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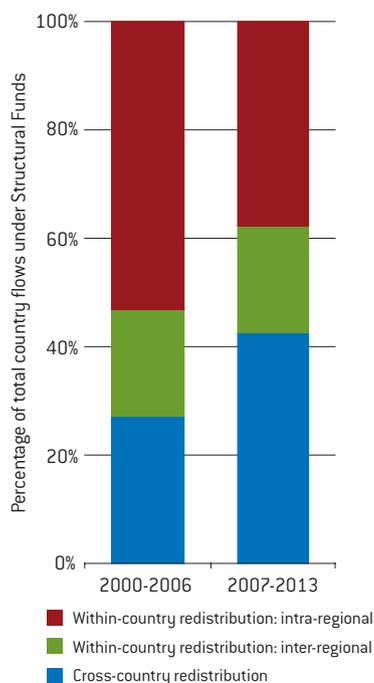
# bruegelpolicybrief

## IS STRUCTURAL SPENDING ON SOLID FOUNDATIONS?

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**SUMMARY** The European Union's budget review, launched last year, is an opportunity critically to examine EU policies and instruments. Structural Funds are at the heart of the EU cohesion effort, and absorb almost one third of the EU's budget. Their declared aims are economic growth and regional convergence, but these goals do not always complement each other. Allocation of Structural Funds is not efficient from a pure growth standpoint and, although with enlargement cross-country transfers have increased significantly, on average almost twice as much redistribution still occurs within regions as opposed to between regions.

**Fig 1: Redistribution through Structural Funds, country average EU15**



### POLICY CHALLENGE

European Union policies that aim to foster economic growth and reduce disparities have value. But these objectives need to be targeted with distinct and suitable instruments. The separation of the growth and redistribution functions of Structural Funds is, therefore, desirable. In terms of redistribution, Structural Funds should aim at fostering cross-country economic and social convergence, leaving subnational allocations to member states. In terms of growth, investment should be primarily targeted at energy, trans-national networks and research. Finally, the EU needs to improve its capacity to assess the performance of Structural Funds, and EU policies more generally.

EU15 minus Denmark and Luxembourg.

Source: Bruegel, based on DG Regio, National Strategic Reference Programmes and Eurostat.



IN 2005 the European Council invited the Commission to 'undertake a full, wide-ranging review covering all aspects of EU spending, including the common agricultural policy, and of resources, including the UK rebate'<sup>1</sup>. The Commission launched the review with a consultation paper in September 2007, and will deliver conclusions by the end of 2008 or spring 2009.

This review is an opportunity to rethink the EU's policy priorities and instruments. In this Policy Brief, we focus on Structural Funds (SF), the second largest component of the EU budget.

SF are the main instrument of the EU's cohesion policy. Their rationale is 1) to encourage economic growth; and 2) to accelerate the process through which poor regions converge with their richer neighbours in terms of economic and social development.

We examine the performance of SF relative to these goals<sup>2</sup>. Results show a disconnection between the stated objectives and instruments of EU structural policy, and indicate that SF allocation is neither efficient for maximising EU growth nor an effective tool for redistribution. There is no evidence that the regions attracting the bulk of SF are those where the return on capital is highest. Furthermore, on average, almost three quarters of all SF received by regions – setting aside transfers across countries – are original SF contributions from taxpayers in those same regions.

Section one of this Policy Brief introduces EU structural policy.

Sections two and three assess SF in terms of their growth and regional redistribution goals. Finally, we discuss the policy implications arising from the analysis.

1. STRUCTURAL FUNDS: OBJECTIVES AND INSTRUMENTS

*"... the Community shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions".*

Treaty establishing the European Community, Article 158

Although reducing welfare differences across regions has been one of the EU's main objectives since its foundation, there was at the start little EU money to match the goals. Structural spending represented just three percent of the EU budget in 1970 and ten percent in 1980. In 1986, the Single European Act recognised regional policy as an EU-level task, leading to a significant increase in SF.

EU cohesion policy has two financial arms: Structural Funds (SF) and the Cohesion Fund (CF). The former is allocated to *regions*<sup>3</sup>, while the latter is targeted towards *countries* lagging behind. We focus exclusively on SF.

For the 2007-2013 financial period, €278 billion has been allocated to SF, representing 29 percent of the total EU budget. During 2000-2006, SF accounted for €233 billion or 31 percent of total commitments.

All EU regions, rich and poor,

receive structural funding. Each region is categorised under one of two 'objectives': 1) Convergence (formerly Objective 1), which accounts for 81.5 percent of total SF and focuses on the least developed regions; and 2) Regional and Competitiveness and Employment (formerly Objectives 2 and 3), which amounts to 16 percent of total funds and targets regions outside the Convergence Objective to encourage innovation, entrepreneurship and environmental protection, as well as to accommodate structural changes<sup>4</sup>.

Two instruments provide resources to meet these objectives<sup>5</sup>:

- The European Regional Development Fund (ERDF), which supports infrastructure development and productive investment; and
- The European Social Fund (ESF), which facilitates the integration of the unemployed and disadvantaged into the labour market.

All regions, irrespective of their Objective, are targeted by both instruments. Since there is no one-to-one correspondence between Objectives and instruments, growth and redistribution policies are served by the same funding instruments. We assess the performance of SF *successively* along these two dimensions.

2. DO STRUCTURAL FUNDS MAXIMISE EU GROWTH?

Existing evaluations of EU structural policy examine if SF promote growth in beneficiary regions, but do not assess if SF are distributed

<sup>1</sup> Financial Perspectives 2007-2013, Council of the EU 15915/05, 19.12.05.

<sup>2</sup> To analyse regional disparities, we focus on income transfers. Enough transfers across regions are needed in order to foster convergence not only in terms of income, but economic development more generally.

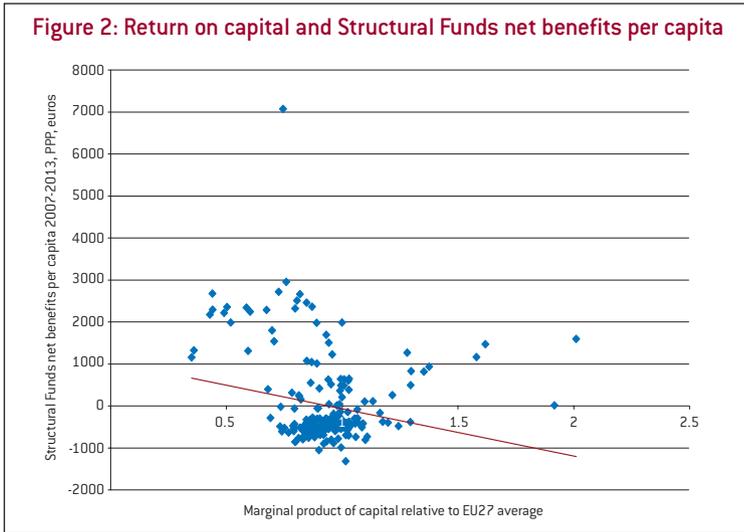
<sup>3</sup> Regions are defined at the NUTS II level. NUTS (Nomenclature of Territorial Units for Statistics) is used in cohesion policy to subdivide national territories. NUTS II refers to areas with a minimum population of 800,000 inhabitants and a maximum of three million, and largely follows administrative structures in member states.

<sup>4</sup> There is a third objective, European Territorial Cooperation, which represents 2.5 percent of total SF and comprises transnational programmes. This is excluded from the current study.

<sup>5</sup> In 2000-2006, there used to be three more instruments: EAGGF Guarantee (agriculture), EAGGF Guidance (agriculture) and the FIFG (fisheries).



Figure 2: Return on capital and Structural Funds net benefits per capita



Data refers to regions. Each new member state is considered as one region.  
Source: Bruegel, based on DG Regio, National Strategic Reference Programmes, Eurostat and Caselli and Feyrer (2007).

efficiently to start with. Since resources are limited, more money for one region necessarily means less for others, so the key benchmark is to see if each euro is invested where it will yield the highest benefits for the EU as a whole.

For transfers to be growth-maximising, they need to be allocated to regions where capital is most productive, ie where the marginal product of capital (MPK) is highest. Do SF pass this efficiency test? We estimate each region's MPK relative to the EU27 average, and calculate their net gains from SF (see box on page 8).

As Figure 2 shows, SF are not allocated to regions with the highest return on capital. This holds true even when limited to non-convergence regions. At best, the relationship is flat; if not, it is downward-sloping, meaning that lower-MPK regions actually get more money than those with higher MPK. The pursuit of conflicting goals – growth and redistribution

– with one instrument creates inefficiency.

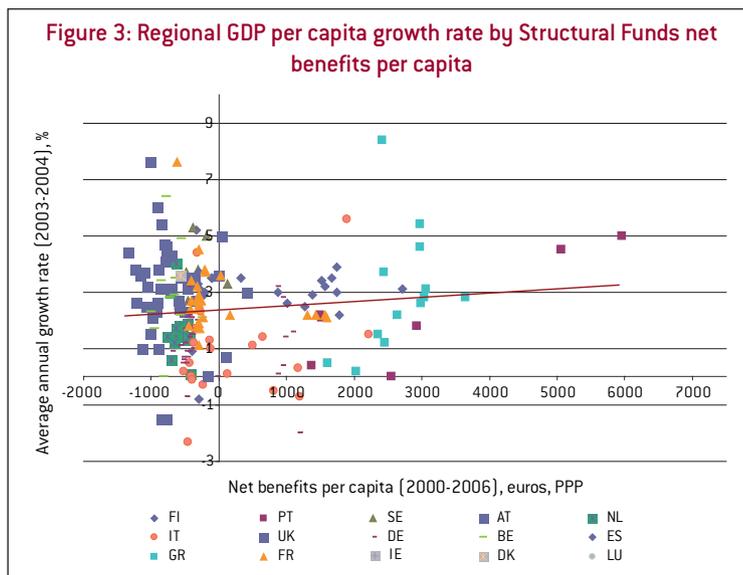
However, while Structural Funds may not maximise growth, they may still contribute to it. Simple correlations show that regional net benefits per capita from SF are not strongly related to growth, at least when not conditional on any other factors (Figure 3). This is consistent with other results in the literature<sup>6</sup>. However, overall, the

evidence on the impact of SF on growth is mixed<sup>7</sup>.

The SF contribution to growth may be curtailed by several factors. The literature points to the displacement of national regional aid, or to regions' strategic behaviour as they implement projects that have other objectives besides growth, either to pursue rent-seeking activities or to retain their SF eligibility. Similarly, the potential lack of coherence with national policies is also cited as a limitation.

But three other factors should be highlighted. As this Policy Brief shows, the redistributive role of SF channels resources away from economic centres – reducing growth potential – instead of focusing first on the efficient use of funds. Furthermore, with the EU's eastern enlargement, regional policy resources are spread thinly. The population of regions where GDP per capita is 75 percent or less of the EU average increased from 68 million to 116 million (or from 18 to 25 percent of the EU27 population). In this new context, it

Figure 3: Regional GDP per capita growth rate by Structural Funds net benefits per capita



Source: Bruegel, based DG Regio, National Strategic Reference Programmes and Eurostat.

<sup>6</sup> Enderveen *et al* (2006) and Cappelen *et al* (2003) found SF to be ineffective, except for countries/regions with an 'appropriate' institutional framework.

<sup>7</sup> The literature on this topic has three main limitations. First, the effects on growth of these policies may take time. Second, it is difficult to make a causal interpretation of results, as SF are not allocated randomly. Third, SF-associated opportunity costs are not taken into account. EU taxpayers finance SF and the money could be used elsewhere. The relevant question from a policy perspective is if SF boost overall growth above what it would be in their absence. See Enderveen, *et al* (2002) for a review of this literature.



makes more sense to concentrate resources in lagging countries – not regions – and to let domestic redistribution take place at the national level. Finally, as discussed in the following section, the nature of the redistribution that takes place through SF also limits the growth potential of structural policies.

3. REDISTRIBUTION

Redistribution through structural policies takes place on two levels:

1. Across countries, corresponding to net country SF balances; and
2. Within countries, through:
  - ‘Inter-regional redistribution’, related to the funds received by a region from other region(s) in the same member state.
  - ‘Intra-regional redistribution’, equal to the SF received by a region and financed by taxpayers in that same region.

Whether SF redistribute financial resources within or across countries is important for the

rationale of EU structural policies. If most of the redistribution takes place internally within member states, it is difficult to justify the EU’s active role. If, on the other hand, redistribution were largely across countries, then SF would be carrying out the same task as the Cohesion Fund, with the difference that the former is channelled through regions.

International transfers in structural policy arise because some countries are net contributors while others are net beneficiaries (Figure 4).

But net balances have changed over time, mainly due to enlargement and to differences in economic growth. Net positions of all old member states worsened between 2000-2006 and 2007-2013, although Luxembourg, Belgium and the Netherlands remain the three main net per capita SF contributors. Among net beneficiaries, changes were especially significant for Spain (81 percent fall in net receipts), while

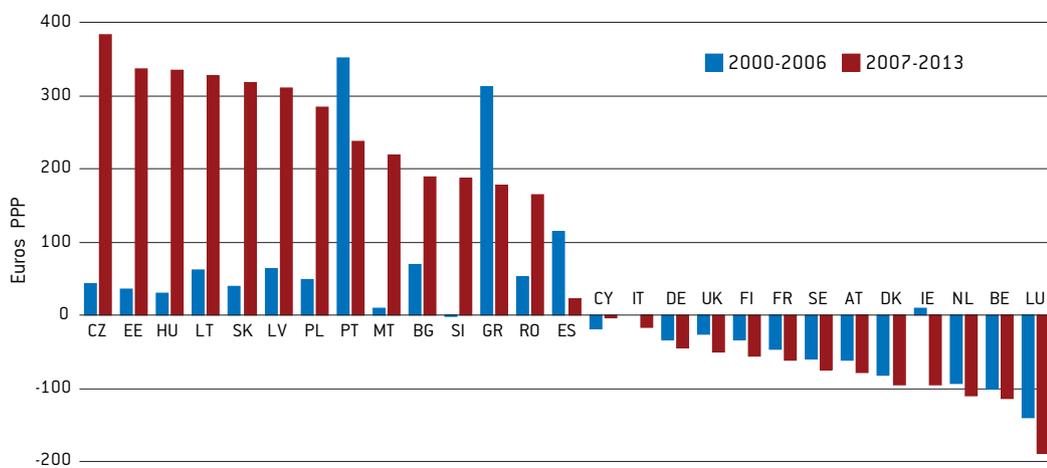
Italy and Ireland became net contributors. Today, the main recipients are the member states that joined the EU in 2004 and after.

On average, poorer regions receive more SF per inhabitant net of their contribution to the policy (Figure 5). This relationship is stronger among convergence regions but, on average, a regional per capita income increase of €100 is associated with a decrease of €7 in net benefits per capita. Regions in Cohesion Fund countries benefit more from structural policies, even if those regions have similar incomes to regions in non-Cohesion Fund countries. This is also true for regions in countries that have a more unequal per capita regional income distribution<sup>8</sup>.

Regions, like states, also have net balances. The nature and extent of the transfers that take place at sub-national level are, however, poorly understood. Using data for 2000-2006 and 2007-2013 and thirteen member states<sup>9</sup>, we

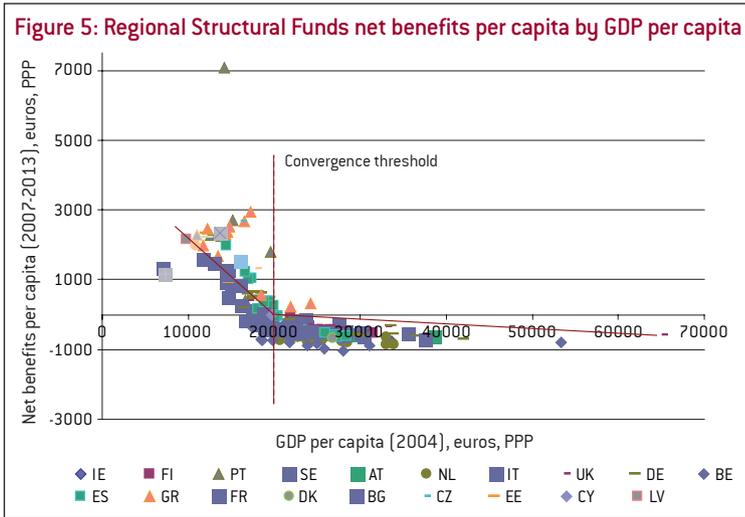
*‘Pursuing conflicting goals – growth and redistribution – creates inefficiency.’*

Figure 4: Structural Funds average annual net benefits per capita



<sup>8</sup> These results are obtained using regression analysis.

<sup>9</sup> New member states are not included in the analysis since most of their SF programmes are national. Countries with only one NUTS II region – Denmark and Luxembourg – are also excluded.



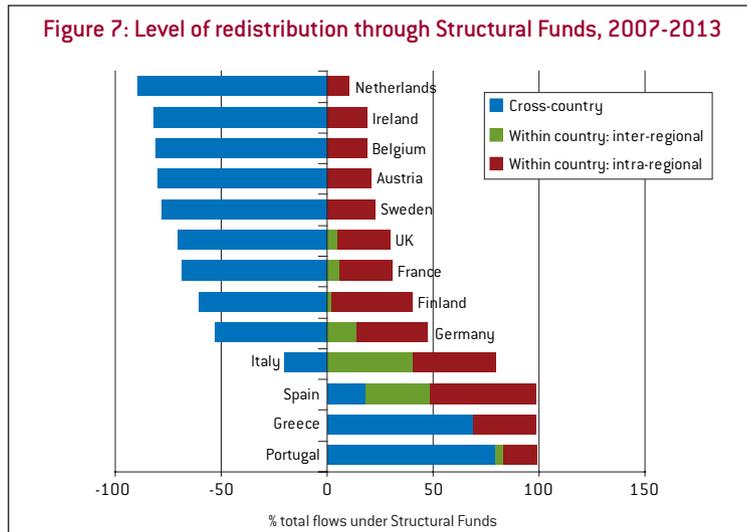
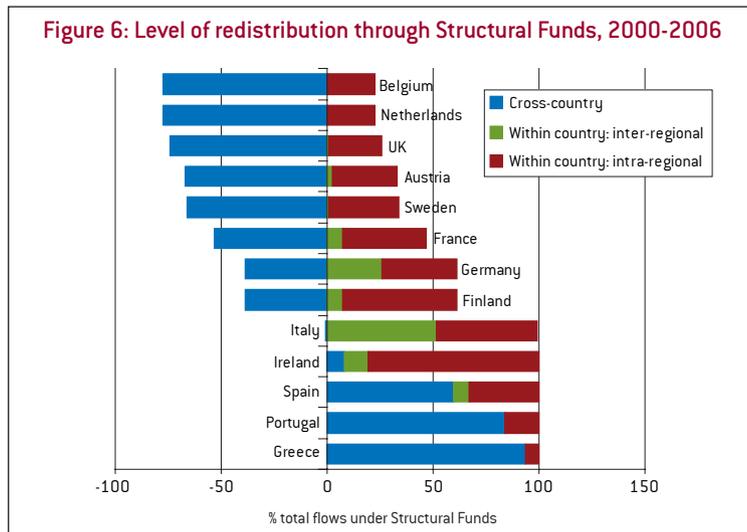
Data refers to regions. Each new member state is considered as one region.  
Source: Bruegel, based DG Regio, National Strategic Reference Programmes and Eurostat.

the sample, redistribution across regions is limited.

Two examples may help interpret the results. For Spain, a net beneficiary of SF during the 2007-2013 period, 19 percent of SF received originates from other EU countries. Of the remaining 81 percent, two thirds of the money spent in each region comes from that same region. The UK, meanwhile, is a net contributor to SF. Of the SF received by each UK region, 97 percent was simply contributions from local taxpayers.

identify the extent to which redistribution through structural policy takes place across countries, within regions and between regions.

In 2000-2006, on average, 27 percent of SF flows were inter-country transfers. But, of the rest, three quarters were intra-regional. With enlargement, inter-country transfers rise for 2007-2013, but intra-regional redistribution is still twice as large as redistribution between regions in the same country (see Figure 1 on the front page)<sup>10</sup>.



Source for Figs 6 and 7: Bruegel, based DG Regio, National Strategic Reference Programmes and Eurostat.

Results by member state are shown in Figures 6 and 7. There are some notable differences between countries. For example, in Italy, which practically breaks even in structural policies and has major inter-regional disparities, inter-regional redistribution is relatively greater although still only 41 percent of SF flows in 2007-2013. For net beneficiaries, most of the resources received are transfers from other countries, especially in Greece and Portugal. But, for the majority of countries in

<sup>10</sup> Including co-financing reduces the redistributive effect of the funds. Results are available from the author.



This exercise reveals two additional points. Two regions with similar per capita income, but located in different countries, can benefit very differently from SF. Take, for example, Hainaut (Belgium) and Galicia (Spain), both under the Convergence Objective. Both have a GDP per capita (PPP) of about €17,400, but while Hainaut is a net contributor (€388 per capita), Galicia is a net beneficiary (€949 per capita). This difference comes about because, while SF benefits depend on regional income, contributions further depend on how much the country as a whole contributes to the EU policy. If a region is very different from the country's regional average, there can be a mismatch between what it receives and what it has to contribute to SF.

Moreover, even for similar regions in countries with comparable income, there is a variation in the net benefits they derive from SF. For instance, Guadeloupe (France) and Sicily (Italy) both have a GDP per capita of approximately €14,000, yet the former receives – net per capita – 33 percent more funds. An immediate implication of this result relates to the logic behind redistribution in SF. If the goal is regional convergence, would it be better to determine *net* benefits (and not only benefits) on a regional basis? How should one account for non-income factors that disadvantage one region more than others? These remain open questions.

One subject discussed in section

two re-emerges here. If most of the funds received by a region originate from that same region, it is hard to imagine that they can have large growth effects. Behind those positive growth results is the unrealistic assumption that those resources would have otherwise been put to no productive use. To really measure the impact of SF, one needs to show that they generate benefits above and beyond what those resources would have accomplished if there were no SF.

*‘Two regions with similar income but in different countries can benefit very differently from Structural Funds.’*

The main lesson from this analysis is that the inter-regional redistribution that SF strive for takes place only to a limited extent. For net beneficiary countries, a positive net balance reflects redistribution from regions in richer countries. For most countries, SF largely redistribute resources among *individuals within regions*. This finding renders questionable the ability of EU structural policy to achieve its objectives of promoting growth and reducing regional disparities.

#### 4. POLICY PROPOSALS

This Policy Brief has found that:

- SF resources are not spent in a way that optimises their potential to generate EU-wide growth; and
- Regions themselves pay for much of the SF they receive, limiting the extent of inter-regional redistribution.

Results highlight the dynamic nature of the EU. With enlarge-

ment, cross-country transfers have on average increased significantly to 40 percent of total flows of SF and intra-regional redistribution decreased. In a more diverse EU, this is a step in the right direction. Yet, almost three quarters of the intra-country redistribution still occurs within regions.

The evidence we present points at the need to rationalise structural policy and echoes proposals put forward in the Sapir Report (2004). In the case of growth, we provide further evidence of the need to concentrate SF in those areas with higher growth potential; in the case of convergence, our findings strengthen the case for separating growth from redistribution in cohesion policy and rethinking the role of the EU in subnational redistribution.

#### Rationalise objectives

Over the years, there has been a long debate about the appropriate role of the EU across policy domains, especially in redistribution. On the one hand, redistribution from richer to poorer countries is often seen as an EU public good since it fosters convergence, creating major benefits for the rest of Europe in the form of new and wealthier markets and steadier democracies.

On the other hand, subnational redistribution is a more divisive issue. Subsidiarity, horizontal equity across countries, transaction and information costs and the need for coherence with national macroeconomic policy, all suggest that national governments are best positioned for this task – provided they do not violate competition rules. New member states are



a case in point. These countries allocate most SF to thematic programmes, ie infrastructure or research, not regional ones. This does not rule out the possibility of countries decentralising project implementation and evaluation. It rather emphasises the need for the EU to use country-level criteria for the allocation of funds.

### Find the right level

To promote growth efficiently, SF should be allocated where the productivity of capital is highest and to projects with clear spillovers. Currently, allocations appear inefficient and trans-national programmes – with major potential EU-wide growth externalities – represent just 2.5 percent of total funds. Re-orientation of structural policies in line with the Lisbon objectives, as in the last budgetary negotiations, was a step in the right direction. Lisbon policies whose benefits are not limited to the spending country – namely transport and energy networks, as well as research – have a clear EU dimension and are good candidates for boosting growth.

We have argued that the economic rationale for EU involvement in intra-country redistribution is questionable. But the fact that most domestic redistribution

actually takes place within regions suggests that the instruments used to tackle regional disparities are not appropriate either. National governments have their tax and transfer systems for redistributing income within their borders. EU convergence policy would be more effective if it focused on reducing gaps between countries instead of regions.

### Improve matching of goals and instruments

The current structure of SF recognises that different regions have different needs. But it fails to translate this into an effective one-to-one correspondence of goals and instruments.

The ability of SF to generate growth is limited by their parallel redistributive role.

This presents policy-makers with a choice.

They can try to quantify trade-offs and prioritise, which is difficult. How much should the growth and convergence objectives count when assessing SF projects? Or they can separate the growth and redistribution objectives, and design appropriate instruments for each separately.

Two arguments are often put

forward in support of the current system. The first is that the process of managing SF empowers regional governments. But decentralised management of SF is compatible with the first-best where within-country redistribution is a member state task. The second argument is that SF increase the visibility of the EU. However, Cohesion Funds, which allocate EU funds to countries, also do this, as does any project generating tangible benefits for EU citizens. Our policy proposals, therefore, do not undermine these benefits.

Finally, it should be stressed that assessing the evidence of SF per-

*‘Structural Funds largely redistribute resources among individuals within regions.’*

formance is hampered by the lack of appropriate information. *Ex-post* allocation of SF is reported by the Commission only at country level, making it difficult to

analyse the use of these funds on the ground. Moreover, even where data is available, there is no clear institutional or conceptual framework for evaluating EU policies. Addressing these shortcomings should be a main concern in the future, as resources are sliced thinner and thinner and new spending priorities emerge.

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**BOX 1 Data and Methodology****Marginal Product of Capital**

The MPK is the additional output resulting from the use of one more unit of capital. Output ( $Y$ ) depends on the inputs used – capital ( $K$ ) and labour ( $L$ ) – and total factor productivity ( $A$ ). Total factor productivity accounts for other factors such as technology, education and the quality of economic institutions. We assume that the production relationship takes the following form:

$$Y = AK^\alpha L^{1-\alpha} \quad [1]$$

where  $\alpha$  is the share of capital in output and  $1-\alpha$  that of labour.  $\alpha$  is assumed to be 0.35, in line with existing estimates.

Using 2004 data from Eurostat, we compute for each region the ratio of its MPK to that of the average EU27. According to its definition, the MPK ( $r$ ) is:

$$r = \alpha A \left( \frac{K}{L} \right)^{\alpha-1} \quad [2]$$

That is, keeping everything else constant, the MPK of a region increases with total factor productivity but decreases with capital per worker due to 'diminishing returns' (ie an additional unit of input yields less and less additional output).

Total factor productivity is estimated from the production function [1] as:

$$A = \frac{Y}{L \left( \frac{K}{L} \right)^\alpha} \quad [3]$$

Based on country estimates (Caselli and Feyrer, 2007), the capital per worker ratio is taken to be 1.1 times the ratio of GDPs per capita. The assumption made is that the relationship between  $K/L$  and income per capita at the

regional level is the same as that observed across countries<sup>11</sup>.

**Net Benefits Structural Funds**

Net benefits, adjusted for differences in purchasing power, are the difference between the SF received by a region ('benefits') and that region's input into the financing of the policy ('contribution').

**Benefits**

The regional allocation of SF is derived from cohesion policy plans prepared by member states. Funds are distributed by region, except for multi-regional (such as Objective 3 in 2000-2006) and national thematic programmes. On average for 2000-2006, national programmes with no regional breakdown represented one tenth of total SF, while for 2007-2013, they are less than one percent. In these latter cases, we allocate benefits proportionally to population size within the relevant group of regions.

Our analysis uses programmed instead of actual regional expenditure, as data on real spend is not readily available. If poorer regions execute a smaller proportion of the funds originally assigned to them, this Policy Brief overestimates the extent of inter-regional redistribution.

**Contributions**

We use each region's share of its country's disposable income to distribute the budgetary cost of structural policies<sup>12</sup>. In turn, the contribution of each country to SF depends on the share of the overall budget financed by that member state. For example, in the case of France, on average, it paid for 17.2 percent of the EU annual budget in 2000-2006. As money is fungible, this means that it also paid for 17.2 percent of SF policy. This contribution is then divided among French regions proportionally to their disposable income.

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<sup>11</sup> We use other methods to calculate the ratio of regional MPK to that of the average EU27. The one we present here is the most favourable for poor regions as they have relatively higher estimates for MPK.

<sup>12</sup> We also estimate regional contributions using GDP per capita. This is important for regions where there is a large difference between residents' production due, for instance, to a large number of commuters (eg Brussels, inner London). However, the country results do not change significantly.

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