and, secondly, to initiate actions or interventions that have direct impact on the territorial systems via development of different forms of capital (whether economic, human, social or natural) and have a bearing on the performance of the business sector. However, while every public intervention has a spatial dimension, only intentional and systematic activities can be considered as regional policy. As Gorzelak (2000, p.1) noted, *regional policy is a part of development policy relating to the spatial structure and dynamics of social and economic processes*. Such a development policy also consist incorporates sectoral policies targeted at specific fields of socio-economic activity as well as horizontal policies. This prompts some researchers (Gorzelak 2004) to distinguish *explicit* regional policy (e.g. Bachtler 2011) from *implicit* place-based regional development policy (e.g. Braca et al. 2012), which also comprises the spatial aspects of other socio-economic policies.

From this perspective, EU's Cohesion Policy (CP) that encompasses European Social Fund (ESF), the European Regional Development Fund (ERDF) and the Cohesion Fund (CF) has the hallmarks of a placed-based regional development policy. However, the ERDF can be regarded also as examples of an *explicit* regional policy. The main features of Cohesion Policy have remained relatively stable despite their certain evolution over the years. These include: its equalising mechanisms across the entire European Community; the regions as the basic units of intervention; multiple funds, i.e. pursuing the goals of Cohesion Policy via programmes of a varying nature, viz.: horizontal (social fund); spatial (regional development fund) or national (cohesion fund), and interactions with other Community policies, especially the Common Agricultural Policy, mainly with regard to rural areas.

The results of Cohesion Policy have for many years been the object of research conducted both at national and regional level. These include studies commissioned by the European Commission (eg. EC 2010a, EC 2010b, EC 2014) as well as other independent research. The main question, and one asked most frequently, is whether Cohesion Policy can help to achieve the objective aimed to reduce the disparities in the development level of regions. This question does not prompt an unambiguous answer owing to the differences in the assumptions made and the periods covered by the analysis, as well as the impact of the overall economic situation on regional development. In the recent literature review of the subject, McCann (2015) showed that, of over 50 scientific papers that analysed the impact of Cohesion Policy on regional development using econometric methods, about three fourths suggested a positive impact of such intervention, whereas the remaining one fourth of research studies indicated negative effects or lack of any impact whatsoever. In parallel, while the majority of studies show a rise in the convergence between Member States in the recent years (e.g. Dobrinsky, Havelka 2014), divergence processes prevail within individual Member States, mainly as a result of the metropolisation of development processes (e.g. Marzinotto 2012, Smętkowski, Wójcik 2012). In effect, to evaluate the effects of Cohesion Policy it seems more pertinent to answer more specific questions such as the following:

- Do the effects of Cohesion Policy are demand based (short-term), or supply based (long-term)? (Gorzelak 2016) To take an example, the Hermin econometric model applied in ex-ante evaluations of Cohesion Policy assumes both positive impacts of external funding injections and the long-term supply effects produced by an increased competitiveness of the regional economy (Bradley et al. 2007). However, the most recent studies from Abruzzo (Barone et al. 2016), one of the few regions whose rapid growth in short-term was fuelled by EU financing for less favoured regions, indicate that long-term development effects of the

structural funds are rather negligible. Likewise, an empirical analysis carried out by Bähr (2008) found that the size of the Cohesion Policy expenditure alone has no substantial impact on the pace of regional development. Only when combined with other factors such as high institutional capacity or a desirable level of decentralisation it can produce positive results.

- What are the effects of various thematic categories of interventions undertaken as part of Cohesion Policy? How those effects depend on the context in which they are implemented? For instance, some studies show that, in regions with the lowest levels of income, investments in education and development of human capital, but not in infrastructure or the business sector, are of crucial importance (Rodriguez-Pose, Fratesi 2004). Conversely, analyses at European level (Ferrara et al. 2016) demonstrate, that regional development is positively impacted by investments in R&D, innovation and transport infrastructure.
- Do the quantitative effects (positive socio-economic change) of Cohesion Policy weigh more than the qualitative effects (improvements in mechanisms and higher quality of public policies implementation)? In this regard, it is pointed out that only the Member States with effective and efficient institutions, low level of corruption and openness of economies can derive benefits from Cohesion Policy, whereas in a situation of rife corruption and poor institutions its impact can be as limited or even damaging. Such detrimental effect associates with the dependence on external assistance, which is either largely wasted or boosts the demand for imported goods (Ederveen, de Groot and Nahuis 2006).

Availability of relevant data poses a difficulty in evaluating the results of Cohesion Policy. While information about the expenditure expressed as the committed funds and about the outputs of the interventions expressed as the number of projects in individual intervention categories is relatively easy to obtain, information about the aggregate scale of these outputs such as e.g. the length of newly built or modernised roads, the capacity of sewage treatment plants or the number of employees participating in training programmes is at best largely fragmentary and/or even incomparable between countries. The problem becomes even more acute if we want to evaluate both the direct (defined as results) and the indirect (defined as impacts) effects of the intervention. This can be explained by a number of reasons, including difficulties with performing a cause-and-effect analysis, particularly in a changing general economic context.

As result, the evaluation of Cohesion Policy still faces the same challenges that over a decade ago were diagnosed by Bachtler and Wren (2006), such as the following:

- Evaluation does not offer an unequivocal answer about the actual impact of Cohesion Policy on the processes of socio-economic development at the level of countries and regions making up the European Community. In particular, while research shows that in situations when the policy addresses the real needs it can produce positive results, the scale of such an impact is extremely difficult to gauge, partly due to difficulties in quantification of programme objectives, dissimilar quality and availability of data from the monitoring systems, and partly from the need to concurrently apply both macro- and microeconomic methodologies.
- Difficulties with the application of the evaluation results. This particularly applies to those countries and regions where, given a modest allocation scale of the Cohesion Policy funds, measurement of their actual effects is an objective impossible to attain due to their interactions with other public policies.
- Therefore it was proposed to depart from evaluating the effects and instead focus on building the potential needed for an appropriate policy making based on well-grounded understanding of the mechanisms underpinning public intervention.

Moreover, the credibility of the evaluation methods differs depending on the adopted approach (Bachtler, Wren 2006 after Tavistock Institute, GHK, and IRS, 2003), i.e.: a) the positivist approach assumes that an objective evaluation is possible provided the research is carried out properly, b) the realistic approach that focuses on investigating the mechanisms driving the changes of such policy by soliciting the stakeholders' opinions, c) the constructivist approach that recommends interactions with the stakeholders in order to facilitate understanding of various opinions, values and interdependencies.

Aim and approach

The aim of the study was to identify the differences between European regions in terms of scale, effects and impacts of Cohesion Policy. The analysis largely focused on identification and exploration of such differences, but also indirectly looked at the interdependencies between the three categories defined above. What the study did not attempt to do was to evaluate the impact of such disparities on the way in which Cohesion Policy is perceived by the residents of individual countries and regions, which was one of the main goals of the Cohesify project. Instead this stage of research was intended, firstly, to provide a synthesis of the regional differences in the implementation and results of Cohesion Policy to show the major dimensions of the identified variations. Secondly, these key factors underpinning the differences helped to draw up a relevant typology of European regions. This exercise was aimed to select case studies for in-depth analyses of the relationships between Cohesion Policy and its perception by the shareholders and residents of selected regions.

The main dimensions of spatial differences within the EU-28 countries related to the implementation and performance of Cohesion Policy were identified using the factor analysis (Catell 1952). This is an exploratory method which envisages a reduction in the number of variables, which are then replaced by independent (uncorrelated) factors. In effect, it is possible to diminish the number of the variables without losing key information in the process, and to show the hidden dimensions of the revealed differences. The weight of the selected factors stems from the value of the variance that they explain; those factors that explain more variations than a single variable are most frequently used for further analyses. The factors thus identified can then be used to propose a classification of European regions by using another multidimensional method i.e. cluster analysis.

Setting the stage: variables and dimensions

The research, following a review of the availability of data and an assessment of their quality and utility for evaluation, investigated their potential impact on the perception of Cohesion Policy by the residents of European regions (cf. Płoszaj, Rok, Smętkowski 2016). The research used 11 variables which illustrated Cohesion Policy implementation and its effects, set in the context relevant for the development level of a given region. The latter aspect was discussed using the GDP per capita expressed in EUR in the base year, i.e. 2008, the year when projects funded from the previous financing perspective were being implemented (the n+2 principle), whilst the funds allocated in programmes under the 2007-2013 perspective had not practically begun.

Cohesion Policy was described with regard to the volume of the allocation and its changes compared to the 2000-2006 financing perspective, the structure of the allocation, and the absorption level in 2014 with the use of six variables. The first was the volume of the Cohesion Policy allocation, set against the level of development of a given region in the base year. The second was the comparison of the situation in a given region to the previous programming period, i.e. the years 2000-2006, expressed on the ordinal scale owing to wide percentage differences.¹ Other variables illustrated the

¹ The following arbitrary intervals were used, with the following values: -2 for the allocation lower than 50% of its value in the former period; -1 for the allocation of 50%-80%; 0 for the allocation of 80%-120%; 1 for the allocation of 125%-200%; 2 for the allocation of 200-500%; 3 for the allocation of over 500%, and 4 when the

allocation structure, for simplicity's sake broken down into ²: 'Basic infrastructure' (thematic categories: energy; environment and natural resources; transport infrastructure), 'Innovative environment' (thematic categories: business support; human resources; IT infrastructure; R&D), and 'Quality of life' (thematic categories: social infrastructure; tourism and culture; revitalisation) expressed as a percentage. The last indicator covered the degree of the funds' absorption in relation to the allocation made in the years 2007-2013, showing the situation as at the end of 2014. Indirectly, this indicator could be viewed as evidence of considerable efficiency in implementing Cohesion Policy.

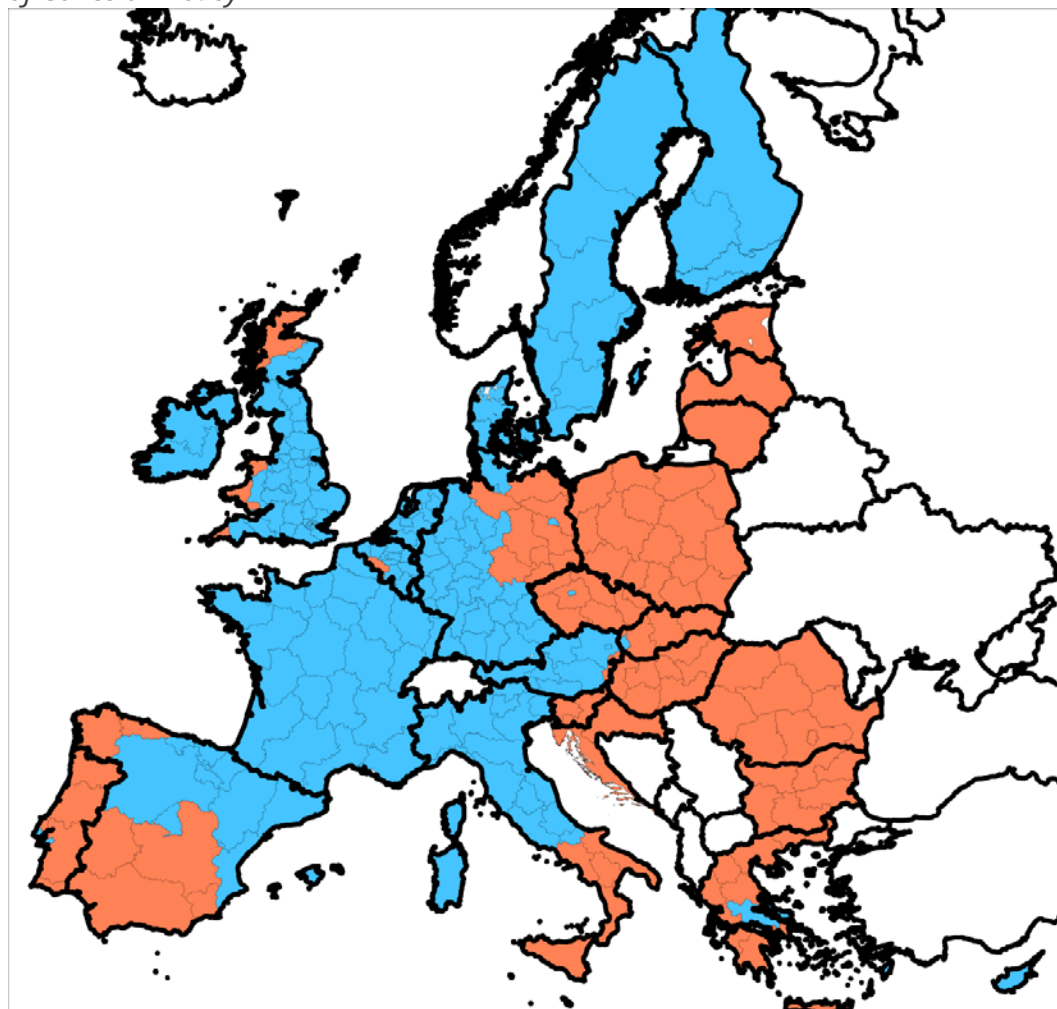
Owing to the lack of reliable and cross-sectional data highlighting the results of Cohesion Policy, we decided to employ the data provided in the national implementation reports showing the situation in 2014. Whilst these data are very broad in scope, they are hard to compare not only because of the differences in the definitions and data collection procedures, but also because different indicators are used in individual countries for monitoring the outputs and effects of Cohesion Policy. With this in mind, we resolved to use only such information which was available across a broad spectrum of countries (and was disaggregated at the regional level, taking into account the size of the financial allocation for the category associated with a specific type of effects, which was tantamount to assuming the same interregional effectiveness and efficiency in the utilisation of funds). We used the statistics on the number of newly created jobs, relativized with the overall number of people in work in a given region on the basis of Eurostat data, in addition to the number of new jobs in the R&D sector, statistics that were similarly relativized with the number of people employed in this sector. The last indicator showed the number of grants for SMEs, which in its absolute form is an output indicator but, when compared to the number of enterprises registered in a given region, can demonstrate the extent of the distribution of EU assistance in the business sector. In addition, we analysed the dynamics of regional development in the wake of the financial crisis, i.e. 2008-2014, which could have been influenced by intervention undertaken as part of Cohesion Policy.

It should also be noted that the scale of the allocation of Cohesion Policy funds was strongly differentiated nationally and regionally, a direct consequence of its underpinning assumptions, which among their priorities listed assistance to less favoured countries and regions. The former were dubbed 'cohesion' countries (with the Cohesion Fund addressed to them), while the latter were termed 'convergence' regions during the 2007-2013 programming period, and 'less developed' and/or 'transition' regions in the present programming perspective. Therefore, it can be inferred *a priori* that this will be one of the key factors differentiating the European regions with respect to the implementation and performance of Cohesion policy. This encouraged the authors to distinguish two subsets of regions, the first comprising 'convergence' (including phasing-out) regions, and the second – 'competitiveness and employment' (including phasing-in) regions ('competitiveness' was used for short) to verify whether their internal differentiation depends on the same factors as can be observed when all the regions are analysed jointly (Fig. 1).

region was not a beneficiary of Cohesion Policy in the former period (i.e. regions of Bulgaria and Romania that joined the EU in 2007).

² As any broad generalisation, it can be regarded as oversimplification. On the other hand, examination of individual categories of intervention separately also means that certain categories in individual regions will produce low values, thus introducing a random factor into the analysis, arising from different goals and preferences reflecting dissimilar regional needs in that regard. The first method has the advantage that it reduces significant differences related to coefficients of variation between the individual categories of intervention.

Fig. 1 Division of regions for the purposes of research on the implementation and performance of Cohesion Policy



* Red – Convergence regions; Blue - Competitiveness regions

Source: authors' own elaboration.

1. MAIN DIMENSIONS OF COHESION POLICY'S REGIONAL DIFFERENTIATION

The factor analysis identified the key dimensions of differences between the European regions in terms of expenditure and effects of Cohesion Policy. It made use of the variables discussed above with the rather liberally set boundaries of mutual correlation values ($r=0.8$) (Appendix 1). On the other hand, the scree method was used to determine the number of principal factors in all the three approaches (Cattell 1966).

With such assumptions being adopted, three main differentiating factors of variations were identified for each of the territorial approaches. They explained 65% of the variances in all the regions. Conversely, in the Convergence regions those factors explained 72% of overall variation, compared to a mere 48% in the Competitiveness regions. On the one hand, this was a consequence of the huge differences in the scale of the allocation of funds between those groups of regions, but on the other

it was also probably associated with a greater differentiation of the instruments and contextual situations in the regions of the latter type. À rebours, it could indicate a potentially significant unification of Cohesion Policy goals and instruments in the Convergence regions. In this case, the differences between the old and new Member States would be the main limitation to the scale of the examined variance. To sum up, it can be assumed that the differences in the strength of the factors explaining regional variations can equally, and importantly, stem both from the evolution of the European Communities (subsequent stages of the enlargement process), as well as changes in Cohesion Policy as such (such as eligibility criteria).

According to expectations, the tentatively dubbed '**scale of financing**' proved to be one of the major factors differentiating European regions (33% of the explained variance after rotation). In addition to the size of the Cohesion Policy allocation compared to the regional GDP, this particular factor was also linked to low regional income per capita, a result of the equalising mechanism of this policy. It can be assumed that this was more strongly associated with the differences observable between individual countries than with the regions within these countries. The levelling aspect was particularly well visible in the Convergence regions, while in the Competitiveness regions per capita GDP was not significantly correlated with the former factor. This could point either to the lack or at least a lesser significance of the equalisation goal of Cohesion Policy in the latter group of regions. The factor 'scale of financing' was also associated with a specific structure of expenditure, manifested by extensive outlays on 'basic infrastructure' at the expense of expenditure on an 'innovative environment'. This trade-off was equally well visible in both types of regions under consideration, and indirectly indicates that, given the lack of appropriate funding, individual countries and/or regions did not embark on costly infrastructure projects, focusing on instruments promoting the innovative environment instead. This factor was also negatively correlated with the pace of absorption the Cohesion Policy funds, as could be observed in the approach spanning the two groups of regions, and in the Competitiveness regions, which, if they had a larger amount of funds at their disposal, as a rule spent them relatively more slowly. In parallel, in the Convergence regions this variable was more strongly correlated with another differentiating factor, which suggests that there is no straightforward correlation between the volume of funds and the pace at which these funds are expended.

'Reported achievements' of Cohesion Policy were another equally important factor differentiating European regions (34% of the explained variance after rotation for all regions). This factor comprised all variables which demonstrated the reported achievements of this policy. It could tentatively suggest that the dissimilar results were, to some extent at least, a consequence of the assumptions and methodologies adopted for the purposes of monitoring the effects of the implementation of Cohesion Policy and reporting these to the European Commission. The highest load factor (corresponding to the correlation between the factor and the variable) was observed for newly created jobs relativized with the number of people employed in a given region. The load factors of the remaining two variables, i.e. jobs in the R&D sector and the number of assistance grants for small and medium-sized enterprises were, however, also relatively high. In addition, there was a visible difference between the Convergence regions and the Competitiveness regions, manifested by a greater role of SME grants in the former category, and in the latter – by the number of jobs in the R&D sector. This could be regarded as evidence of the differences in the structure of intervention in those two groups of regions. The factor 'reported achievements' at least to some, albeit weak, extent took into account (just as the factor referred to above) the volume of Cohesion Policy expenditure relative to the regional GDP level. This, however, could not be observed in the Competitiveness regions. In that case, the lack of correlation between the reported achievements and the volume of expenditure could be caused by the dissimilarities in the performance of funds earmarked for the project implementation or, as suggested above, by the differences in the system of their monitoring and reporting found between individual Member States.

The last adopted factor pointing to the dissimilarities between individual regions was the factor dubbed as 'growth dynamics'. This term, associated with the real growth of the regional GDP, is particularly suitable for all regions and for the Convergence regions. For the Competitiveness regions, this factor should rather be dubbed as the 'changes in financing' owing to a different load structure, accompanied, however, by a noticeable input also in terms of GDP real growth. Arguably, this could signify the lack of any strong linkages between the rate of economic growth on the one hand and the Cohesion Policy intervention on the other. It should be borne in mind that the results could be influenced by the period selected for analysis, one that directly followed the global financial crisis. On the other hand, it should be pointed out that the percentage of Cohesion Policy expenditure aimed to improve the quality of life made a significant contribution to the factor in question. According to expectations, this correlation was negative, which means that this category of intervention could only exert a negligible impact on economic growth processes. On the contrary, for the Convergence regions the percentage of expenditure on the innovative environment provided a significant input into the factor, which could indicate the potentially positive impact of this category of expenditure on economic development processes. In this group, the speed at which the EU funds were being expended was a factor of a much greater significance, possibly indicating the presence of the demand effect, which was not observable in the Competitiveness regions.

Tab. 1. Factor analysis of regional variations in the implementation of Cohesion Policy

	All regions			Convergence regions			Competitiveness regions		
<i>Factor 1: 'Scale of financing'</i> <i>Factor 2: 'Reported achievements'</i> <i>Factor 3: 'Growth dynamics'</i>	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
GDP per capita	-0.74	-0.27	0.08	-0.89	-0.06	-0.22	-0.20	-0.12	0.71
GDP growth in 2008-2014	-0.07	-0.03	0.84	0.16	-0.15	0.85	-0.38	-0.05	0.49
Per capita allocation as % GDP	0.78	0.42	-0.06	0.69	0.55	0.04	0.65	0.21	-0.28
Change in allocation 2000-2006/2007-2013	0.77	0.03	0.27	0.86	-0.05	0.18	0.25	0.03	0.75
Allocation for 'basic infrastructure' (%)	0.90	0.08	-0.08	0.85	-0.24	-0.11	0.80	0.02	-0.04

Allocation for 'innovative environment' (%)	-0.83	-0.05	0.16	-0.89	0.04	0.32	-0.75	0.03	-0.25
Allocation for 'quality of life' (%)	0.08	0.23	-0.54	-0.08	0.55	-0.42	0.20	-0.02	-0.22
Absorption level in 2014 (%)	-0.57	0.21	0.39	-0.32	0.17	0.63	-0.49	0.20	0.19
Number of new jobs in relation to the number of employed (%)	0.07	0.82	-0.06	-0.23	0.79	0.13	-0.11	0.78	-0.07
Number of new jobs in the R&D sector as a percentage of all employed in the sector	0.27	0.68	0.30	-0.09	0.49	0.59	0.14	0.73	0.08
Number of grants for SMEs in relation to the number of businesses	0.14	0.74	-0.22	0.08	0.87	-0.08	0.12	0.57	-0.23
Variation	3.68	2.05	1.40	3.73	2.32	1.86	2.20	1.58	1.59
Share	0.33	0.19	0.13	0.34	0.21	0.17	0.20	0.14	0.14

* factor loadings over 0.4 were marked in bold

Source: authors' own elaboration.

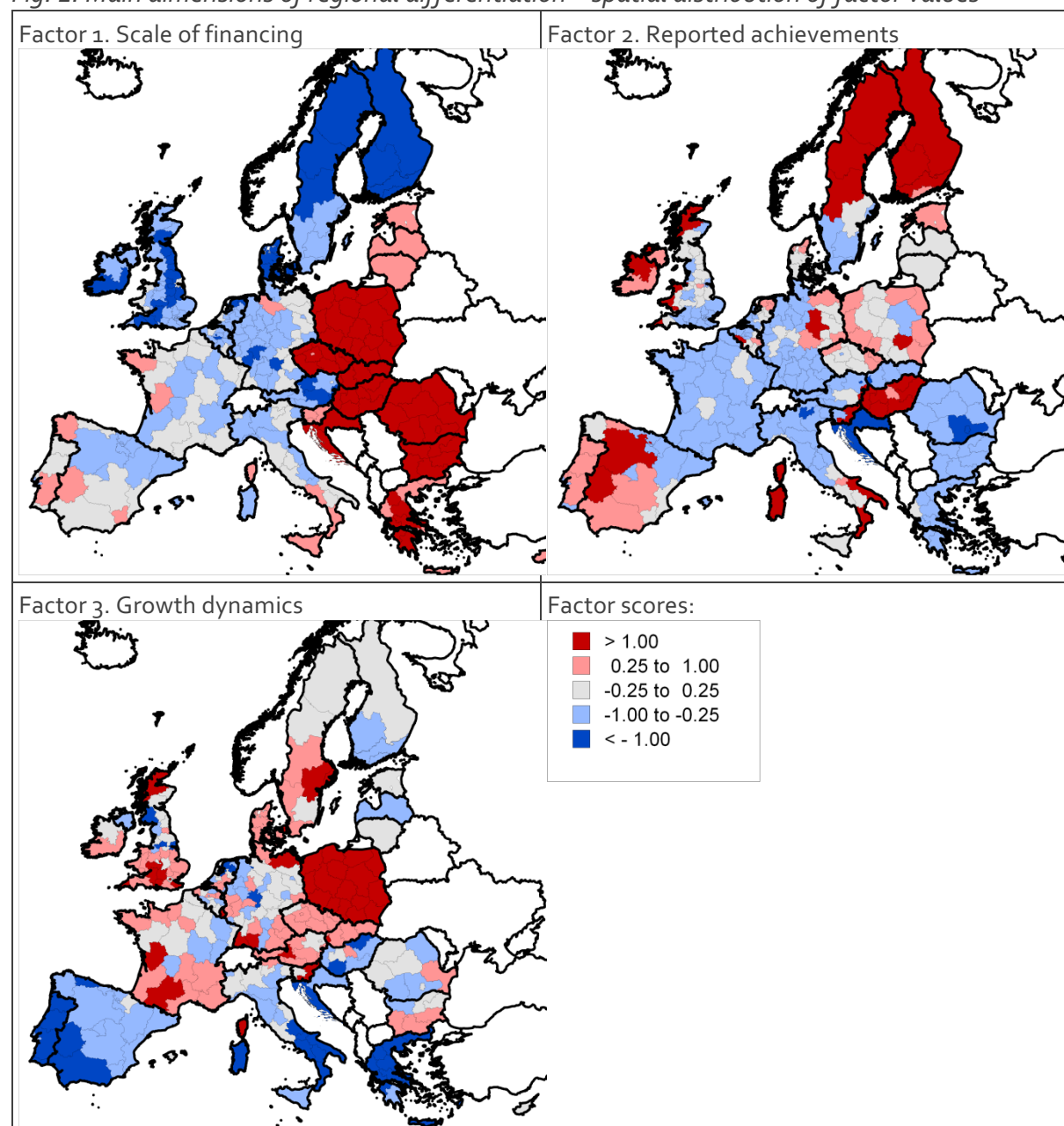
An analysis of the maps showing the distribution of specific factors in European regions demonstrates quite distinct spatial correlations in terms of their distribution (Fig. 2).

The first factor shows clear differences between new and old Member States, and – to some extent – between those regions of old Member States which were comprised by the Convergence Objective assistance (including Phasing Out): in particular Greece, Spain, Portugal, and Italy. The internal variations in the remaining countries might arise more strongly from the structural component of the factor associated with the proportion of expenditure on innovative environment in relation to basic infrastructure, a feature easily observable in the Nordic countries, the United Kingdom, France, as well as Austria and Germany.

Further, the second factor very clearly shows the specific features of monitoring and reporting the effects of Cohesion Policy by individual countries. Such considerable effects are first and foremost reported by Hungary, Finland plus Ireland and Portugal, although to a lesser extent (and with the exception of Algarve in the latter case). In other countries, variations of the reported achievements are found on the regional scale, which, in many cases, is nevertheless associated with the differences in the allocation of Cohesion Policy funds. It is particularly visible in Italy, Germany, the United

Kingdom, Sweden and Poland. On the other hand, regional variations in the remaining countries are rather modest, e.g. in France, Austria, Slovakia, Romania, Bulgaria or Greece. The relatively weakest effects are reported by Croatia, which is quite natural considering the fact that it did not achieve a Member State status until 2013.

Fig. 2. Main dimensions of regional differentiation – spatial distribution of factor values



Source: authors' own elaboration.

The last identified factor most vividly demonstrates the differences in the GDP dynamics, associated mainly with how the economies of individual Member States reacted to the 2008 crisis³ (see e.g.: Milio et al. 2014). In this context, Poland provided a conspicuous example, being the only EU country

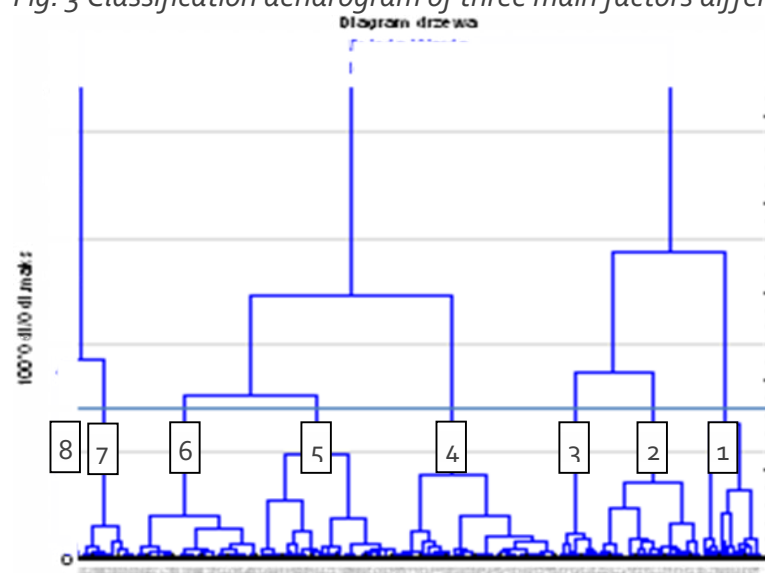
³ It should be noted that, due to changes in the methodology of ESA2010 GDP estimates, the situation at the regional level can be distorted by the range of retroactive recalculations, e.g. in France.

that did not suffer a crisis but only an economic slowdown. Other countries that were also in a relatively favourable situation included Slovakia and the Czech Republic plus Sweden of the EU-15. At the other extreme were countries of southern Europe, i.e. Greece, Spain, Portugal and also Croatia. On the other hand, the factor also shows the differences in the level of absorption of Cohesion Policy funds that could partly lead to the situation within individual countries evolving along different paths.

2. TYPOLOGIES OF REGIONS BASED ON THE MAIN FACTORS OF COHESION POLICY VARIATIONS IN TERMS OF IMPLEMENTATION AND PERFORMANCE

The regions were classified on the basis of the main factors differentiating the space of European Union countries, described above. To this end, hierarchical cluster analysis was carried out using Ward's minimum variance method. As a result, a classification dendrogram was produced, showing several clearly visible clusters of regions with similar values of the analysed indicators (Fig. 3).

Fig. 3 Classification dendrogram of three main factors differentiating European regions



Source: authors' own elaboration.

On this basis, three basic types of regions were identified, which largely corresponded to the differentiation factors described earlier. The first was associated with significant expenditure made as part of the Cohesion Policy. In this group, two subtypes could be distinguished, the first (8) grouping only Polish regions owing to their fast economic growth, and the second (7) associated with the relatively modest reported policy effects, and comprising Slovakia in addition to Romania, Bulgaria and Croatia. At the other extreme (3) were Greek regions characterised by a low growth dynamics given the substantial scale of financing. A similarly low pace of growth in a situation of weak financing (2), but nevertheless with visible reported achievements, could also be observed in the regions of southern Italy, western Spain and Portugal, plus eastern Germany. The most conspicuous category (1) included Hungarian, Finnish and northern Swedish regions owing to substantial reported achievements of the implemented policy. Another specific type (4) included regions with a relatively fast level of growth in the conditions of a relatively low Cohesion Policy allocation, i.e. Austrian, Swedish, Danish, British regions, the Benelux, as well as some regions of western Germany and southern France.

In between those extremes was a group of diversified regions which did not stand out in relation to the average values in any aspect under the analysis. In this category, two subtypes can be identified. The first subtype is characterised by a tangible scale of assistance but low reported achievements (5), and includes the Czech Republic and the Baltic States, in addition to selected French and German regions. The second subtype (6) could be described by a lower scale of assistance and even lower achievements than in the first subtype, plus a low rate of growth; it predominantly included northern Italian and north-eastern Spanish regions, as well as some other regions in Germany and France.

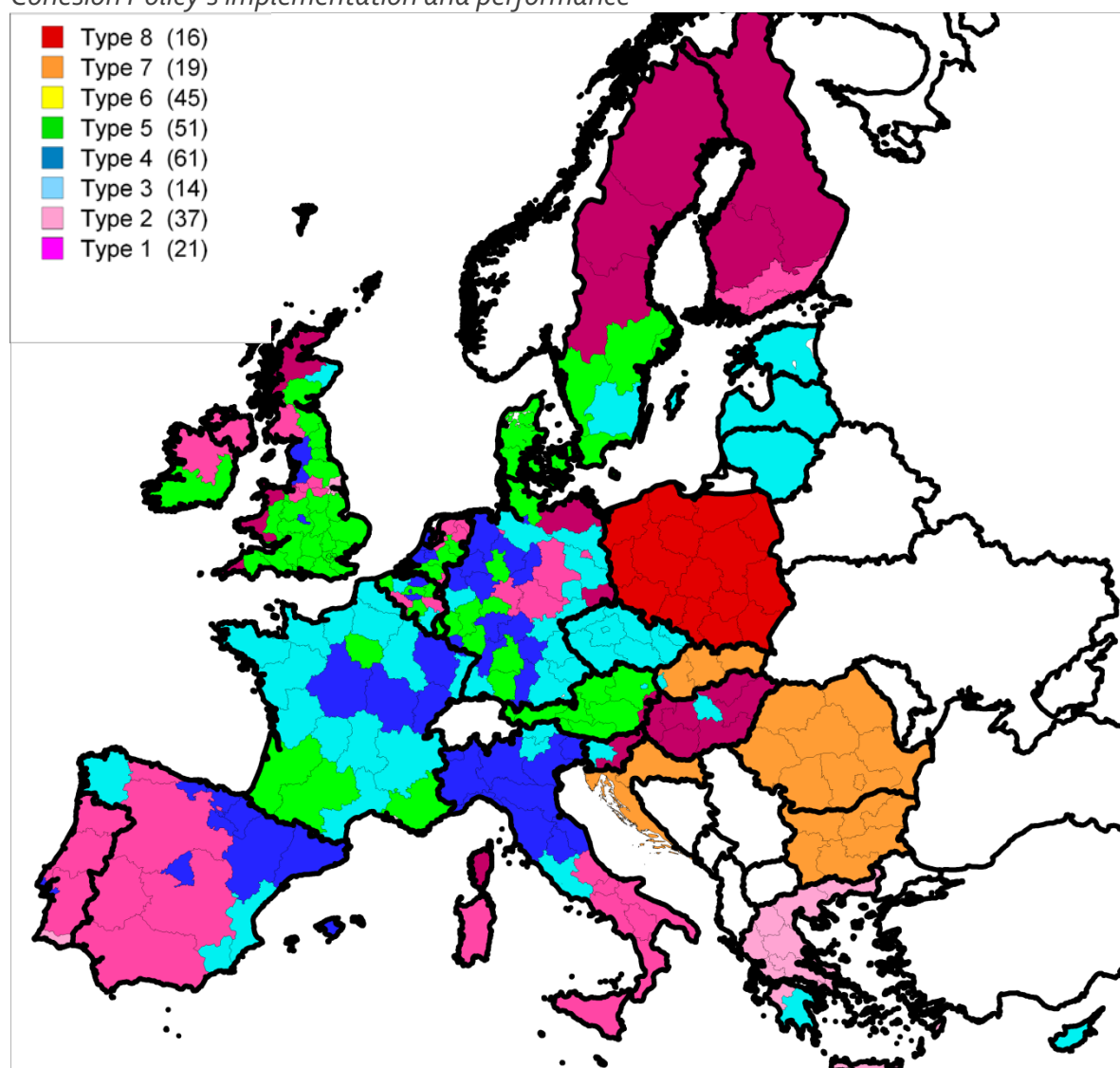
Tab. 2. Average factor values for individual types of regions

Type of regions (*)	Factor 1 'Scale of financing'	Factor 2 'Reported achievements'	Factor 3 'Growth dynamics'
High effects (1)	-0.11	2.52	0.27
Low rate of growth, low financing and high effects (2)	-0.46	0.54	-0.95
Low rate of growth and high scale of financing (3)	0.80	-0.47	-2.28
Low scale and high growth (4)	-0.80	-0.30	0.69
Diversified – high scale (5)	0.34	-0.31	0.21
Diversified – low scale and low effects (6)	-0.47	-0.56	-0.41
High scale and low effects (7)	2.03	-0.83	0.00
High scale and high growth (8)	1.46	0.38	1.75

* the numbers correspond to the definitions in **Fig. 3** and **Fig. 4**

Source: authors' own elaboration.

Fig. 4. Classification of European Union regions in terms of the differentiating factors of Cohesion Policy's implementation and performance



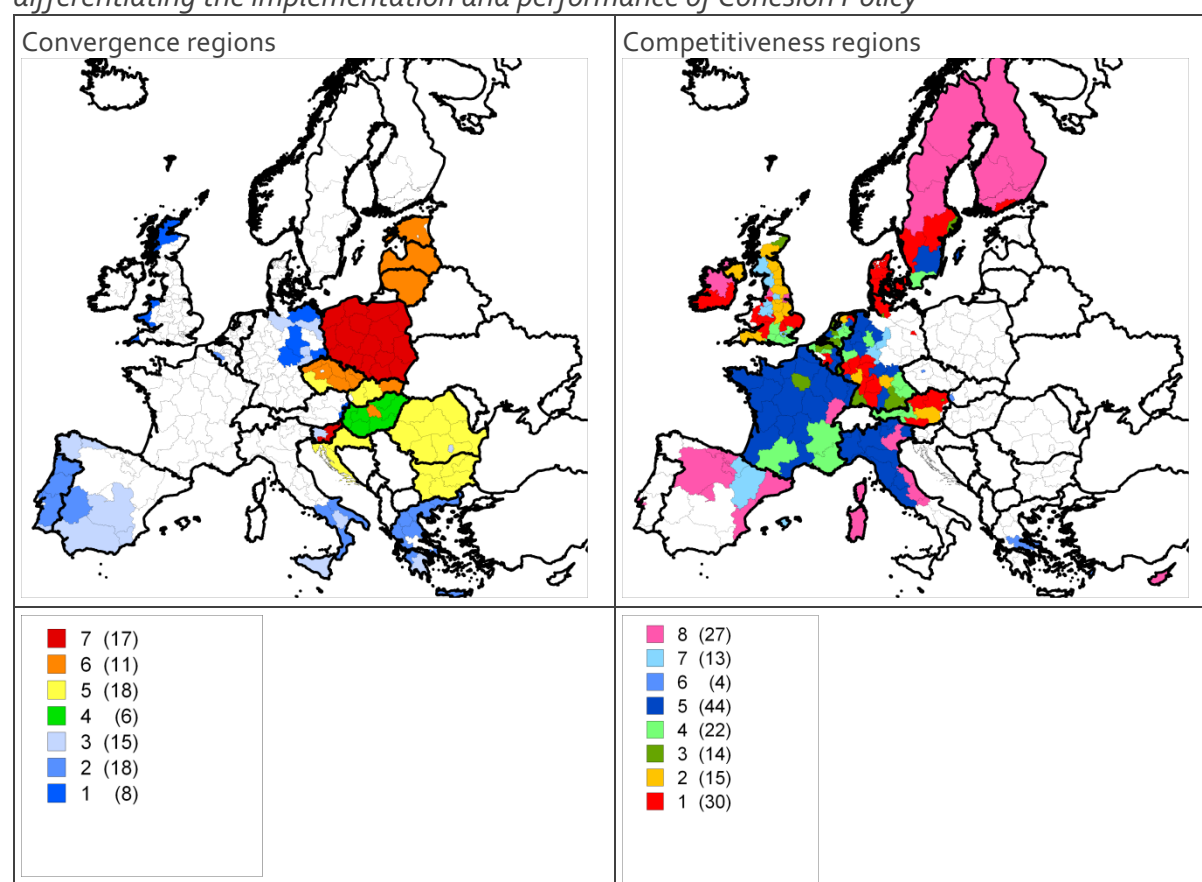
Source: authors' own elaboration.

The classification procedure was repeated separately for the Convergence and Competitiveness regions based on the relevant main factors (Fig. 5). In the former case, there were only few changes in the classification of regions. The main observable dimension of the differences was the division into the regions of 'new' and 'old' Member States (with the exception of western Slovenia). In the former group, Poland (plus the region of eastern Slovenia) (7) and Hungary retained its distinctly different position (4). The supranational types included Slovakia, Romania, Bulgaria and Croatia in addition to the Czech Republic and the Baltic States (6 and 5). Among the EU-15 regions, a division into southern (2) (Greece, southern Italy, Portugal and 1 Spanish region) and northern (1) (UK, Germany and 1 Belgian region) could be observed. The third type comprised mainly Spanish regions and the remaining German ones, in addition to some of the Italian and Greek regions.

In the latter case, the changes were more significant in relation to the overall picture. Altogether, four main types comprising eight subtypes can be identified: the first (8) encompassing the relatively peripheral regions of Finland, Sweden, plus Italian and Spanish regions. The second subtype (5-7)

comprises Italian, French and German regions as well as British regions which form a separate subtype. The third subtype (3-4) covers southern Germany, the Benelux countries, and some regions of southern France. The last subtype (1-2) includes Denmark, southern Sweden and Finland, plus western Germany, Austria and most of the British regions.

Fig. 5. Classification of Convergence and Competitiveness regions in terms of factors differentiating the implementation and performance of Cohesion Policy



Source: authors' own elaboration.

CONCLUSIONS

The factor analysis as an exploratory method corroborates the validity of the choice of variables to illustrate a given issue. In this case, the identified main factors differentiating the regional variations in the implementation and performance of Cohesion Policy proved relatively easy to interpret. It means that each of these factors could at least partly be replaced by one selected variable. These factors illustrated: a) the scale of financing associated with a specific structure of intervention (the greater the allocation, the bigger the portion of the funding earmarked for developing basic infrastructure), b) the reported achievements of Cohesion Policy (which for the most part are not tied to the specific type of effects, a likely consequence of the differences between the national monitoring and reporting systems) and c) the dynamics of regional growth (which could be regarded as a broader context for specific interventions). These dimensions are mutually uncorrelated, possibly pointing to relatively weak linkages between the scale, effects and impacts of Cohesion Policy. The absence of strong interrelationships between the scale of the expenditure and its effects could result,

firstly, from the differences in the efficiency of the implemented programmes and projects, and secondly – and more likely – from the differences in the national monitoring systems of policy implementation. At the same time, the lack of correlation between the effects and the dynamics of regional growth could point to relatively small supply effects of the interventions. On the other hand, demand effects are likely to occur, as demonstrated by the fact that the rate of absorption was incorporated into the factor illustrating the dynamics of regional development.

The application of the identified factors to classify European regions proved that the regional differentiation is strongly determined by the situation at the national level, which is manifested by about half of the identified types of regions being largely confined by the state boundaries. Therefore, a conclusion may be drawn that the differences in the implementation and performance of Cohesion Policy depend on the differences existing between specific national (not least caused by the Cohesion Fund), rather than regional contexts. This is corroborated by the conclusion proposed by Le Gallo et al. (2011) about the notable role of the national context for the observable relationships between Cohesion Policy and regional development. The major exceptions included countries whose regions belonged to different categories of Cohesion Policy objectives, especially Italy and Germany, and less so – Spain and the United Kingdom.

Both the significant role of the factor illustrating the scale of Cohesion Policy and the spatial layout of the types of regions identified on the basis of the three factors fully corroborate the *a priori* formulated difference between the Convergence regions and the Competitiveness regions. The resultant picture is therefore largely a consequence of two processes. The first is European integration manifested by subsequent rounds of enlargement, which as a rule led to countries with lower development levels being accepted as members (except the 1995 enlargement serving as one of the notable exceptions). The second is the evolution of Cohesion Policy itself, which has maintained its equalising nature and mechanisms, and this, together with the former process, led to the emergence of differentiation into 'new' and 'old' Member States, and, in the latter ones, into the Convergence and other types of regions. It is much more difficult to identify the clear-cut divisions within the latter group, mainly because the role of Cohesion Policy is rather modest compared to the socio-economic potential of those regions.

In the context of perception of the European Union and Cohesion Policy by the residents of regions, the following hypotheses can be proposed. In the regions with high values of the first factor, it can be surmised that the residents will be more aware of the scale of the financial engagement of the European Union, which is also associated with a significant share of funds earmarked for developing basic infrastructure in the overall allocation. While in the regions where the second factor attains high values, it can be assumed that, with the effects being appropriately communicated, a positive image of benefits derived from the EU-funded projects, particularly those connected with creation of new jobs and development of a competitive and innovative economy, can be firmly rooted in the residents' awareness. As regards the third factor, such awareness may be shaped by overall economic performance that can have a bearing on how the effects of Cohesion Policy are perceived. For Convergence regions, a high share of funds allocated to the development of an 'innovative environment' can also play a role, whereas changes in the scale of Cohesion Policy financing, particularly its reduction in the financing perspective 2007-2013, can be of significance in Competitiveness regions.

Furthermore, the following research matrix can be proposed to facilitate interpretation of opinion poll on EU and Cohesion Policy findings (Tab. 3). It seems that juxtaposing the residents' opinions in different contextual situations could produce information of a substantial cognitive value. Such a tool could help assess the significance of the impact of individual factors on the public at large while

monitoring the role of communicating the effects of Cohesion Policy in shaping the wider awareness of the benefits offered by EU membership.

Tab. 3. Model situations showing Cohesion Policy implementation and performance

Growth dynamics	Scale of financing			
	High		Low	
	Reported achievements		Reported achievements	
	High	Low	High	Low
High				
Low				

Source: authors' own elaboration

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