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The Impact of the EU's Structural and Cohesion Funds

A literature review

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Executive Summary

Structural Funds are the most important policy instruments used by the European Union (EU) to promote regional development of its member states and to speed up the process of convergence. An important question is how effective these funds are in promoting economic growth and reducing welfare differences in the EU. This paper makes a literature review on this subject. It focuses on the conclusions made from several economists who investigate the impact of structural funds on growth and convergence in the recipient countries.

Most of the available evidence suggests that the funds can be a useful instrument to foster growth and real convergence. However, in order to be effective, the supported countries must be characterized by a stable macroeconomic environment and institutional and microeconomic environment and institutional and microeconomic structures that are conducive to growth.
Introduction

Economists have spent decades debating, without resolution, the cross-country relationship between foreign aid receipts and economic growth. Some find that aid robustly causes positive economic growth on average, others cannot distinguish the average effect from zero, while others find an effect only in certain countries. According to this last case structural funds can be effective only under specific conditions, which usually are: the institutional condition of the recipient country, the good policy environment, the climate-related circumstances, the fungibility of the aid, the level of education of the workforce and the level of government, the absorptive capacity and a set of controlled variables.

According to the current literature, two are the main reasons that help us to explain why different studies reach different conclusions. Both traits relate to how these studies treat the timing of causal relationships between aid and growth. First, the most cited research has focused on measuring the effect of aggregate aid on contemporaneous growth, while many aid-funded projects can take a long time to influence growth. Funding for a new road, for example, might affect economic activity in short order, funding for a vaccination campaign might only affect growth decades later, and humanitarian assistance may never affect growth. Second, because current growth is likely to affect current aid, these studies require a strategy to disentangle correlation from causation. They have tended to rely on instrumental variables, but the instruments that have been used are of questionable validity and strength. When these issues are addressed, the divergence in empirical findings is greatly reduced (Clemens, Bhavnani, Radelet and Bazzi, 2004).

In order to evaluate the result of the EU funds, it is important to have in mind that the main aim of the cohesion policy is to improve the long-term growth of supported areas. No less than one-third of the EU budget is spent on a wide range of programs that primarily aim to develop infrastructure, industries or modernize education. The EU not only distributes the funds, but is also directly involved in how the funds should be spent. The data show that cohesion policy fulfills a necessary condition for its effectiveness; poor regions tend to receive more support than rich regions: nevertheless, each member state, however affluent, succeeds in drawing at least some funds to its regions (Ederveen, 2003). Structural funds are the most important instrument of the EU regional policy which aims to support economic change rather than to maintain the existing economic structures. These funds support agriculture and rural development, business and tourism, investment in education and various measures that improve the human capital, investments in infrastructure, transport and the environment.

Structural policies seem to have been designed on the basis of the three following assumptions: 1) there exist gaps among EU regions, 2) structural policies are able to narrow the gap between the development levels of the various regions, and 3) regional growth and cohesion leads to convergence. From these three main assumptions we can understand how crucial it is to evaluate the impact of structural funds in order to help the European Commission in the pursuit and planning of
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future policy in order to lead to the maximum impact related to economic development.

The second assumption implies that Objective 1 is the main priority. These regions have a GDP per capita below 75% of the Community average and share some identical economic indicators, such as: low level of investment, lack of services for businesses and individuals and poor basic infrastructure, among others.

This paper proceeds as follows: section 2 offers an overview of recent theoretical and empirical studies on the impact of regional assistance on the recipient country and section 3 presents the factors that affect the result of structural funds. The last section of the paper offers some concluding remarks.

The impact of regional assistance on the recipient country

The “growth” approach is particularly appropriate to study the impact of structural funds, since these are designed to enhance the accumulation of production factors that affect the growth rate of the recipient economies.

A large part of the empirical literature related with economic growth in countries or regions concentrates on studying the issue of convergence. In the particular case of European regions, authors reach different results concerning the impact of structural funds on the speed of convergence of assisted regions.

The Commission regards its regional policy not as simple transfers but as an instrument to strengthen the economic base of the recipient regions and to promote regional convergence (Bouvet, 2005). Convergence can be seen as the tendency towards the reduction of income disparities. According to Sala-i-Martin (1990) there are two main concepts in the empirical literature: β-convergence and σ-convergence. There is β-convergence in a cross-section of economies if there is a negative relation between the growth rate of per capita GDP and the initial level of income. The case of σ-convergence refers to the dispersion of per capita income across groups of economies and is normally measured either by the standard deviation of log GDP per capita or by the coefficient of variation of GDP per capita.

Ederveen, Gorter, R. de Mooij and Nahuis (2003) studied the effects of structural funds on convergence using both concepts, β- and σ-convergence. Their results confirm that there has been convergence in Europe during the last decades which was quite low at about 2 % per year. Furthermore, convergence exists both between and within countries. The majority of EU countries’ regional disparities in income have declined over the last decades. It seems therefore, that the European Commission has succeeded in its aim of reducing welfare differences between regions.

Cappelen, Castellacci, Fagerberg and Verspagen (2003) also studied the impact of EU regional support on growth and convergence in the EU. Although they studied the same period of time they reached at different results compared to Ederveen, Gorter,
R. de Mooij and Nahuis (2003). They also notice the low rate of convergence but they do not evaluate it as important and they add that this convergence appears mainly in country level.

Studying the period between 1980 and 1990, their analyses confirms that there is more convergence at the national level (between countries) than at the regional level (within countries), and more for a group of EU member countries that includes the entrants of the early to mid-1980s than for the narrower group of countries that had joined earlier.

Fayolle and Lecuyer (2000), measured in their paper the relative growth performance of European Regions over the period 1986-1996, a period during which the two first programming periods of the structural funds took place (1989-93 and 1994-99). This particular period that they have chosen to study is a complex transition period due to the combination of the course towards single market and monetary union with deflationary policies. In addition, over this ten years period, the structural funds were soaring in the hope of helping backward or threatened regions. They found major differences with respect to regional convergence between countries. The inequality of regional development varies from one country to another, while each region benefits from the overall performance of the nation to which it belongs. The regional growth performances are naturally influenced by the national membership. The best or perhaps worst, example is Italy as per capita GDP between regions has diverged over the last decades. This widely quoted Italian experience may have led people to believe that divergence is a common phenomenon in European countries. Italy, however, is a noteworthy exception to the rule. In the majority of the countries studied, there is clear evidence of convergence among region; for example the catching up of backward regions is much more significant in Portugal or Greece than in Spain or Italy.

Antunes and Soukiazis (2005), studied the process of convergence in Portugal. The study covers the 1991-2000 period where data is available. The aim of their paper is twofold: in first place they want to ascertain if there is any difference in the convergence process between the “Littoral” (coastal) and the “Interior” (inland) areas in Portugal in terms of per capita income. In second place they examine of Structural Funds (ERDF) as conditioning factors influencing the convergence in Portugal and they assess the extent to which these funds contributed to the growth of regional per capita income. In order to do so, they apply a panel data approach to the convergence in per capita income among the 30 NUTS III regions in Portugal, and a separate analysis focuses on the regions constituting the “Littoral” and “Interior” zones. The evidence shows that the distinction between “Littoral” and “Interior” areas is important in the convergence process in Portugal and that convergence is slightly faster in the regions of the “Interior”. On the other hand, structural funds have a significant positive effect only in the “Littoral” area, helping these regions to grow faster and contributing more substantially to the improvement of living standards of these areas.
A country study based on Italy is carried out by Bondonio and Greenbaum (2006). This paper uses unique firm-specific data, for the period 1995-1998, available for northern and central Italy in order to calculate the employment impact of the “Objective 2” area business incentives net of all changes due to the economic trends that are exogenous to the program intervention.

Findings suggest that the geographically targeted business incentive programs were most successful when rewarding production activities that displayed the most promising economic performances in years prior to the program’s intervention. Thus, while the programs can be successful at helping promote additional economic activity, they are likely to be less successful in the more distressed areas and thus less successful in reducing regional inequalities.

Fuente, Vives, Dolado and Faini (1995), use the Spanish experience during the 1980s to explore the potential and actual effectiveness of some traditional instruments of regional policy. Following Spanish accession to the EC in 1986, transfers from the European Regional Development Fund (ERDF) and other Structural Funds (of which Spain is the largest recipient) contributed to the development of poorer regions, mostly by financing infrastructure and training schemes. Despite its limited size, the ERDF has added around 2 points to average regional productivity and reduced the dispersion of regional output per worker by around 5%. This figure represents one-third of the observed decrease in the dispersion of productivity during the 1980s, a significant amount.

Dall’erba and Gallo (2003, 2008), evaluate the impact of structural funds on the convergence process between 145 European regions over the 1989-1999 period. The presence of spillover effects is investigated with spatial econometric methods, which assess the impact of funds on the targeted region and its neighbors. They also control the potential endogeneity problem in the estimation of their impact. Their estimation results indicate that significant convergence takes place, but that the funds have no impact on it. Simulation experiments show how investment targeted to the peripheral regions never spill over to their neighbors, which calls for a reconsideration of current regional policy tools.

Boldrin and Canova (2001), support that structural funds may replace economic processes that bring about convergence. In particular they point out that cohesion support might induce labor to remain in poor regions from which they would have otherwise migrated. Since labor mobility is a powerful means to achieve wage equalization, cohesion support thus retards convergence. Moreover, they argue that with respect to the previous years, convergence among European regions slowed down in the early 1980s, which is the period in which the EU increased its efforts to favor cohesion through the distribution of funds. They claim that cohesion policy is ineffective because it is primarily motivated by political considerations other than the reduction of welfare differences.

Gasper and Pereira (1992), studied the impact of cohesion policy in Portugal. Their result suggests that ongoing structural changes have a substantial and permanent
impact on economic growth and contribute markedly to the process of convergence of the Portuguese economy to EU standards.

Some scholars, among whom Vanhoudt (1999), suggest that European integration has not fostered convergence or economic growth among the member countries. Following the endogenous growth theory, Vanhoudt (1999) indeed concludes that the growth rate is independent of the scale of the economy and that there is no evidence for an EU-membership bonus.

The impact of Objective 1 funds on Regional Growth Convergence in the EU was studied by Esposti and Bussoleti (2008). Their article investigates the impact of Objective 1 structural funds expenditure on EU regions by estimating an augmented convergence econometric model. According to this model, growth convergence is influenced by policy treatment, which affects the regional initial investment rate by interacting with other regional structural variables and eventually influencing its steady state level. With regard to conditioning variables, a positive impact of structural funds on Objective 1 regions is confirmed over the whole EU space, although its statistical significance and magnitude may vary across alternative estimators. The impact of the Objective 1 policy on growth, however, is generally quite limited and may become negligible and even negative in some regional cases. For instance, when regions are grouped by country, a negative effect may observed on German, Greek and Spanish Objective 1 regions. On the contrary, the French Objective 1 regions sow the highest policy treatment effect.

Comparing these results with previous studies on the impact of Objective 1 funds also emphasize how relevant some apparently marginal issues may be. First of all, the lagged effect of funds over time is of major relevance and it is often disregarded in empirical works on the topic. In general the conditional convergence model estimates critically depend on how the policy under study is included in the model itself and how the respective data are treated.

Another group of papers has focused on the effects of the European Structural Funds on regional economic growth. They do not reach a consensus about the impact of this policy. Boldrin and Canova (2001) are quite critical towards European regional policy. They studied regions from fifteen countries between 1980-1996 and they note that the ERDF has not helped the poorer regions to reduce the income gap with the richer regions. Basil et al. (2001) also find that between 1988 and 1998 the Structural Funds did not affect relative movements in the regional distributions of per capita income. Rodriguez-Pose and Fratesi (2003,2004), focused on Objective 1 regions from 10 countries for the 1989-1999 period and concluded that even though the Structural Funds may have prevented the growth of region disparities, EU regional policy has not fulfilled its objective of delivering convergence and economic cohesion among EU regions. They argue that despite the concentration of development funds on infrastructure and on business support, the returns on these axes are not significant. Support to agriculture has short-term positive effects on growth and only investment in education and human capital has medium-term positive and significant returns. Moreover, while the impact of this short of support
on economic growth is positive in the very short-term, the positive influence wanes in time and becomes progressively negative.

Fiaschi, Lavezzi and Parenti (2011) studying the three programming periods 1975-1988, 1989-1993 and 1994-1999, they find a positive effect on productivity growth, which is mainly exerted by Objective 1 funds. However, they find that differences emerge when different programming periods are considered and when funds are disaggregated by Objective. Most of the effects seem to be ascribable to the second and third programming period. Moreover, it seems that the funds explicitly devoted to regions lagging behind (i.e. Objective 1 regions) had a positive effect, while funds devoted to Objectives different from 1 had not a positive effect. In particular, funds allocated to reach Objective 2 had a negative effect, while funds allocated to reach other objectives had insignificant effect.

Their analysis specifically examines the extent to which the 1988 reform of the Structural Funds has improved the efficiency of the policy of funds and is similar to Cappellen, Castellaci, Fagerberg and Verspagen (2003). The authors focus their study between two periods: 1980-1987 (before the reform) and 1988-1997 (after the reform). They find that the EU regional support has a positive impact on the growth performance on European regions and hence contributes to greater equality in productivity and income in Europe. They also indicate that the European policy has had a stronger positive impact on growth for the sample that excludes the poor countries (Spain, Portugal and Greece).

The third programming period was also studied by Checherita, Nickel and Rother (2009). Their paper provides empirical evidence on the role of net fiscal transfers and EU structural funds policy for income and output convergence across European regions during the 1995-2005 period. They find that net fiscal transfers, from the one side they result to regional redistribution, but on the other side they hinder output growth and promote an “immiserising convergence”: output growth rates in poor receiving regions decline by less than in rich paying regions. EU structural and cohesion funds spent during 1994-1999 had a positive, but slight, impact on future economic growth, mainly through the human development component, but the results are not so encouraging when country dummies are included. Finally, while they conclude in their analyses that there has been a process of convergence across the European regions, there is no strong evidence for within country convergence.

Becker, Egger and Maximilian von Ehrlich (2009 and 2010), reach conclusions similar to Fiaschi, Lavezzi and Parenti (2011). They find positive per capita GDP growth effects of objective 1 transfers, but no employment growth effects. Overall, they identify positive causal effects of Objective 1 treatment on the growth of per capita income at PPP. In the benchmark specification and procedure, they estimate a differential impact of Objective 1 program participation on the growth of GDP per capita at PPP of about 1.6 percentage points within the same programming period. No such effects can be found for employment growth. A back of –the envelope calculation, based on the benchmark specification, suggests that on average the funds spent on Objective 1 have a return which is about 1.20 times their costs in
terms of GDP. Hence, the program seems to be effective and generates benefits in the recipient regions which exceed the costs to the EU budget.

They conclude that on average, Objective 1 status raises real GDP per capita growth by roughly 1.6% within the same programming period while they do not find significant effects on employment. There may be various reasons for the positive GDP growth effect and the absence of an employment growth effect. One reason could be that Objective 1 transfers mainly stimulate the volume and change the structure of investment. Another reason could be that job creation takes longer than the duration of a programming period of five to seven years. Their results suggest that the treatment effect varies across programming periods, but with overlapping confidence intervals of reasonable size. Objective 1 treatment status does not cause immediate effects but takes, in the average programming period and region, at least four years to display growth effects on GDP per capita.

The results of Fiaschi, Lavezi and Parenti (2011), are in contrast with those of Dell’Erba and Gallo(2008), who find a negative and nonsignificant effect of funds devoted to Objectives different from 1 (the nature of these funds is mainly redistributive). They studied 145 European regions for the period 1989-1999 and their estimation results indicate that significant convergence takes place, but that the funds have no impact on it. The presence of spillover effects is investigated with spatial econometric methods, which assess the impact of the funds on the targeted region and its neighbours. In their research, they pay attention to both the presence of spillover effects among regions and the potential risk of endogeneity of the funds when estimating their impact. The endogeneity of structural funds, is implied by the criteria used to allocate them. The 70% of structural funds are devoted to objective 1 regions which are called “poor regions”. Those regions receive an amount of objective 1 funds which is proportional to their developmental gap. This explains why, from a theoretical point of view, this variable may be endogenous in their model.

A theoretical and empirical approach is presented by Puigcerver-Penalver (2004). Her paper estimates the impact of Structural Funds on the growth rates of Objective 1 European regions during the programming periods 1989-1993 and 1994-2000. The sample is composed of forty-one Objective 1 European regions. Following a panel data approach, her results suggest that Structural Funds have positively influenced the growth process of Objective 1 regions, although their impact has been much stronger during the first period than during the second period. The biggest difference between periods emerges when trying to measure the presence of the catching-up effect and the speed of convergence between regions. Both phenomena are very significant in the first period but almost null in the second.

Easterly (2007a), is another author that is pessimistic about the impact of aid that recipient countries get. He argues that the record of aid agencies over time seems to indicate weak evidence of progress over time in response to learning from experience, new knowledge, or changes in political climate. The few positive results are an increased sensitivity to per capita income of the recipient (although this
happened long ago) a decline in the share of food aid, and a decline in aid tying. Most of the other evidence, such as the increasing donor fragmentation and the little or no sign of increased selectivity with respect to policies and institutions, suggest an unchanged status quo, lack of response to new knowledge, and repetition of past mistakes.

Clemens, Bhavnani, Radelet and Bazzi (2004), are among those economists that argue that the impact of aid from structural funds is so insignificant that in some cases tends to be even negative. Their data reveal that over the last three decades, substantial increases in aid receipts were followed on average by small increases in investment and growth. Their results do suggest that the effect of aid on growth is positive on average across all countries, but is limited and quite modest in comparison with other determinants of growth, and is negative in some countries, depending from the conditions of the country.

A country study is carried out by Garcia-Mila and Guire (2001). They studied 17 regional governments of Spain granted from both the central government and the European Union for the period 1977-1981 and 1989-1992. The grants are generally redistributive and are intended to stimulate economic activity in the poorer regions. They evaluate the effectiveness of the grants by comparing the economic performance of the regions before and after the implementation of the grant programs using a differences-in-differences approach. Their methodology is a differences-in-differences approach where they examine differences between the two groups in the differences across the two time periods for each group. In their study they conclude that regional redistribution –as an important part of the European Union and the Spanish government–have not been effective at stimulating private investment or improving the overall economies of the grant-recipient (and poorer regions). He attributes the lack of impact to several factors. First, the policies were only implemented in recent years and these sorts of policies directed at infrastructure improvements and structural change of the labor market may take time to have an impact. Second, the amounts of the grants are not large even for the very poor regions. It may be that the interventions were too weak to have had an effect. Third, while they present no evidence on how the funds are used, it seems that certain uses are likely to be more productive than others, and it is not clear that the transfers are well targeted to the most productive investments. They argue that the policies have not been effective at stimulating private investment or improving the overall economies of the poorer regions.

Mohl and Hagen (2009), extended the time period of investigation, using structural fund payments of the last Financial Perspective 2000-2006 that have not been analyzed before. They use more precise measures of structural funds by distinguishing between Objective 1,2, and 3 payments and by investigating the impact of time lags more carefully. Their empirical evidence indicates no clear cut results for the total sum of Objectives 1,2 and 3, whereas, they find that Objective 1 payments in particular have a positive and significant impact on growth. Furthermore, they find that the growth impact occurs with a time lag of up to four years.
Mohl and Hagen (2010), not only focused on investigating the cohesion policy growth effect but also their paper analyses the impact of EU structural funds on employment drawing on a panel dataset of 130 European regions over the time period 1999-2007. Their results indicate that high-skilled population in particular benefits from EU structural funds. Moreover, they notice from a theoretical perspective that higher expenditures on EU funding do not necessarily increase the total employment level. Instead, its impact depends on whether structural funds are used as capital subsidies or as human capital investment and it is subject to the educational attainment of the population. Their empirical results confirm the theoretical predictions as total structural funds have no significant positive impact on the regional employment level. However, they find evidence that structural funds may be interpreted as capital subsidies and are only conditionally effective. These funds have a significant positive impact on the total employment level in regions with a low share of low-skilled population, and have a negative effect in the case of a high share of low-skilled population. Moreover, using a spatial dynamic panel approach, they find that regional spillovers do have a significant impact on the regional employment level irrespective of which objective and time lag is analysed.

Recent research by Becker et al. (2010, 2012a and 2012b) analyzed important aspects relating to EU Regional Policy that are the interest to police-makers. Becker et al. (2010) focused specifically on the Objective 1 program for several reasons. First, this funding is most explicitly targeted at convergence between poor and rich regions in the EU (European Commission 2001). Second, Objective 1 expenditures have been the largest budget post within the Structural Funds Program budget, accounting for more than two-thirds of the total (European Commission 1997 and 2007). Third, it is important to draw on the largest possible sample, and the Objective 1 scheme has been largely unchanged over all three programming periods of its existence so far. The authors conclude that, on average, Objective 1 transfers may well be effective and-at least overall-are not wasteful.
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Factors influencing the impact of structural funds

Ederveen, de Groot and Nahuis (2002), explore the effectiveness of European Structural Funds by means of a panel data analysis for 13 countries in the European Union. They show that Structural Funds as such do not explain growth differentials among the Member States. Second, however, Structural Funds allocated to the most open economies and/or to economies with “good” institutions are effective. The quality of institutions will be proxied by several quantitative measures, including corruption, inflation, openness, etc. Hence, EU support is conditionally effective, as for countries with high-quality institutions, Structural funds are effective.

Ederveen, de Groot and Nahuis (2002, 2006) are two widely cited works that address the evaluation of the effectiveness of cohesion policy using the single equation, panel data set 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 policy should not be implemented in the new member states unless the institutional capacities are installed.

A paper of Bradley and Untiedt (2008) takes a closer look at the Ederveen et al. (2006,2002) results. Their analyses of the methodology and results of Ederveen et al. (2006,2002) drive them to the conclusions that the policy recommendations derived from this work are unsound, unwise and without merit. In particular, the recommendations concerning the new EU member states should not be based on an appeal to the cross-section regressions that are presented in their 2006 paper.

According to Ederveen et al. (2006 pp. 32) European support as such enhances growth in countries with good institutions but in general did not improve the countries growth performance. Thus, the European policy to promote regional growth is conditionally effective. This finding bears considerable consequences for the (re-)design of the EU cohesion policy in the light of the enlargement of the EU: the funds are to be allocated toward institution building in the first instance. Once the institutions are of sufficient quality, the funds may be effective in stimulating (catching up) growth.

Bradley and Untiedt (2008 pp. 16), also agree that the quality of institutions, on its own, has a highly significant impact on growth. In a cross section regression containing all four “standard” neoclassical explanatory variables (initial GDP level, investment, human capital and adjusted population), plus institutional quality, they find no separate robust impact of the pre-reform Structural Funds on growth. According to them one should not rush to the conclusion that Structural Funds are ineffective, since the pre-reform funds were relatively insignificant, compared to the magnitude of the other driving forces of growth.

A different approach is taken by Boldrin and Canova (2001), the most commonly cited paper in the area of evaluation of EU Cohesion Policy. Unlike Ederveen et al. (2006), this paper uses an eclectic methodological approach, based on a blend
theory and data examination, against the general background of the growth regression/convergence literature. Their critique of EU Cohesion Policy is even more damning than Ederveen et al (2006 pp.206): “Regional and policies serve mostly a redistributional purpose, motivated by the nature of the political equilibria upon which the European Union is built.

Similar to Ederveen, de Groot and Nahuis (2002) is the study of Burnside and Dollar (2000,2004). Burnside and Dollar, revisit the relationship between aid and growth using a new data set focusing on the 1990s. The evidence supports the view that the impact of aid depends on the quality of state institutions and policies. They provide evidence that aid accelerates growth in developing countries with sound institutions and policies, but has less or no effect in countries in which institutions and policies are poor. They also show that in the 1990s the allocation of aid to low-income countries favored ones with better institutional quality. This “selectivity” is sensible if aid in fact is more productive in sound institutional and policy environments. Finally they share the view that corrupt institutions and weak policies limit the impact of financial assistance for development. Like most economists they believe that institutions and policies matter for growth, but it is possible to find specifications in which the institutional quality variable is not significant, so a limitation of the cross-country approach is that it cannot definitively settle some debates.

Burnside and Dollar (2000), was criticized by Easterly, Levine and Roodman (2003). Their paper reassesses the links between aid, policy and growth using more data. The Burnside and Dollar data end in 1993. They reconstruct the Burnside and Dollar database from original sources, (like World Bank (1998, 2002a), Department for International Development (2000) and the President George W. Bush’s speech (March 16, 2002), and thus add additional countries and observations to the Burnside and Dollar dataset because new information has become available since they conducted their analyses and extend the data through 1997. Thus using the Burnside and Dollar methodology, they reexamine whether aid influences growth in the presence of good policies. They have increased the sample size from the original 275 observations in 56 countries to 356 observations in 62 countries. Thus the result of their paper is as follows: adding new data creates new doubts about the Burnside and Dollar conclusions. When they extend the sample forward to 1997, they no longer find that aid promotes growth in good policy environments. Similarly, when they expand the data by using the full set of data available over the Burnside and Dollar original period, they no longer find that aid promotes growth in good policy environments (Easterly,Levine, Roodman, 2003, pp.5-6). Generally, their paper does not argue that aid is ineffective, but they simply note that aid effectiveness raises new doubts about the effectiveness of aid and suggests that economists and policymakers should be less sanguine about concluding that foreign aid will boost growth in countries with good policies.

The Burnside and Dollar (2004 b) came as an answer to the critique of Easterly et al. (2003). The Burnside and Dollar argue that a further look at the data suggests that it is the additional countries in their data set that are responsible for the different results. Through their research they tried to give an answer to the question: “Do
countries with good policy and a lot of aid perform better than countries with good policies but less aid?”. Their point estimates suggest they do, to the tune of 0.66 percentage points, but this estimate turns out not to be statistically significant. Nevertheless, they find it interesting that this simple cut at the data confirms the importance of policy and also reveals that the fastest growing countries were those that, in addition to having good policies, had the highest inflows of aid.

Easterly et al. (2003) do not argue that aid is not effective but given the specifications they emphasize, one would conclude from their evidence that aid has no effect on growth in all environments. Given the findings of Burnside and Dollar using the data of Easterly et al., they think that this is too negative a conclusion to draw.

Hansen and Tarp (2001), made criticism to the Burnside and Dollar (2000). Their paper examines the relationship between foreign aid and growth in real GDP per capita as it emerges from simple augmentations of popular cross-country growth specifications. They show that aid in all likelihood increases the growth rate, and this result is not due to “good policy”. However, in their opinion, there are decreasing returns to aid, and the estimated effectiveness of aid is highly sensitive to the choice of estimator and the set of control variables. When investment and human capital are controlled for, no positive effect of aid is found. They find that aid increases the growth rate, and this conclusion is not conditional on the policy index proposed by Burnside and Dollar (2000).

Similarly Martin (2003) suggests that the funds can be a useful instrument to foster growth and real convergence. However in order to be effective, the supported countries must be characterized by a stable macroeconomic environment and institutional and microeconomic structures that are conducive to growth.

Apart from the institutional condition of the recipient country, the impact of the structural funds depends also from the policy environment of the country. Guillaumont and Chauvet (1999), endorse the idea that aid effects on growth are not necessarily positive and that they depend on specific conditions of the country. They find that the effects are all the more positive when a country faces a bad environment: aid seems to have accelerated growth only in the more vulnerable countries. In other words, it has significantly dampened the negative effects of a bad environment. But they do not find that aid effectiveness (in growth terms) has been increased by a better policy. Of course a better policy is an important factor of growth, but the impact of which, it seems, is not increased by aid. Simultaneously they find that aid allocation has been influenced by the environment (aid reacts positively to vulnerability), but not by policy.

Cappelen, Castellacci and Verspagen (2003), present evidence that EU regional support through the structural funds has a significant and positive impact on the growth performance on European Regions and, hence contributes to greater equality in productivity and income in Europe. Moreover, they emphasize, that there are also other factors that have to be taken into account. First there is a clear evidence suggesting that the economic effects of regional support are much stronger
in more developed countries. This means that the impact of such support is crucially dependent on the receptiveness of the receiving environment. Hence, it seems that support is least efficient where it is most needed. In addition, the estimates obtained for the empirical growth model used in their article, suggest that growth in poorer regions is greatly hampered by an unfavorable industrial structure (dominated by agriculture) and lack of R&D capabilities. They conclude that in order to get the most out of the support this needs to be accompanied by policies that improve the competence of the receiving environments, for instance by facilitating structural change and increasing R&D capabilities in poorer regions. Such policies must necessarily be of a long-term nature.

Critics of foreign aid programs have long argued that poverty reflects government failure. Boone (1995) analyses the effectiveness of foreign aid programs to gain insights into political regimes in aid recipient countries. His analytical framework shows how three stylized political-economic regimes labeled egalitarian, elitist and laissez-faire would use foreign aid. He uses data from aid flows to 96 countries. He finds that models of elitist political regimes best predict the impact of foreign aid. Aid does not significantly increase investment and growth, nor benefits the poor as measured by improvements in human development indicators, but it does increase the size of government. Moreover, he finds that the impact of aid does not vary according to whether recipient governments are liberal democratic or highly repressive. His empirical results suggest that in small countries, or countries where the aid/GDP ratio is extremely large (over 15% of GNP) he finds that aid does lead to higher investment. This is probably due to the lack of fungibility of aid flows in such countries. An implication in his study is that short term aid targeted to support new liberal regimes may be a more successful means of reducing poverty than current programs.

Apart from the perception that the effect of structural funds depend on “good” institutions and on policies, there are also other factors that affect the impact of structural funds. In his paper Dalgaard, Hansen and Tarp (2004), re-examine the effectiveness of foreign aid theoretically and empirically. Using a standard OLG model they show that aid inflows will in general affect long-run productivity. The size and the direction of the impact may depend on policies, “deep” structural characteristics and the size of the inflow. The empirical analysis investigates these possibilities. Overall, they find that aid has been effective in spurring growth, but the magnitude of the effect depends on climate-related circumstances. They reach the conclusion that over the last thirty years, aid seems to have been far less effective in tropical areas. In their opinion is very hard to believe that aid, inherently, should be less potent in the tropics and accounting for the nature of the interaction between climate and aid seems to be a worthwhile topic for future research.
Table 2: The effects of structural funds on growth

<table>
<thead>
<tr>
<th>AUTHOR</th>
<th>PERIOD OF STUDY</th>
<th>SAMPLE</th>
<th>GROWTH</th>
<th>DEPENDS ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bouvet (2005)</td>
<td>1975-1999</td>
<td>8 EU states</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Antunes (2005)</td>
<td>1991-2000</td>
<td>Portugal</td>
<td>√</td>
<td>“interior” or “Littoral” areas</td>
</tr>
<tr>
<td>Dall’erba (2003)</td>
<td>1989-1999</td>
<td>145 European regions</td>
<td>√ (only objective 1)</td>
<td></td>
</tr>
<tr>
<td>Dall’erba (2008)</td>
<td>1985-1995</td>
<td>12 regions</td>
<td>x objective 1</td>
<td></td>
</tr>
<tr>
<td>Vanhoupt (1999)</td>
<td>1990-1997</td>
<td>15 EU regions</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Bussoletti (2004, 2008)</td>
<td>1989-1999</td>
<td>15 EU states</td>
<td>√ objective 1</td>
<td>Regional cases</td>
</tr>
<tr>
<td>Basil (2001)</td>
<td>1988-1998</td>
<td>Poor EU regions</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Rodriguez Pose (2003, 2004)</td>
<td>1989-1993</td>
<td>10 countries</td>
<td>√ objective 1 regions (education &amp; investment)</td>
<td>x agriculture</td>
</tr>
<tr>
<td>Fiaschi (2011)</td>
<td>1975-1988</td>
<td>√ (productivity growth)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1989-1993</td>
<td>EU regions</td>
<td>√-the largest effect in objective 1 regions (productivity growth)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994-1999</td>
<td>EU regions</td>
<td>√-the largest effect in objective 1 regions (productivity growth)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cappellen (2003)</td>
<td>1980-1987</td>
<td>9 EU countries-objectives 1,2,5</td>
<td>√</td>
<td>Receptiveness of the country-good policies</td>
</tr>
<tr>
<td>1988-1997</td>
<td>9 EU countries-objectives 1,2,5</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994-1999</td>
<td>19 region countries</td>
<td>√</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994-2000</td>
<td>41 objective 1 regions</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easterly (2007a)</td>
<td>1970-1997</td>
<td>Poor countries</td>
<td>√ very few results</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Period</td>
<td>Region(s)</td>
<td>EU funds received</td>
<td>Notes</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
<td>----------------------------------</td>
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<td>--------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>2000-2006</td>
<td>Objective 1 regions</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Objective 2,3 regions</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Mohl (2011)</td>
<td>1999-2007</td>
<td>130 European regions</td>
<td>x-do not increase employment</td>
<td></td>
</tr>
<tr>
<td>Becker (2010, 2012 a,b)</td>
<td>1988-2006</td>
<td>Objective 1 regions</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Burnside (2000,2004)</td>
<td>1970-1993</td>
<td>Several countries not from EU only</td>
<td>✓/x</td>
<td>Good institutions, Good policy environment</td>
</tr>
<tr>
<td>Boone (1995)</td>
<td>1981-1990</td>
<td>96 countries</td>
<td>✓/x</td>
<td>Small countries where the aid is extremely large</td>
</tr>
<tr>
<td>Dalgaard (2004)</td>
<td>The last 30 years</td>
<td>Eastern-South-Eastern Europe</td>
<td>✓/x</td>
<td>Open economies with good institutions, Good policies-climate</td>
</tr>
</tbody>
</table>
Concluding Remarks

There is one broad finding from the regression specifications used in all previous studies: Aid flows are systematically associated with modest, positive subsequent growth in cross-country panel data. The principal reasons that other studies have not observed this relationship are that they tested for aid effects within an inappropriate time horizon, relied too much on weak or invalid instrument variables and looked at historical time series that were too short.

The fact that increases in aid are typically followed by increases in growth is a necessary but not sufficient condition to demonstrate scientifically that aid causes growth. Aid does cause modest positive increases in growth on average, moreover there is little empirical support for the notion that aid systematically reduces growth (Temple, 2010).

Apart from the researchers that argue that the impact of structural funds on growth can be positive or negative, there are also some authors that endorse the idea that aid effects on growth depend on specific conditions in recipient country. A better policy and “good” institutions are important factors of growth.
References


Antunes M. and Soukiazis, E. (2005) “Two speed of regional convergence in Portugal and the importance of structural funds on growth”, Faculty of Economics, University of Coimbra, Portugal.


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