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EXAMINING THE IMPACT
OF EUROPEAN REGIONAL POLICY



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SUMMARY*

It is generally accepted that financial support from the European Union generates a large growth surplus. These positive expectations are backed by potential effects of the structural funds calculated in model simulations by the European Commission. However, empirical studies of the real effects of the funds, measuring growth surpluses attributed to the process of catching up with richer EU economies, are few and far between. This paper aims to remedy this on the following logical basis. It first examines the processes and types of evaluation that have developed in the EU, and then some of the lessons to be drawn about the methods of analysis, by looking more closely at case studies, model simulations and econometric analyses employed. The conclusion that emerges is that the regional policy intentions are only partly realized for various reasons, including the crowding-out effect of the financial aid, rent-seeking behaviour, and the moral hazard of the governments involved.

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One of the major aims of EU regional policy¹ is to help reduce the income gap between richer and poorer regions (*i.e.* the economic and territorial disparities). The other major objective is to boost employment and deal with problems of social exclusion (*i.e.* social disparities). The EU spends significant sums on dedicated programmes to do so.

Examination of almost twenty years' experience with such policy at Community level poses the question of the extent to which the objectives have been attained—how effectively and appropriately European taxpayers' money has been spent. A well-founded answer can be obtained by analysing the policy, and this may help to formulate future policy.

1) THE CONCEPT AND DEVELOPMENT OF EVALUATION IN EU PRACTICE

Evaluation of regional policy is relatively recent in EU history. For various reasons, appropriate systems were not employed initially—in 1975–88 (Bachtler and Michie 1995).² But by 1988, when the European

¹ The expressions EU regional policy, EU cohesion policy and EU structural policy are used synonymously for the workings of the EU Structural Funds and Cohesion Fund, the main EU tools for helping the economic and social cohesion of member-states and regions. There were four structural funds in operation up to 2006: the European Regional Development Fund, the European Social Fund, the orientation section of the European Agriculture Guidance and Guarantee Fund, and the Financial Instrument for Fisheries Guidance. The cohesion fund gives support to larger programmes to develop environmental and transport infrastructure. Supports from structural funds are based on regions designated “target areas” or “objectives”, or within so-called Community Initiatives. Support from the Cohesion Fund can be applied for by the least developed member-states, which before 2006 were Greece, Portugal, Spain and the new member-states. For the system since 2007, see http://ec.europa.eu/regional_policy/policy/object/index_en.htm.

² Bachtler and Michie (1995) list three reasons in their paper: (1) before 1988, Community aid and money devoted to regional development in member-

Commission received a big role in distributing Union funds, conflict between the Commission and member-states intensified. So the most important and longest-established aim of evaluation was accountability (Batterbury 2006). Thenceforward the Commission nominated the regions to receive financial aid, approved the development plans, and exercised oversight on development expenditure. The demand for accountability was all the stronger as these were the biggest items of EU budget expenditure.³ So the evaluation system, monitoring, financial management and auditing became stricter and broader in the EU, along with attendant legal responsibilities. The situation is complicated by the many organizations to be included in the evaluation process, from programme managers and partners, regional and national authorities, to various EU institutions, but in terms of results achieved through EU expenditure and achievement of programmes, *each organization has different interests* (Bachtler and Wren 2006).

Constructing an evaluation system for programmes in the member-states is not simple: there is no monitoring regulatory system at Community level. The need for monitoring is evident in Council regulations on the common budget but nothing is said about how to install it. For the 2007–13 budget period the EU issued only working papers and guidance documents to assist the evaluation process. It did not deal with establishing a regulatory system for programmes that affect the common budget.⁴

The basic *aim* of evaluation (or monitoring) in the EU is not to provide an ex post analysis of the flow of funds, but “to provide

states were mixed together; (2) the division of duties between administrative bodies was badly coordinated; and (3) the evaluation methods differed widely across Europe, particularly as they lacked Community guidelines.

³ The increasing interest in evaluation of EU cohesion policy falls in with an international trend driven by demand for legitimization of government intervention and justification for it (Bachtler and Wren 2006).

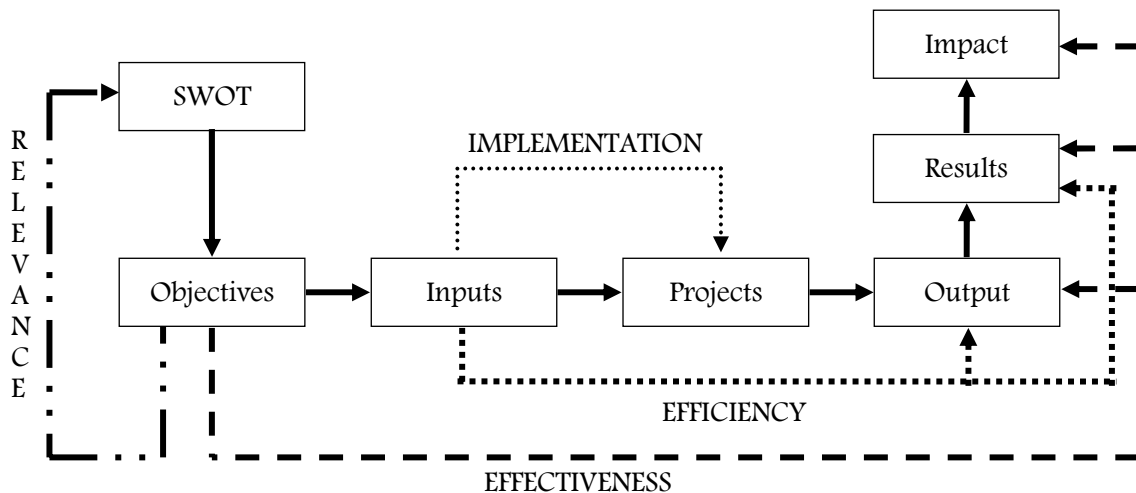
⁴ See http://ec.europa.eu/regional_policy/sources/docoffic/working/sf2000_en.htm for details.

support for background examination of the execution of the development programmes” (Forman 2001:211). The *task* of monitoring, according to Rechinzer and Lados (2004:257) is “to account for the developments leading to regional development and the advancement of programmes, and in this way to their evaluation.” Like Forman (2001), they also point out that monitoring is not simply a financial and administrative control, but far more: to follow the course of development programmes, continually evaluate them, provide feedback on the achievement of goals, and to evaluate and systematize the regional effects of development.

its objectives, *i.e.* been *effective*, and that no money has been wasted, *i.e.* that the policy has been *efficient*. Demonstrating effectiveness and efficiency bring us close to an evaluation.

The first step in evaluation is to see the logic in the intervention, to understand what it sets out to do and how (see EC 2001:5 and EC 2006:4). The key elements in this logic are inputs, projects (activities), outputs, results (short-term or initial impacts) and outcomes (longer-term impacts)—see *Figure 1*. Often there is a SWOT analysis associated with the structure.⁵

Figure 1
The key elements examined in evaluation of EU regional policy



Note: For the same diagram see EC 2001:9 or EC 2006:4.
Source: Molle 2006:5.

Though “evaluation” and “monitoring” have distinct meanings, they are regularly used synonymously in international and Hungarian literature. For the reader, the difference can perhaps be felt in the difference between the micro and the macro level, with evaluation referring to macro and monitoring to micro-level assessment (Bradley 2006:190).

How can evaluation be performed? How can the existence of a policy be justified? How can it be shown that the money spent under regional policy has been well spent? According to Molle (2006:2), two things need to be measured: the policy has reached

Completing the evaluation not only sheds light on the research question’s accountability criterion (appropriate expenditure of taxpayers’ money), but improves the results of a certain phase of development policy, *i.e.* planning, programming and implementation—thereby improving performance (effectiveness and efficiency). Taking all this into consideration, the process can be referred to as *learning* (Molle 2006:2).

⁵ The diagram is returned to in the final chapter.

2) TYPES OF EVALUATION

The complexity of the evaluation (arising mainly from the divergent interests involved) is increased further because it can appear in many forms. The guidelines and working documents that act as regulations only create a framework, while the national and regional environment, the institutional system and the nature of execution all differ. The culture of evaluation and the administrative capacity for such tasks also differs between member-states. While there is a strong tradition of evaluating regional development in the northern European states, such specialized evaluation has yet to become integral to the administrative system in some southern states, such as Greece and Italy (Bachtler and Wren 2006:149).

Evaluation also differs from programme to programme. One programme can involve many areas of intervention (aimed at physical or economic infrastructure development, human resources, research, technological development and innovation environmental goals, support for small and medium-sized business, *etc.*) and a range of financial instruments that bring improvements to many beneficiaries. In addition, co-financing of programmes stipulates state or private capital contributions, which further complicate the picture.

Thanks to the great interest shown in evaluation, EU cohesion policy and its accompanying *methodology* have also moved to the centre of attention and become *disputed* areas. This is unsurprising considering the sums devoted to the policy⁶ and the policy's role, but it is important to be aware of the many different types of analysis and methodology.

Most disputes about evaluation rest from differences in philosophical foundations. Modern evaluation practice can be traced back to three philosophical traditions; positivism, constructivism and realism. *Positivism* assumes it is possible to obtain objective knowledge by making observations (Tavistock Institute/GHK/IRS 2003:21). Separate individuals employing the same tools of observation and analysing their findings by objective techniques should arrive at the same results. The positivist tradition searches for regularity and laws (as in natural science) and the description of regularity arises from aggregation of individual elements. However, there are many limitations to positivism in its pure form, *e.g.* the difficulty in observing the totality of reality, or the problem that the observer influences reality by being part of it.

Of the post-positivist responses to the limitations of positivism, the most radical is *constructivism*, which rejects most positivist assumptions, including the existence of "objective" knowledge. *Realism* approaches the interpretation of explanations by concentrating on the various connections, elements, or framework assumptions, in an attempt to reveal the individual elements of programmes and policy background mechanisms (Armstrong and Wells 2006:263–266, Tavistock Institute/GHK/IRS, 2003:22).

The various philosophical approaches use different evaluation *methods*. Positivism remains the dominant tradition in analysis of the effects of the structural funds. This mainly involves top-down evaluations using statistical techniques, in which aggregated macro-level secondary data (such as regional unemployment time series or industrial location cross-sectional data) are collected and analysed by various statistical methods such as time-series regression analysis or full econometric models, although input-output analysis and computable general equilibrium (CGE) models are also used (Armstrong and Wells 2006:264). Bottom-up approaches are used in the positivist model, where micro-level data are collected and an attempt is made to aggregate them and generalize from them. The realist

⁶ Based on the financial plan for 2007–13, the goals of EU cohesion policy are assigned 35.7 per cent of the total Union budget: €347.41 billion.

approach tends to prepare studies based on large sample-size surveys of beneficiaries, similar to postal or telephone questionnaires, or more in-depth and narrower-focused interviews. In other words, the approach concentrates on particularities and peculiarities, whereas the positivist approach searches for generalizations and empirical regularities (Armstrong and Wells 2006:265).

The content of the evaluation can change as the programme progresses and can include evaluation before (ex ante), during (mid-term) and after (ex post) the programme. Different evaluation methods can be applied to individual *stages* or levels (*Table 1*). Comprehensive descriptions of the evaluation methods appear on the Union's evaluation home page.⁷

The table shows that the methods include micro (bottom-up) and macro (top-down) approaches. *Micro-level analyses* such as cost/benefit analysis have a familiar, well-established research background (Mishan 1988), but the literature on *macroeconomic effects* of Community interventions also has a solid research base (e.g. Romp and De Haan 2005). The two methodologies differ radically, as *Table 2* shows, although attempts have been made to integrate them (Bradley *et al.*, 2005).

The rest of the paper examines effectiveness of EU regional policy, the best methods mainly being case studies, model simulations and econometric analysis. The literature is rich and the aim here is only to pinpoint differences between evaluation types, not offer a full summary. The last chapter, despite the range of methods, sets out to draw conclusions on efficiency of structural-fund operation of and identify criteria for more efficient use of aid.

Table 1
Methods and levels of evaluation

Methods of evaluation	Levels of evaluation		
	Before (ex ante)	Ongoing (mid term)	After (ex post)
<i>Sociology-type methods</i>			
1. SWOT analysis	++	+	
2. Document analysis	++	+	+
3. Personal interviews		+	++
4. Focus groups	+		++
5. Case studies			+
6. Personal observations		+	
7. Expert panels	++		+
8. Questionnaire surveys			+
9. Delphi method	+		
10. Comparison (benchmarking)	+		
<i>Exact methods expressible in parameters</i>			
11. Geographical Information System (GIS)	+	+	++
12. Cost/benefit analysis	++	+	+
13. Shift-share analysis		+	++
14. Regression analysis		+	++
15. Factor analysis	+	+	++
16. Input/output model		+	++
17. Econometric model		+	++

Note: ++ = the most frequent evaluation level for methods used on more than one level.

Source: Reznitzer and Lados 2004:267.

Table 2
Trade-off between micro- and macro-approaches

	Micro (bottom-up)	Macro (top-down)
General structure	Informal, flexible, use of subjective elements	Formal, complex, objective, based on behavioural theory
Level of disaggregation	High (individual projects)	Low (aggregated, whole economy)
Use of theories	Weak (judgemental)	Strong (macroeconomics)
Model calibration	Judgemental, informal	Scientific, econometrics
Policy impacts	Implicit/ranking	Explicit/quantified
Treatment of externalities	Usually ignored	Usually explicitly modelled

Source: Bradley *et al.*, 2005:7.

⁷ http://ec.europa.eu/regional_policy/sources/docgener/evaluation/evalsed/sourcebooks/method_techniques/index_en.htm

3) CASE STUDIES

“The case study is a tool of measurement which, based on the collection of data, provides a detailed analysis of the examined area of a special case to add to all the data available related to the *subject*. The main aim is to give the fullest possible picture of a given situation” (Rechnitzer and Lados 2004:280). Based on this definition, it can be asserted that case studies are quite inappropriate for evaluating EU regional policy. Although they can provide an exact picture of a specific project (Evalsed 2003), they can only be *used with reservations* to draw conclusions on an aggregated national or regional level. For this reason, the Hungarian National Bank (MNB 2006) examination takes no account of the conclusions to be drawn from case studies when analysing the effects of funds spent. Some, however, argue that it is worth examining the conclusions to be drawn from case studies (*e.g.* Ederveen *et al.*, 2003, Tavistock Institute/GHK/IRS 2003).

Numerous case studies appear in evaluation literature. Some focus on the way funds are spent, others on what lessons can be drawn from control of the project in local practice, while others again try to draw macro-level conclusions on various subjects involved. These last examine, for example, effects on levels of occupation (CSES 2006), partnerships (Tavistock Institute/Ecotec 1999), technology (Ade/Enterprise/Zenit 1999), and small and medium-sized businesses (Ernst & Young 1999). It will be shown in the following, supported by the work of Ederveen *et al.*, (2003) on the basis of the conclusions drawn from case studies, how efficient EU cohesion policy is.

The author agrees with the MNB (2006) study’s claim that if case studies only provide statistics detailing the “motorway kilometres” completed or the number of jobs created, there are no really far-reaching conclusions to be drawn on the results of

European policy. But in very general terms, case studies are carried out in just this spirit. They show the social and economic situation in a given region and the way Union funds are used, and sometimes, what difficulties were encountered (Stéclebout 2002). In some cases they conclude that the evaluation process must be developed in order to draw appropriate conclusions from it.

Ederveen *et al.*, (2003) discuss a research project investigating the effects of support financed from the structural funds, mainly employing case studies and in-depth interviews. The project studied regions that received support on the basis of Objective 2, *i.e.* mainly attempting to solve employment problems in industries suffering the consequences of structural changes. The effect could thus indeed be measured by the number of workplaces created. The researches estimated that the €6 billion devoted to Objective 2 money created approximately 850,000 “gross” and 450,000 “net” jobs. The difference can be explained by the *crowding-out effect* of the national supports for regions and non-supported companies and employees. In other words, EU aid crowded out non-supported companies (Ederveen *et al.*, 2003:26). However, it was not possible to conclude from the case studies how the employment rate would have developed in the absence of supports. What also emerged was the *damage done to the principle of additionality*, since the national governments tended to withhold their own aid in areas where payments were being received from Brussels.

In conclusion, Ederveen *et al.* (2003) established from the case studies that the *efficiency of cohesion aid is very rarely calculable* and in most cases is modest and only mildly positive. The case studies did, however, show that local authority practices were affected by the EU support, mainly in the spheres of cooperation, partnership and strategic planning. But several studies also showed a tendency to *rent-seeking* behaviour. Regional plans in particular are often designed to receive structural funds’ money rather than help efficient allocation expenditure.

4) MODEL SIMULATIONS

The second method of examination to assess is the use of modelling. This can complement the theoretical deficiencies of case studies in many respects. With the help of models it is easy to establish the *extent* to which cohesion funds on the macro level have contributed to increasing employment or to GDP growth. Furthermore, a model is able to describe the situation that *would have occurred* if there had been no EU support. This latter function is important because slow growth and the simultaneous presence of structural support do not necessarily signify ineffectiveness of the aid as the situation might have been much worse without the support.

It has been mentioned that the effects and effectiveness of structural funds can be examined on various levels. If single projects (e.g. motorway construction projects) are investigated, traditional cost/benefit analysis⁸ can yield an appropriate ranking order according to rate of return. But this kind of analysis cannot calculate *spill-over effects* or the positive or *negative externalities* that must be included in the effects of a whole EU programme. In view of the scale of expenditure of the structural funds (including the pressure caused by difficulties brought about in domestic fiscal policy), it is important to examine the effects in a context that includes feedback effects, relationships, spill-overs and external effects for the whole economy. Then good use can be made of national and regional economic models, such as the *input-output models (I-O)*, *econometric models*, *computable general equilibrium models (CGEs)* and *dynamic growth*

⁸ For more on the advantages and drawbacks of cost/benefit analysis, see http://ec.europa.eu/regional_policy/sources/docgen/er/evaluation/evalsed/downloads/sb2_cost_benefit_analysis.doc.

models. These are able to focus on the changes in a country and analyse its geographical situation.⁹

Model simulations are particularly suitable in that they are not limited to *short-term demand effects*, but able to describe *long-term supply-side consequences*, which are far more difficult to express in numerical terms. These consequences are just assumptions, as they only appear later and only if the programme is successful (Gács and Halpern 2006). In practice many models exist, some emphasizing the demand side effects and some the changes on the supply side. Some models deal with whole countries, others with the effects of supports region by region.

Development aid and investments also appear in *regional models* as external factors. Unlike national models, they include mobility of the labour force, the sectoral structure of investment, and the spatial effects of transport projects. But difficulties can be caused because certain data are difficult to measure or simply unavailable on a regional level. These include links between sectors and firms, or commercial data for trade between regions. Forman (2001) mentions three such models:¹⁰ the regional VAR (Vector Autoregressive), the structural VAR, and the regional CGE (computable general equilibrium) models. Recent investigation of the effects of Hungary's second national development plan, however, involved preparing a complex macro-regional Ecoret model, which can also be used at county level (Varga 2007). This model simulates the effects of the EU funds arriving in Hungary

⁹ In the 1980s, the returning popularity of growth theory also led to an increasing interest in measuring the effects of interventions, but empirical growth studies remained predominantly aggregate and cross-county, rather than disaggregated and country-specific (Bradley 2006). The revival of economic geography brought a spatial approach into the models (Krugman 1991).

¹⁰ Forman (2001:232–241) introduces the models on the basis of *The socio-economic impact of the projects financed by the Cohesion Fund. A modelling approach*. Vol. 1–3. Brussels: European Commission, 1999.

over the 2007–13 period right up to 2017.¹¹ On this basis, the following effects can be expected on a national level: average GDP growth of 7 per cent; a growth-rate jump to 1.87 per cent following the initial demand shock, but reduction as the cycle progresses and becoming negative in 2014, while the model predicts an employment effect of approximately 3.5 per cent (Varga 2007:78, 80–82).

The so-called *macro-models dealing with whole countries* treat the country as one unit (or point) and take no account of regional differences or internal migration. The basis for these models is provided by theoretically consistent, general equilibrium models whose parameters are partly calibrated on the results of earlier empirical studies, and partly on assumptions. The funds are considered as state-led, capital-increasing investments in various sectors of the economy, and assumptions are made about their productivity and effectiveness on that basis. Thus the simulations show the potential effects of the EU structural funds, *i.e.* they answer the question of how the economy would develop in the short and long term if the distribution mechanism, coordination and realization of the project were completed in the best possible way (MNB 2006).

The best-known *demand-side model* to measure the effects of the transfer of structural funds (according to Forman 2001) is the *Beutel model*, which details the growth in demand caused by transfers in a simple national-economy input-output table. Using the model in an *ex ante* examination in 2002, it was concluded that Community interventions in the 2002–6¹² period brought the greatest growth to Portugal and Greece, where GDP grew by 3.5 and 2.2 per cent respectively thanks to these interventions (Beutel 2002:13). Significant effects were predicted for Eastern Germany (1.6 per cent) and Spain (1.1 per cent). According to

the study, none of the examined countries would have been able to achieve growth above the EU average by relying exclusively on its own resources.

Supply-side models offer another approach to the effects of Community transfers by starting from the assumption that the effect of external transfers cannot be explained by simple quantitative adaptation of unchanged economic structures. The final effect of the aid is also influenced by the active decision-making process of economic actors and their adaptive behaviour. Basic to the supply-side approach is that it examines the spill-over effects between different sectors and regions and can estimate the structural funds' short-term crowding-out effect on private investment. Supply-side models include the QUEST¹³ and Pereira models. QUEST is generally adopted in the Union to evaluate any type of Community policy, while *Pereira* deals specifically with Portugal and was not designed at the request of the EU (Forman 2001).

The *ex post* simulations using the QUEST model to examine the 2000–6 financial planning period support the Beutel model in concluding that the effects of structural funds on GDP level were positive. But in the QUEST model the effects show up as weaker (1) because of the deteriorating external balance caused by long-run real currency appreciation and rising real interest rates, and (2) because EU supports crowd out private investment (MNB 2006). The results in figures for the period 2000–6 were additional GDP growth of 0.5–1.4 per cent (for Spain, Greece, Ireland and Portugal). The

¹¹ Another model simulation used for Hungary has been the so called Eco-Trend model developed by EcoStat (EcoStat 2007:47–70).

¹² The model was created in 2002, so that it makes a prediction rather than an *ex post* analysis.

¹³ The Community originally commissioned the QUEST model to model the effects of monetary union. It is a supply model that analyses the effects of asymmetric economic shocks on countries taking part in the monetary union. In QUEST, whole sectors are introduced in lesser detail, but in geographical terms a far greater territory is encompassed, as the model covers all the EU economies. QUEST is the only model that has managed to integrate all countries making net contributions to the structural funds, and so integrate the effects of the regional policy on the whole EU. It is also the model that covers most fully the mechanisms that bring about crowding-out effects (Forman 2001:229, Veld 2007:4–5).

crowding-out and real appreciation effects came into effect quite quickly in the model, by the third or fourth year of the seven-year cycle.

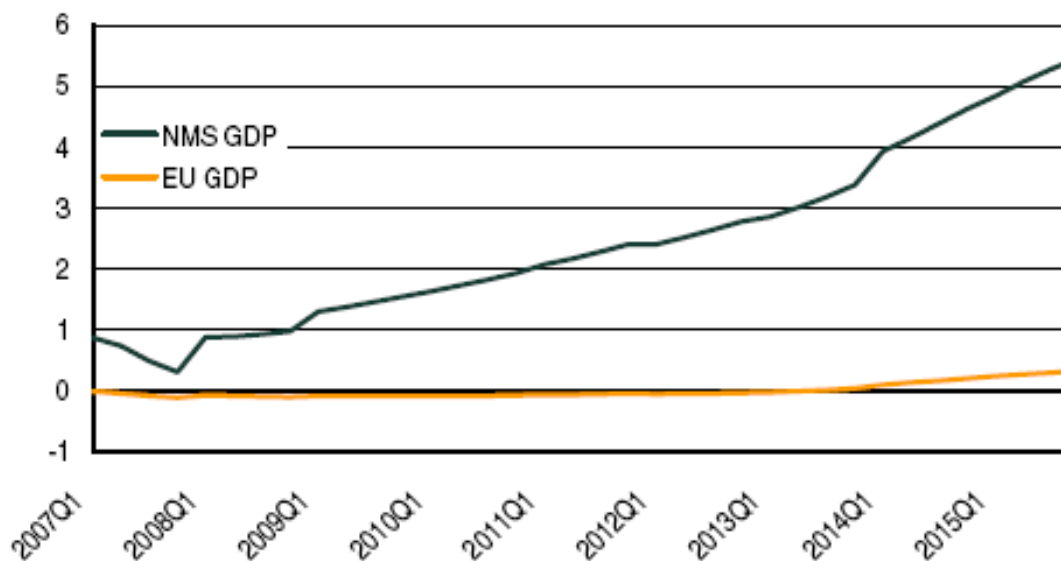
The QUEST model was used more recently (Veld 2007) to examine the effects of EU transfers in member-states between 2007 and 2013, with similar conclusions. In the cohesion countries, the take-off in demand (after expenditures resulting from the structural funds) was less than expected (*Figure 2*). However, slow improvement on the supply side was observed. In the long term, the growth in public-sector investment brought positive external effects, which in turn brought a significant benefit in output, especially productivity improvement. But in the short term the growth may be accompanied by crowding out of private-sector investment.

2003:28). A little later, the HERMIN model filled the geographical deficiency.¹⁴

The *HERMIN model* is a good example of the combination of the demand and supply side models. It takes into account the fact that the support of structural funds increases demand and can also apply to the supply side, because basically it is “a neo-Keynesian model with some neo-classical features in the supply side” (EC 2004:90), and, since it is designed explicitly to measure the effects of cohesion policy, one of the special features of the model is that it is capable of analysing in a refined system the different types of support offered by the whole cohesion programme.

According to the HERMIN model during the 1994–1999 financial period, the effects of the structural supports on Spain, Greece and Ireland were positive, but relatively modest.

Figure 2
The effect of cohesion policy in the EU, according to the QUEST model
(2007–15)



Note: NMS = new member-states.
Source: Veld (2007:15).

The first attempts to evaluate cohesion aid with model simulations were carried out with the *HERMES model*. This was originally designed to analyse the demand shocks of the 1970s and 1980s, but in its entirety was only used for Ireland (see Ederveen *et al.*,

¹⁴ The origins of the HERMIN model can be traced to the complex, multi-sector HERMES model developed by the European Commission from the beginning of the 1980s. It was intended to learn from HERMES, incorporate many of its structural features, but be on a more modest scale, *i.e.* a minimal version (HERMES MINimal) (Bradley 2006:198).

They increased GDP by approximately 1-1.5 per cent over the period, and 0.5-1 per cent in the longer term, in other words on a permanent basis. For Portugal, however, the effects were much greater, 3-3.5 per cent and 2 per cent respectively (Bradley *et al.*, 1995).

In their most recent work, Bradley and colleagues (2007) estimated the effects after the 2000–2006 and 2007–13 financial periods. Their analysis is based on the cohesion programme’s total real expenditure devoted to special areas in Ireland, Greece, Spain, Portugal, Eastern German *Ländern* and the regions in Italy in the Objective 1 area. This model also shows the initial positive effect of the cohesion policy: in most member states absolute GDP is 5–10 per cent higher than without intervention. According to projections, an extra 2 million net workplaces will have been created (*Table 3a and 3b*).

Aid from the EU can be expected to have different effects in different member-states, which can be explained partly by widely dif-

fering levels of financial support available, and partly by differences of economic structure. The factors in the HERMIN model *most influencing growth* are the structure of the economic sectors, their indicators, how capable the industrial sector is of adjusting to productivity growth caused by technological development, openness to the world trade network, and wage flexibility.

The fourth cohesion report (EC 2007) introduces another macro model that analyses the effects on the 2007–13 budget period: the *EcoMod model*, a multi-sector “recursive/dynamic” computable, general-equilibrium model, with detailed representation of the structure of the economy, notably the behaviour and interaction of different sectors, different types of economic agent (households, firms, *etc.*) and different types of economic behaviour (consumption, production, investment, *etc.*). The model is therefore well-designed to capture structural shifts, trade effects and dynamic supply-side gains—a key aim of cohesion pol-

Table 3a
HERMIN: The effects of cohesion policy
2000–6 on national GDP
and employment in 2006

Table 3b
HERMIN: The effects of cohesion policy
2007–13 on national GDP
and employment in 2015

Country	GDP gain (% above baseline)	Employment gain (% above baseline)	Employment gain (1000s above baseline)	Country	GDP gain (% above baseline)	Employment gain (% above baseline)	Employment gain (1000s above baseline)
Bulgaria	-	-	-	Bulgaria	5.9	3.2	90.4
Czech Republic	1.6	0.8	39.4	Czech Republic	9.1	7.1	327.8
Estonia	1.8	1.3	7.9	Estonia	8.6	5.4	31.0
Ireland	0.9	0.7	12.9	Ireland	0.6	0.4	8.2
Greece	2.8	2.0	85.2	Greece	3.5	2.3	95.0
Spain	1.0	0.7	133.5	Spain	1.2	0.8	156.7
Cyprus	0.1	0.1	0.4	Cyprus	1.1	0.9	3.1
Latvia	1.6	1.2	11.7	Latvia	9.3	6.0	55.4
Lithuania	1.2	0.9	12.4	Lithuania	8.3	4.8	67.7
Hungary	0.6	0.6	22.1	Hungary	5.4	3.7	147.3
Malta	0.4	0.4	0.6	Malta	4.5	4.0	6.9
Poland	0.5	0.4	50.3	Poland	5.4	2.8	384.2
Portugal	2.0	1.4	70.6	Portugal	3.1	2.1	104.8
Romania	-	-	-	Romania	7.6	3.2	267.5
Slovakia	0.7	0.5	11.3	Slovakia	6.1	4.0	87.9
Slovenia	0.3	0.3	2.3	Slovenia	2.5	1.7	15.7
Eastern Germany	0.9	0.7	53.0	Eastern Germany	1.1	0.9	60.0
Mezzogiorno (Italy)	1.1	0.8	55.7	Mezzio. (Italy)	1.5	0.9	60.1
Total			569.3	Total			1,969.7

Source: EC (2007:96)

icity—but is not suitable for measuring short-term, year-on-year changes (EC 2007:97).

According to the investigation (EcoMod 2007), political intervention in all member-states—particularly new member-states that enjoy greater financial support—has a markedly positive effect. In Slovakia, Lithuania, Latvia and Bulgaria, GDP will be approximately 15 per cent higher by 2020 as a result of intervention than it would have been without it. The projections indicate that the effect will be slightly larger after 2015 than before, due to higher productivity, a better-trained workforce and better infrastructure. Thus intervention will reinforce the supply side of the economy and put its growth on a higher and more sustainable path.

However, two other factors must be considered: (1) the continuous increase in growth rate and its further improvement after the financial period depend on the execution of other policies designed to improve the supply side; and (2) the extent of the effects is sensitive to the assumptions made about the elasticity of productivity growth to increases in the capital stock, which are relatively uncertain. In other words, these effects will vary from country to country, partly due to the differences in the funds involved, and partly due to the structure of the country's economy: those with a significant agricultural sector and other industrial sectors will show less effect than those with more developed service and hi-tech sectors (EC 2007).

The main engine of growth is investment in the physical and human resource areas. Though all sectors will feel the effects of higher growth, benefits will be highest in the construction industry, thanks to the infrastructure projects, and in the high-technology industry, thanks to the better-educated and trained workforce. (EcoMod 2007)

Following these *model simulations* leads to the conclusion that *EU structural supports contribute significantly to economic growth and employment* in the targeted countries. However, the criticisms of Ederveen *et al.* (2003) should be borne in mind: that the

simulations' estimates are not accurate and much more affected by the models' basic assumptions than by what really happens in the support schemes. This criticism is important because the models are often produced to order from the Commission, which introduces the problem of subjectivity (Ederveen *et al.*, 2003:29). Thus the model simulations only show one possible effect, which can be reduced by the processes really occurring, the crowding-out effect, the inefficient allocation of resources, and the phenomenon of rent-seeking.

5) ECONOMETRIC STUDIES

Two basic types of econometric study can be identified. One seeks indirect evidence of the effects relating to cohesion policy, while the other examines directly in what proportion EU supports contribute to regional growth. In this way the *ex post* econometric studies are an excellent complement to the evaluations carried out by previously prepared, *ex ante* model simulations. There are several works that give a comprehensive picture of econometric studies, such as Eckey and Türk (2006) and Rodokanakis (2003).

Notable among the studies accounting for *indirect effects* is the one by De la Fuente and Vives (1995), which paints a positive picture of the effects of regional policy. They estimate a growth model that includes public and human capital. They conclude that infrastructure and education largely determine the location of mobile production factors. De la Fuente and Vives use their estimates to simulate the effect of cohesion support on growth, thereby taking crowding out into account. Since the extent to which crowding out occurs is unknown, they assume exogenous lower and upper bounds in their model. Their simulations show that public investment in infrastructure and education may indeed help to reduce regional disparities in income and growth of GDP per capita.

The ERDF in particular, because of its redistributive nature, has helped to achieve more equality across regions in Spain. It shows that although the role of regional funds in reducing regional differences in Spain was small (responsible for a mere 1 per cent reduction in inequality during the 1980s), the supply-side regional policy (such as infrastructural investment) was very effective. In their opinion the transfer effect was positive and the reason why the results were not yet visible was that distribution was on too small a scale.

However, De la Fuente and Vives (1995) also touch on the efficiency-equity trade-off of regional policy. If all regional funds were distributed according to the same redistributive principles as the ERDF, the dispersion of labour productivity would have been less. At the same time, Spanish national output would have fallen due to less efficient allocation of capital.

Most studies examining the *direct effects* deal with regional growth, *i.e.* whether there is any convergence on a European level. Some find support for convergence, others yield either mixed results, or are less positive on the growth effect of cohesion support, of which more later. Studies use different theoretical approaches, for example the neo-classical growth theory (Sala-i-Martin *et al.*, 2004), the endogenous growth theory (Romer 1990), or the new economic geography approach (Midelfart, Knarvik and Overman 2002). They take into account the effects of *infrastructure* development, and according to Rodokanakis (2003), do not claim that regional policy itself helps the process of convergence, but that it can facilitate it through infrastructure development. Martin (1998) studied whether there would have been faster convergence and greater growth in the 1978–92 period if infrastructure investment had been higher. The study showed that the central, rich regions of the poor countries benefited much more than their poorer regions. These conclusions agree with those of the new economic geography approach (Krugman 1991). Differences between regions cannot be reduced by state infrastructural development, since these

only favour richer regions (Martin 1999). However, they should stimulate inter-regional trade and make the country more attractive.

Midelfart-Knarvik and Overman (2002) also use the new economic geography model and reach the conclusion that the regional supports should strengthen the comparative advantage of the country and the region, as regions with a highly trained workforce should attract incoming R and D-intensive industries. They stress the importance of *education* expenditure, as do Rodrigues-Pose and Fratesi (2004) in their examination of the regions in the Objective 1 category. According to their research, funds devoted to infrastructure, and to a lesser extent business support, do not produce significant returns on commitments. Support for agriculture only has a short-term positive effect on growth (which wanes quickly), but, investment in education and human capital (which make up one-eighth of the total commitment) yield positive, significant returns in the medium term. Examination of these shows that the convergence process cannot be isolated unambiguously. When national growth rates are built into their model, no regional convergence is experienced and analysis of the Objective 1 regions also shows a meagre rate of convergence.

In Beugelsdijk and Eijffinger (2005) the concept appears of *moral hazard*, which can occur if member-states do not make investments in certain regions, and keep their standard of living low, so ensuring their legal entitlement to supports. The authors built an index into the regression balance to indicate each country's level of corruption. The results do not support the assumption that more corrupt countries use structural funds less efficiently. Their results show that the less "clean" (more corrupt) countries do not gain less economic growth from structural funds. But their model does show the phenomenon of regional convergence.

Ederveen *et al.* (2006), in a widely cited work,¹⁵ addresses evaluation of the effec-

¹⁵ And recently widely criticized one. See Bradley and

tiveness of cohesion policy using a single-equation, panel-dataset approach. The results support a serious critique of cohesion policy, asserting that its effectiveness is conditional on country characteristics that may be in short supply in many poorer member states (e.g. the quality of public institutions), and that cohesion policies should not be implemented in the new member-states unless the institutional capacities are installed.

According to the study carried out by Boldrin and Canova (2001) structural funds *do not contribute to economic growth at all*. In essence the funds are subordinated to goals which are rather functions of a general European political balance, and of which only a few are designed to achieve economic growth. The authors therefore call for drastic restructuring of the structural supports and express doubts about the financing of new accession states. They believe economic growth and convergence are best encouraged in a “traditional” way, with economic policy tools that are *as market-oriented as possible*.

Fagerberg and Verspagen (1996) also take a negative view of the role of cohesion supports. They tend to be a drawback of certain factors in the cohesion process, such as the direction of R and D investment (as did the Midelfart-Knarvik and Overman (2002). Their results do not support the existence of the convergence process.

It has been seen that the *econometric models paint a generally more pessimistic picture of the effects of development funds*. They attempt to estimate the real effects of the supports (as opposed to the potential figures produced by model simulations) and they do not assume the productivity of investment, the lack of a crowding-out effect or the adequate realization of the principle of additionality. However critical assessment of econometric studies is needed as well. Most importantly, data necessary for the construction of the models may be lacking or unreliable, the data series available may not cover the appropriate time periods, and

so describing the long-term effects of the structural funds in figures becomes harder. These are serious problems that may outweigh the advantages of econometric studies, but the nature of the question itself makes proportional statistical assessment difficult (EcoStat 2007).

6) SO WHAT IS THE REAL RESULT?

To follow through the most important elements of the evaluation methods it is worth returning to Figure 1 and asking the questions again: (1) *Is EU cohesion policy appropriate (relevant, reasonable)?* This can be answered if the policy set-up and the measures it uses are seen to be relevant to solution of the problem. At the level of cohesion policy as a whole, the problems have been defined like this: the economic, social and territorial disparities have existed for a long period and we would like to reduce them with the help of the structural funds and cohesion fund. In practice the lion's share of the supports (to simplify the situation) has been devoted to infrastructure and human-resource development and the policy has become more concentrated on certain regions (Molle 2006). Bearing all this in mind, there is no reason to argue with the appropriateness of regional policy.

The second question: (2) *Is the Community's regional policy effective?* The interventions can be described as effective if they have produced the ex ante expected effects and the objectives of them have been achieved. The effectiveness of interventions is not easy to establish. In practice one started by answering the following questions: Did the structural funds' supports reach the *appropriate regional target groups?* Have the supports been spent on the kind of *programmes and projects* that further the policy's objectives? But these questions, according to Molle (2006:6), do not get to the heart of the matter. It has been seen that the main objective of cohesion pol-

icy is to reduce disparities and so the real question research needs to answer is *whether the structural funds have contributed to a reduction of these disparities*, or whether the observed reduction would have occurred anyway? The answer to this was helped by considering methodological issues. It has been seen that the answer is not unequivocal.

The informal methods-based case studies, the model simulations and the econometric estimates do not provide a consistent picture. The methods produce differing evaluation results as well, since the various methodologies have strengths and weaknesses in different areas, and so the specific questions they can answer differ as well. To some extent these differences are to be expected. *Case studies* portray the attributes of a project, the nature of the environment and the process of implementation, but they are not always appropriate for calculating the effect of the funds or drawing macro-level conclusions. *Model simulations* give the possible extent of the effects in an optimal political situation (measuring the potential impact), while *econometric studies* seek to match the existing effects to some trend, detail the causes and reasons and attempt to estimate the actual effects of the supports. The results of these last are the most pessimistic and many of them point to ineffectiveness or even detrimental effects from the funds (Fagerberg and Verspagen 1996).

Why does the policy not achieve the intended effects? Why is it only effective to a limited extent? The lessons drawn from the evaluations suggest that various contributing factors:

- * Compared to national development funds, EU supports have a crowding-out effect (Ederveen *et al.*, 2003; Veld 2007). Though the principle of additionality or co-funding exists in EU regional policy, a study carried out by Ederveen *et al.* (2003:61) shows that on average a region forgoes €0.17 of national regional aid for each €1 of EU cohesion support.
- * EU funds replaces other convergence mechanisms. For example, the increase in labour mobility will be reduced by EU supports to backward regions (Boldrin and Canova 2001). Alternatively, cohesion support may crowd out private investment if it goes on projects that are close substitutes for private capital.
- * Various methodological approaches have shown the existence of rent-seeking and moral hazard (Váradi 2006; Beugelsdijk and Eijffinger 2005), as have case studies (*e.g.* Stéclebout 2002). Regional and national authorities may use funds for relatively low-productive projects on purpose.
- * The European policy of promoting regional growth is only conditionally effective (Ederveen *et al.*, 2006). European support enhances growth in countries with the “right” institutions; funds are to go for institution building in the first instance. Once the institutions are of sufficient quality, the funds may become effective in stimulating (catch-up) growth.
- * The effects of EU intervention have counterbalanced national policy (Midelfart-Knarvik and Overman 2002).
- * It is important to mention the literature on the new economic geography, even though it has not been presented in detail in this analysis. With the process of economic integration (or the reduction in trade costs) economic activity is more likely to be concentrated in central, and also richer regions, and this is particularly true for industrial sectors with higher added value. For this reason the periphery will tend to specialize in manufacturing activity, which requires less qualified labour force. (See the studies by Krugman 1991, Martin 1999, Puga 2002, Midelfart-Knarvik and Overman 2002, or Rodriguez-Pose and Fratesi 2004).
- * The consequence of this factor may also cause most of the supports to flow into relatively rich regions (Ederveen *et al.*, 2003).
- * The question also arises of whether the money devoted to regional development was not spent on the most appropriate objectives. Many studies reject the current practice, which is focused on infrastructure and small and medium size enterprises, and call instead for support for

education and human resources (Martin 1999, Eckey – Türck 2006, Veld 2007, Rodrigues-Pose – Fratesi 2004 and EcoMod 2007).

- * Several studies (e.g. Armstrong 2002; ESPON 2005:5) have suggested it is possible that there has not yet been enough time to see the results and that the sums involved are too small to bring spectacular results.

Of course regional development programmes should not be seen as successful only if they reduce regional differences. According to the political science approach (Allen 2005; Keating 1997) the agreements reached on regional programmes and the division of funds bring a positive benefit in that individual states are forced to work more closely together, and this in the long run helps the process of integration.

CONCLUSIONS

This study has sought to consider the methods used to evaluate EU regional policy. It can be stated that examinations based on computable general-equilibrium models and input/output analyses predict greater growth effects than studies using regression analysis. This is primarily because the results of model simulations estimate an upper limit for the expected effects—the result that is to be expected if the funds are used appropriately and efficiently—while the results of econometric analyses reflect the imperfections of real events. The estimates from the first type of study are expected to be higher than those from the second. The differences are not necessarily inconsistent. Indeed the various results are complementary: the potential impact can be set against the actual impact. To bridge the gap is, of course, the challenge for future reforms of cohesion policy.

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