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Active Labour Market Policies and the efficiency of the European Social Fund in Spanish regions

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Abstract:

This paper estimates the determinants of public expenditure on Active Labour Market Policies (ALMPs) at the regional level using panel data from a sample of the 17 Spanish regions (1989-2010). The estimations take into account endogeneity, dynamics and spatial dependence among regions. Estimations outcome is interpreted with the help of a simple theoretical model of intergovernmental grants. Results reveal that the European Social Fund is not effective in its aim of promoting ALMPs expenditure and show that rent-seeking when regions compete to attract funds from a common pool provokes the opposite effect, which is exacerbated in the presence of imitation.

Keywords:

Active Labour Market Policies, European Social Fund, Spatial panel data, Intergovernmental relations.

JEL Classification Numbers:

H53, H77, R19, C23.

Introduction

The denomination of Active Labour Market Policies (ALMPs) includes several heterogeneous policy actions, such as education schemes, wage subsidies, subsistence allowances, public employment systems, etc. For this reason, all levels of the public administration are usually involved in the execution of some kind of ALMP. In addition, the vertical allocation of ALMPs across countries is not homogeneous, as, in some countries most of them are undertaken by regional administrations while in others they are mostly run at the national level. The diverse vertical allocation of competencies could affect the mechanisms ruling the determinants of Active Labour Market Policies. ALMPs run by sub-national levels of the administration could ignore spillover effects that would, otherwise, be internalized. On the other hand, imitation and competition among districts may foster public expenditures in highly demanded policy areas.

In the European Union (EU), this situation could also interact with the fact that EU Structural Actions –in general- and the European Social Fund –in particular-, are allocated among countries and priority objectives for each programming period. The European Social Fund (ESF) is the oldest of the Structural Funds and its objective is precisely to promote public expenditure in ALMPs through a program of matching grants.

Spain experienced a process of fiscal decentralization after its transition to democracy and it is, nowadays, one of the European countries with a larger size of the regional public administration. In addition, due to the asymmetric level of economic development across Spanish regions, some of them are among the main recipients of EU Structural Funds, while others lie in line with the wealthier EU member States.

This paper estimates the effectiveness of the ESF in boosting ALMPs expenditure at the regional level. The effectiveness of the ESF, for this purpose, is understood as its capacity to enhance public expenditure in ALMPs, in line with the literature on the flypaper effect. The analysis considers two particular situations that emerge when EU Structural Funds are distributed at the regional level: one is the existence of spatial effects, which arise more frequently at lower levels of the public administration; and the other is the fact that several governments are competing to attract funds from the same budgetary limit. These phenomena interact with the intergovernmental grant and may affect its effectiveness, as it is briefly illustrated in a simple model of public goods provision that serves to interpret the outcome of the estimations. The analysis is helpful to understand better the rules governing the allocation of public expenditures at the regional level. But, in addition, the findings will also become extremely useful to understand why the efficiency of the European Social Fund may be different when the transfers, and the accompanying policies, are managed at the regional level of the public administration instead of the central government.

The econometric analysis comprises the estimation of the macroeconomic determinants of public expenditure on ALMPs in the presence of spatial effects among regions, using panel-data at the regional level (1989-2010) from the seventeen Spanish regions. Results reveal the importance of imitation among regions, the existence of rent-seeking behaviour in the presence of a common pool problem of resources related to the regional distribution of the European Social Fund, and the poor effectiveness of the ESF transfers in boosting ALMPs expenditure.

The paper is organized as follows: the second section describes challenges and results of previous studies using panel-data models to analyse the determinants of ALMPs; the third section describes the main political economy issues, which are further explained in Appendix A, and develops a simple model

of intergovernmental grants in the presence of spatial interactions that will serve to interpret the results; the fourth section describes the variables used and presents the data; the fifth section explains the methodology applied and the results obtained; and the final section concludes.

Modelling the determinants of active labour market policies.

This section includes mention of several panel-data studies that have inspired the design of the model estimated in this paper. The methodological strategy proposed here is motivated by various results that are presented below, and follows the structure of the two branches of the literature described at the end of this section, namely, the determinants of ALMP expenditure and the effectiveness of intergovernmental grants.

Despite its persistent and rising importance in the EU budget (See, for example, González-Alegre, 2013), the estimation of the effectiveness of the ESF has received very little attention from economics research, at least as a policy tool isolated from the other instruments of the EU Cohesion Policy. Rodríguez-Pose & Fratesi (2004), for example, conclude, in an analysis that discriminates the functional field of application of the Structural Funds, that policies devoted to education and redeployment may be more effective to foster economic convergence in comparison to other policy areas of the Structural Funds.

There are, however, numerous studies that estimate the macroeconomic impact of the EU Cohesion Policy as a whole (See Bradley, 2006), very often using region-level data. Most of these studies use panel data models in order to estimate the impact of EU transfers on economic growth (Becker, Egger & Von Ehrlich, 2010) or economic convergence (Beugelskijk & Eijffinger, 2005), but they rarely estimate the impact of the Cohesion policy on fiscal variables (González-Alegre, 2012, 2014). Very often

(Dall`Erba & Le Gallo, 2008; Mohl & Hagen, 2008), the presence of spatial autocorrelation is taken into account. Del Bo, Florio, Sirtori, & Vignetti (2011) criticize, from a political economy perspective, the rules governing the verification mechanism of the principle of additionality that must govern the allocation of the Funds.

The macroeconomic evaluation of ALMPs was particularly developed during the nineties with the estimation of panel data models from cross-sectional data at the country-level (See, for example, Jackman, Pissarides, & Savouri, 1990; Estevao, 2007). More recently, the number of studies estimating the impact of ALMPs in a single country using panel data models for regional and local level variables has been quite prolific in some particular countries motivated by the availability of data and the focus of public policies. Sweden, for example, implemented an aggressive program of ALMP to fight rising unemployment in the early nineties which generated a considerable amount of research (summarized in Calmfors, Forslund, & Hemstrom, 2002). Another country in which research on the implementation of ALMPs has been extremely prolific in the view of the extended availability of data is Germany, in particular in the view of the importance that these policies reached after the reunification (See Hujer, Blien, Caliendo, & Zeiss, 2002; Hujer, Caliendo, & Zeiss 2004).

This paper, however, does not evaluate the contribution of ALPMs or the ESF to lower unemployment or increase economic growth. We use the concept *effectiveness* to denote the first stage of a two-step evaluation process of public policies involving intergovernmental grants: the first stage examines whether the system of intergovernmental transfers is able to boost expenditure in the targeted policy area. In our case, we measure to which extent ESF transfers are effective in raising public expenditure in ALMPs, which is precisely the purpose of their design as explicitly acknowledged with the additionality principle ruling the Structural Funds; the second stage would, then, estimate the usefulness of the targeted policy area. In our case, we refer the capacity of ALMPs to improve macroeconomic indicators

examined in the branch of the literature just mentioned.

The studies trying to estimate the main determinants of public expenditure on ALMP, however, are mostly focused on the analysis of country level data. This literature has emerged in the last decade. Rueda (2005) estimates, from a panel data model for 16 OECD countries, the determinants of active and passive labour market policies in order to determine the role of political variables. Armigeon (2007) use a similar model for 22 OECD countries in order to identify whether OECD and EU policy recommendations are taken into account by the policy maker of these economies with respect to their level of ALMP expenditures. Results, in both cases, are not extremely conclusive with respect to the (political or institutional) variables of interest.

Borghi (2010) uses 3-year averaged data in order to estimate a panel data model for 20 OECD countries (1980-2003) through fixed-effects. She estimated the impact of economic openness and other indicators of globalization (FDI, Imports and the KOF index of globalization) on ALMPs (also on Passive LMPs) expenditures (measured as a % of GDP). Other control variables are dependency rate (share of non-active population), union density, deficit, GDP per capita and economic growth. Trade openness seems to be a negative determinant of public expenditure on ALMPs, although other indicators of globalization are found to be statistically insignificant.

Tepe & Vanhuysse (2013), for a sample of 20 OECD countries (1985-2005), focus on the analysis of several political variables (ideological position of the cabinet, Union clout, institutional context) in order to estimate a Fixed-Effects model using 5-year averaged data. Other variables are GDP growth, Deficit, Openness, unemployment rate. Although they find a link between institutional variables and expenditure on ALMP, they conclude that political variables do not impact significantly public expenditure on ALMPs.

Franzese & Hays (2006) estimate the determinants of labour market training expenditure for a panel of 15 European countries introducing a spatially lagged dependent variable among the set of explanatories. They estimate a significantly negative coefficient associated to that variable, which suggest some degree of fiscal free-riding among European states associated to this particular policy area. Van Vliet & Koster (2011) introduce dummy variables capturing variations in the governance process of the European Employment Strategy –that represent the participation of the states in peer review sessions and the policy recommendations on activation received from the council- and also introduce a dummy representing their integration in the monetary union. While the results seem very conclusive about the importance of the monetary union on ALMP expenditure growth, the former effect does not seem robust to alternative model specifications.

These studies do not include the ESF or other intergovernmental transfers as determinant of ALPMs expenditure. However, there are numerous studies that estimate the effectiveness of other intergovernmental grants, measured as their capacity to efficiently raise expenditure in targeted policy areas. The earlier literature about the effects of grants policies on local and state expenditure emerged in the early seventies[1]. More recent studies include the estimation of panel data models methodologically closer to this paper. For example, Case, Rosen, & Hines (1993) setup a model as a standard fixed effects linear panel data model in which they introduced common random shocks among neighbours. Subsequent studies (Besley & Case, 2000; Knight, 2002; Gordon, 2004) pay more attention to the endogeneity problem rather that to the spatial effects evidenced in Case et al. (1993). Most of these studies are done with data from the US[2] and cover grants to specific programmes on education, health, social policies or investment projects.

Rent-seeking in a simple model of intergovernmental grants.

ESF transfers are essentially devoted to promote public expenditure on ALMPs, as motivated in Appendix A. The principle of additionality that rules the Structural Funds implies that, ideally, these transfers are intended to work as matching grants in order to attract further funds from subsidized agents. Several economic policy issues[3] also introduced in Appendix A, however, justify the scepticism about whether ESF can be considered, instead, unconditional lump-sum transfers. In addition, the fact that several regions share a common budgetary limit suggests that their governments may be engaged in some sort rent-seeking behaviour to attract larger transfers.

This section develops a simple model that includes spatial interaction and rent-seeking in the presence of an intergovernmental grant in order to illustrate the standard predictions of economic theory regarding the effectiveness of public grants in that scenario.

The large amount of theoretical literature on the decentralized provision of public goods very often assumes the existence of public expenditure spillovers[4]. For that reason, this model –and the econometric estimation developed later- assume spatial effects. Economic theory gives several alternative explanations to the existence of spatial interactions in public spending[5] , but this paper does not test the prevalence of one of the alternative models, as they all generate an identical reaction function[6]. Spatial interaction can be modelled by making the utility that a representative agent receives from a publicly provided good, ALMPs in this case, to depend also on the provision of that good in neighbouring regions. The provision of the public good ALMP perceived by citizens of region 'J' is described by the function[7] 'a':

$$a = a(a^J, \bar{a}) \qquad \text{where } \bar{a} = \sum_{\forall i \neq J} w_i * a^i \qquad [1]$$

where 'a^J' is the level of ALMP expenditure of the government of region 'J' while 'ā' is the average level of provision in other regions weighted by their distance to 'J'. Spatial effects can be either positive or negative (when ∂ (a)/ ∂ (ā) is either positive or negative respectively).

The model also assumes that regions perceiving ESF transfers are able to invest part of their resources in rent-seeking activities. For that purpose, following Park, Philippopoulos, & Vassilatos (2005), it is assumed that every region is endowed with one unit of effort time that can be freely distributed between improving the quality of ALMPs expenditure and lobbying for larger transfers. There is a predetermined common pool of resources (E) that is distributed among regions according to their relative rent-seeking effort, as described by the following formula:

$$e^J = E * \mu_J / \sum_{\forall i} \mu_i \qquad \text{with } \mu_J, \mu_i \in [0,1] \qquad [2]$$

where e^J represents the subsidy received by region 'J', 'u_i' is the amount of effort devoted to rent-seeking by region 'i' and 'E' represents a lump-sum grant to be distributed among all regions. This equation represents the fact that Spanish regions, to some extent, share a common budgetary limit and compete among themselves –and even with other levels of the public administration- for the attraction of ESF transfers[8].

As the administrative capacity of the public administration is limited, when regions increase their institutional efforts for rent-seeking, this comes at the cost of smaller utility of the provided ALMP-good, as stated in the following utility function, inspired[9] in Persson & Tabellini (2002):

$$u^J = c + (1 - \mu_J) * H(a) \qquad [3]$$

where “a” represents ALMPs provision (as described by function [1]) while “c” represents public expenditure in other publicly provided good. The utility of ALMPs relative to the standard public good, represented by “c” whose utility is assumed linear, exhibits the standard properties H’(a)>0 and H’’(a)<0. The term (1- μ_J) implies that, as the stock of resources may be rigid, the increase of the effort to attract more funding must be done at the cost of lowering the provision or quality of ALMP programmes[10].

Intergovernmental transfers in which the final amount is conditioned to the level of contribution from the budget of the subsidized administration are known as matching-grants[11]. A recurrent result of economic theory is that matching-grants are able to raise public expenditure in targeted policy areas[12], and in particular when compared to equivalent unconditional transfers. Several empirical studies (Mohl & Hagen, 2009; Gonzalez-Alegre, 2012, 2014) have already estimated the capacity of the European Regional Development Fund (ERDF) to enhance public investment, as the ERDF is mostly related to investment projects[13].

The implementation of a matching grant affects the budget constraint of the subsidized agent introducing a new source of income that depends on the amount spent in the subsidized activity. Assuming that the ESF program may deliver funds through both channels: the fixed amount distributed according to the rent-seeking effort and the matching grants program, the final amount of the subsidy perceived by region ‘J’ can be illustrated as:

$$esf^J = e^J + m^J = E * \mu_J / \sum_{\forall i} \mu_i + \delta*\gamma*a^J \qquad \text{with } \delta, \gamma \in [0,1] \qquad [4]$$

where e^J refers to the part of the subsidy obtained by investing administrative effort in rent-seeking

activities and m^J represents the matching grant. The parameter δ represents the co-financing rate applied by the matching grant and the parameter γ, which is assumed to be fixed for the sake of simplicity, represents the fraction of ALMPs eligible to receive the matching grant.

Therefore, the final budget constraint of every region, assuming that an exogenously determined lump-sum tax (T) is the only alternative source of rent, reads:

$$T + esf^J = c + a^J \qquad [5]$$

That is, the public administration must distribute its budget between a general type of public expenditure, 'c', and ALMP expenditure, 'a'. In addition to the fixed tax income, the regional government may attract further funds by investing administrative effort in rent-seeking and through a matching grant that depends linearly on its own expenditure on ALMP policies.

The maximization of the utility function [3] subject to the budget constraint [5], yields the first order conditions [6] and [7]:

$$\partial u^J / \partial a^J = 0 ; \qquad H'(a) = (1- \delta * \gamma)/(1- \mu_J) \qquad \text{where } H'(a)= \partial [H(a)]/\partial a^J \qquad [6]$$

Which implies that the optimal level of ALMP expenditure , a^{*J}, depends positively on the co-financing rate of the matching grant (δ) and on the fraction of ALMPs eligible to receive a matching grant (γ) and negatively on the amount of time effort devoted to rent-seeking (μ_J).

$$\partial u^J / \partial \mu_J = 0 ; \qquad \mu_J = [E * \sum_{\forall i \neq j} \mu_i / H(a)]^{\wedge}½ - \sum_{\forall i \neq j} \mu_i \qquad [7]$$

According to this expression, the optimal level of time effort devoted to rent-seeking, μ_J^*, depends positively on the size of the common pool[14], 'E'. If the size of the pool increases, the level of provision of the public good a^J decreases in the optimum as a consequence of the smaller share of effort devoted to increasing ALPMs quality, $(1- \mu_J)$.

Therefore, in this model, when the provider of the grant intends to constitute or increase its contribution, there are two alternative channels: one is the matching grant and the other is the unconditional transfer represented by 'E'. Alterations in the matching grants are undertaken by increasing the co-financing rate 'δ' or the fraction of eligible expenditures 'γ', and provokes a raise in the optimal level of provision of ALMPs (a^{*J}) and a decrease of the share of effort-time devoted to rent-seeking (μ_J^*). On the contrary, an increase in the size of the common pool that is distributed according to the relative rent-seeking effort,' E', will induce an opposite effect on a^{*J} and μ_J^*.

Data

The role of the ESF in the Spanish regional public administrations is analyzed by constructing a database of panel data from the 17 Spanish regions for the time period 1989 2011. The dependent variable is public expenditure in Active Labour Market Policies (ALMP) at the regional level, measured as a share of regional GDP[15].

Table 1 describes the variables, its unit of measure and the sources of data, while table 2 includes the summary statistics. Among the set of explanatory variables, the variable *esf* represents the current transfers from the European Union to the Spanish regional government under the European Social Fund. This variable is expressed as a share over regional GDP. Two variations of this variable have been

considered in the robustness check shown in table [4]: a measure of the ESF transfers received by the other regions, represented by the variable *esf_16*, and the aggregate level of ESF transfers received at the regional level, represented by the variable *esf_tot*. Both are also expressed as a share of GDP.

[Table 1 about here]

The variable *regional_exp* captures total public expenditure by the regional government, expressed as a share of GDP. As all fiscal variables, the interpretation of the coefficient attached must take into account the impact of the omitted fiscal variables on the dependent variable (Kneller, Bleaney, & Gemmell, 1999). The unemployment rate, computed as the ratio of unemployed persons over the total active population, or alternatively the participation rate, is also considered, as it is assumed to capture the demand for ALMPs expenditure.

[Table 2 about here]

The set of controls also includes the log of income per capita, in order to capture the relative wealth of each region, and population, expressed in million people, that controls for the effect of changes on the relative size. Finally, one of the robustness checks also considers real production growth, in order to capture the business cycle fluctuations, and population over 16 years as an alternative to total population.

Estimations and Results

Econometric modelling

In order to estimate the determinants of public expenditure in active labour market policies in the seventeen Spanish regional governments, we build and estimate a panel data model in which public expenditure in active labour market policies at the regional level is the dependent variable and the ESF transfers is among the set of explanatories. The departure point is a dynamic version of the so-called spatial Durbin model described in the following equation:

$$almp_{it} = \rho\, almp_{it-1} + \delta W\, almp_{jt} + \beta_1\, m_{it} + \beta_2 W\, m_{jt} + \mu_i + \varepsilon_{it} \qquad [8]$$

Where $almp_{it}$ represents public expenditure in "social promotion" in region "i" at time "t", which includes the expenditure due to active labor market policies undertaken by the regional government, measured as a share over regional GDP. m_{it} is a vector of macroeconomic variables affecting the level of expenditure on ALMP. It includes the share over GDP of public expenditure at the regional level, economic growth, the level of per capita income, total population and the unemployment rate. μ_i is the region specific term. One lag of the dependent variable is also included among the set of explanatories, as expenditure policies are generally quite persistent over time[16].

The baseline regression presented considers also the presence of spatial dependence in the form of a Durbin model, as it might be suspected that there is some degree of contagion among regions with respect to the relationship of employment with fiscal policy[17]. Spatial spillover effects have been considered in previous studies analyzing the effect of EU Structural Funds, and its omission could lead to biased estimates (see, for example, Mohl & Hagen, 2010). The model considers that almp expenditure in region "i" may be influenced also by the determinants of almp expenditure in the remaining regions, weighted by the distance of these to region "i". For this sake, we will specify a weighting matrix, W,

that includes information about the distance between regions. This matrix will be constructed from the great circle distance between the capital cities of every region[18]. As an alternative, the model reported in column [5] considers, instead, a binary matrix. The elements in this alternative matrix are either one or zero, representing whether two regions share a common border or not respectively.

The coefficient β_2 introduces the so-called local indirect effect. This implies that changes in the control variables in the neighbouring regions may affect a region´s decision on public expenditure on ALMPs. In contrast to the global effect, the local effect is only propagated to a unit´s neighbourhood set according to the weights included in the matrix W.

The problem with the dynamic specification of the Durbin model in the form of equation [8] is that its parameters are not identified as explained in Elhorst (2012). He proposes to impose restrictions on the parameters in order to avoid that identification problem. Equation [8] can be rewritten in order to report one indirect effect associated to each control variable as described in the following expression:

$$almp_{it} = (I - \delta W)^{-1} [\rho\, almp_{it-1} + \beta_1\, m_{it} + \beta_2 W\, m_{ij}] + \mu_i + (I - \delta W)^{-1}\, \varepsilon_{it} \qquad [9]$$

Equation models estimated in table (3), therefore, omit the spatially lagged dependent variable, which is precisely one of the restrictions proposed in Elhorst (2012). The estimated coefficients, therefore, coincide in this case with the average direct impact[19] proposed in Le Sage & Pace (2009) for the interpretation of Spatial Durbin Models, whose dynamic version is shown in equation [9].

In addition, the baseline estimations reported in this paper assume that some of the control variables are endogenous (ESF transfers and regional expenditure) or predetermined (unemployment and participation rates) with respect to the dependent variable. For this reason, the model is estimated

making use of the GMM estimator[20] developed by Arellano & Bond (1991) adapted to the presence of spatial effects (Shehata & Mickaiel, 2012). The model assumes one lag of the dependent variable, considers the variables regional_exp and esf to be endogenous while unemploy_rate and particip_rate are allowed to be predetermined. Table B1, in Appendix B, includes a brief illustration of the sensitiveness of the estimated results to the econometric structure considered in the paper.

Robustness check

In order to identify if the estimated results are a consequence of the methodology used, the baseline results are compared with those using a methodological framework followed by previous studies. For that purpose, the same data have been used to estimate a fixed-effects model in which variables are inserted as three-year averages. In order to prevent the presence of spurious results due to the high persistence of fiscal variables, the conventional strategy used by previous studies estimating the macroeconomic determinants of ALMPs (Borghi, 2010; Tepe & Vahnhuysse, 2012) is to take frequency larger than one year. The estimations of a linear model using 3-year averaged data are shown in table (4). The availability of observations is substantially reduced.

This model, that replicates the standard methodological approach of previous studies, would in principle ignore the spatial effects. Therefore, in order to capture the long-term relations discovered in the spatial model according to which one region´s decision of public expenditure on ALMPs depends also in the level of ESF transfers that the remaining regions obtain through the European Cohesion Policy, it includes a variable capturing the ESF transfers to the remaining regions.

$$almp_{it} = \beta_1 m_{it} + \beta_2 esf\_other_{it} + \mu_i + \varepsilon_{it} \qquad [10]$$

where:

m_{it} = $esf_{i,t}$, $reg\_expenditure_{i,t}$, $growth_{i,t}$, $unemploy\_rate_{i,t}$, $population_{i,t}$, $pc\_income_{i,t}$

$esf\_other_{i,t} = \sum_{for\ all\ s \neq 1} esf_{i,t}$

Results

Table 3 shows the results of estimating equation [9] using the Arellano-Bond GMM estimator. The estimates assume alternative models with respect to the control variables included: firstly, the variables that are common to most of the literature examined are introduced. This includes the one period lagged dependent variable and the ESF transfers, regional public expenditure, *unemployment rate* and *population*. A shorter version of the original model that omits *population*, is reported in column 2. Then, *participation rate* is included as an alternative to *unemployment rate* and *per capita income* is considered as an alternative to *regional public expenditure*, in columns 3 and 4 respectively. Finally, column 5 shows the outcome of the original model, but using a binary weighting matrix in which the element are either one or zero, depending, respectively, if the regions are contiguous and share a common border. All control variables are introduced also with a spatial lag as described in equation [8]. The table also reports the output of the F-test of joint significance, and the outcome of the Lagrange Multiplier test under the null hypothesis of no general spatial autocorrelation.

[Table 3 about here]

As can be seen from table 3, the level in the public regional expenditure on ALMPs is strongly time persistent, as it is driven by its own value in the previous period with a coefficient around 0.5. The

dynamic behaviour of fiscal variables is well known[21] and it is precisely the reason why other studies use 3-year averaged values, as mentioned in the motivation of equation [10].

Regarding the predictions of the theoretical model introduced in previously, several conclusions can be drawn: First, the coefficient attached to the variable representing ESF transfers is not statistically significantly different from zero in all the scenarios considered. If we compare this result with the literature on the effectiveness of intergovernmental grants[22] described in the last paragraph of chapter 2, ESF transfers are indeed extremely ineffective in promoting ALMP expenditure. In fact, the analysis undertaken in González-Alegre (2012) on the effectiveness of the ERDF to promote public investment, also in the framework of the EU Structural Actions, yields more optimistic results, as the equivalent estimated coefficient is significantly positive[23]. This is an indicator that ESF transfers are not effectively working as matching grants, which could respond the design failure of the principle of additionality in the rules allocating ESF funds described in Appendix A; In the framework of the theoretical model presented in the third section, an increase of ESF transfers trough a raise of one of the parameters δ or γ, provokes an increase of the level of the ALMP-good provided, 'a*'; second, the coefficients attached to the spatially lagged value of ESF transfers are negative in all cases and their levels of statistical significance are reasonable. The larger the size of ESF transfers received by all regions, the lower the provision of ALMPs. In terms of the model, this result is consistent with the other source of ESF transfers considered, as the estimated coefficient seems to reflect the rent-seeking behaviour of regions. As the size of the common pool of rents increases ('E' in the theoretical model and w*esf in the estimations) regions seem to focus their efforts in lobbying in order to attract more funds (μ_J raises), which decreases the optimal level of ALMPs provision; and third, there exists some degree of imitation, as public expenditure in ALMPs depends positively on the level of public expenditure of other regional bodies. Regions imitate the expenditure pattern of their neighbours, which in terms of the model implies that ∂ (a)/ ∂ ($\bar{a}$) is negative. This result is compatible with the rent-seeking hypothesis[24], and is probably

a consequence of the use of neighbouring regions as a benchmark to determine the optimal level of provision of ALMPs. As described above, imitation across public administrations appears frequently, in particular at the sub-national level. In fact, this result contradicts the findings of a similar analysis conducted in Franzese & Hays (2006) for a panel of 15 European countries. According to their results, free-riding seems to be much stronger than imitation at the country-level, when it comes to the provision of ALMPs. The results reported here suggest that the importance of imitation is larger at the regional level, which makes sense if we bear in mind that the cultural and institutional framework is more favourable, at the regional level, for voters to compare policies across jurisdictions.

Finally, the coefficients estimated for other variables are not surprising if we compare our results to the related studies we are using as a benchmark. An increase of the unemployment rate of one percentage point is estimated to lower ALMPs expenditure on around 0.01% of GDP. The negative coefficient attached to unemployment is not a unanimous finding although appears relatively often (Franzese & Hays, 2006; Armigeon, 2007; Van Vliet & Koster, 2011). This could be explained by the crowding-out effect that larger unemployment could provoke towards passive labor market policies and related assistance programs. Total regional expenditure –of the underlying jurisdiction- is included in this regression as an indicator of the expenditure capacity of the regional government, using also per capita GDP as an alternative indicator. The estimated coefficients suggest that ALMPs account for around 2.7% of the variation of the expenditure capacity. Our results are compatible with the estimated coefficient for government consumption in Franzese & Hays (2006) and the one attached to per capita[25] GDP in Borghi, 2010. It must be mentioned that most studies including a fiscal variable among the set of controls (Tepe & Vanhuysse, 2013; Borghi, 2010; Vlandas, 2011) use public deficit instead. We must bear in mind that these studies use country level variables, and that the leeway of Spanish regions to incur into deficit is extremely limited in the period under consideration. For that reason, this study reports data using total regional expenditure as the fiscal variable. In any case, the results reported here

are consistent with the negative coefficients obtained in other studies for public deficit, in line with the interpretation of fiscal variables when other items of the budget are omitted, as discussed in Kneller et al. (1999).

[Table 4 about here]

Table 4 reports the estimation of equation 3, considering variables as three-year averages and including the variable $esf\_other_{i,t}$, that captures the EU grants under the ESF transferred to all the regional bodies exclusive of the region under consideration. Obtained results confirm previous findings, as the level of ALMPs expenditure seems to be driven also by ESF transfers to other regional bodies. This result is consistent with the rent-seeking hypothesis described before. Also in line with table 3, estimations shown in table 4 are unable to find a significant impact of the current ESF transfers to a regional government on its own ALMPs expenditure. This reinforces the hypothesis that, despite the fact that Structural Funds are intended to enhance public expenditure in targeted policy areas through the system of matching-grants that transpose the principle of additionality, the effectiveness of ESF transfers in boosting ALMPs is insignificant.

As mentioned in the previous subsection, the results shown in table 4 have been designed with the purpose of making them comparable to other related studies. For this reason, the estimated model does not include spatially correlated variables, and, therefore, we cannot yield additional conclusions regarding the existence of mimicking across regions. In any case, the values and levels of significance of the estimated coefficients reported in table 3 seem quite conclusive to this respect. Table B1, in Appendix B, reports additional robustness checks using alternative versions of the model that internalize new assumptions, or relax existing ones, with respect to the baseline model of table 3.

Conclusions

The determinants of ALMPs could be conditioned by the –heterogeneous- levels of fiscal decentralization present among European countries. In particular, since some EU member states have transferred most labour market policies to regional governments. Spain has experienced a process of fiscal decentralization in the recent years and, simultaneously, has been recipient of an important share of the Structural Actions.

This paper estimates the determinants of ALMPs in the seventeen Spanish regional governments during the period 1989-2011. With that purpose, this analysis builds and estimates a panel data model that regress public expenditure on ALMPs on a set of fiscal and macroeconomic variables. The dynamic model is estimated by GMM in order to control for the presence of endogeneity of the explanatory variables. The results reported assume, in addition, the presence of spatial effects among regions of the form of a spatial Durbin model.

The spatial model is able to unmask the relevant importance of imitation among regions, as public expenditure in neighbouring regions seems to be among the main determinants of ALMPs at the regional level. There is, therefore, a strong imitation effect in contrast to other situations in which the public administration, instead, benefits from the provision of public goods in neighbouring districts. With respect to the system of intergovernmental transfers implemented by the European Union through the European Social Fund, it seems to be inoperative on its aim of fostering AMLPs expenditure. In fact, and probably responding to some strategic behaviour due to the existence of a common pool problem, the size of the system of ESF transfers seems to disincentive ALMPs expenditure at the regional level.

These estimation results are interpreted with the help of a simple model of intergovernmental grants that

includes standard utility functions and limited administrative capacity. ESF transfers are not perceived by subsidized regions as matching grants, which means that the principle of additionality that should drive the distribution of the Structural Funds is not working properly in this particular case. Funds are considered, instead, unconditional transfers that can be attracted by investing in lobbying activities. The larger the "*size of the cake*" to be distributed among regions, the larger the incentives of regional administrations to invest in rent-seeking activities, at the cost of a lower provision of ALMPs. This process is aggravated in the presence of the mimicking effect also identified.

These conclusions call for subsequent research and suggest that other institutional factors should be taken into account in the evaluation and definition of the rules governing the distribution of the EU Structural Funds. Whether ALMPs are undertaken at the regional or the national level is not a trivial issue, as the existence of spillover effects, in particular in the presence of intergovernmental grants, affects the effort that governments put in these policies. In addition, the degree of devolution in particular policy areas, such as ALMPs, should respond also to political economy arguments such as those analyzed in this paper.

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[1] Hines & Thaler (1995) and Bailey & Connolly (1998) include interesting literature reviews

[2] being Pallesen (2006) and González-Alegre (2012) an exception

[3] such as the budgetary objectives stated by the European Commission for every programming period or the limitations of the process of verification of additionality.

[4] As well as many empirical studies identify the existence of spatial interactions of public expenditures at the state (Baicker, 2005) or the local level (Sole-Olle, 2006).

[5] the standard spillovers model (Case et al., 1993) assumes that a citizen of a particular region benefits also of the provision of a public good in neighbouring regions; the existence of yardstick competition among regional governments (Besley & Case, 1995), implies that voters use neighbouring jurisdictions to evaluate the performance of elected officials; in the Tiebout competition (Wildasin, 1988) regions compete to attract residents from neighbouring jurisdictions with the purpose of enlarging the tax-base.

[6] as described in Brueckner (2003).

[7] Based in Solé-Ollé (2006), but introducing the weighting according to distance.

[8] The regulation of the ESF distribution is extremely cumbersome, but details to confirm this statement can be found, for example, in the National Reference Strategic Framework for the period 2007-2013 (European Union, 2007) and in the corresponding Operational Programmes.

[9] This model, in contrast to theirs, does no internalize taxation and private consumption. Likewise, for the sake of simplicity, the dynamics considered in Park Et al. (2005) are not introduced here either.

[10] This assumption is in line with the findings in Milio (2007) for the Italian regions, as the public administration often share the same resources (basically, civil servants) for launching new programmes and search for funding.

[11] In contrast to unconditional lump-sum grants.

[12]This literature emerged in the sixties, being Bradford & Oates (1971) a milestone that includes the main results generally accepted by subsequent literature.

[13] In fact, this sort of verification could be officially implemented, as revealed in REGIO (2011).

[14] In fact, as shown in Svensson (2000), the mere expectation of larger resources is able to incentive larger rent-seeking effort

[15] The category is labeled as "regional public expenditure on social promotion", and captures public expenditure on active labor market policies, among other issues. Unfortunately, the level of breakdown available does not allow isolating ALMP from other policy areas. Nevertheless, the examination of recent databases on public regional budget with better detailed accounting reveals that policies related to the labor market represent the vast majority of this type of expenditure.

[16]which is a common strategy of most regression using annual country-level fiscal variables. Alternatively, many studies make use of variables expressed in frequency larger than one year to omit short-term dynamics. See, for example, Bleaney, Gemmell & Kneller (2001).

[17] The selection of the model has been made on the basis of the outcome of the several spatial panel autocorrelation tests and preliminary estimations. In particular, the Lagrange Multiplier (LM) Spatial Autocorrelation test (reported in the tables) rejects the null of no-general spatial autocorrelation, and the absence of spatial autocorrelation is also rejected by the Moran´s I test, while the robust LM test cannot reject the null of no-spatial lag in the dependent variable. Most tests outcomes are not reported for the sake of simplicity.

[18] as in Dall Erba & Le Gallo (2008). The use of physical distance, instead of infrastructure-based measures, ensures the exogeneity of the criteria. Each element (w_{ij}) of this matrix, whose diagonal consists of zeros, represents the inverse of the distance between two regions ("i" and "j"), normalized so that every row add to one (that is, $w_{ij} = [1/d_{ij}] / \Sigma_j [1/d_{ij}]$)

[19] The direct interpretation of coefficient estimates from the spatial Durbin model is incomplete due to the simultaneous impact of spatially lagged dependent variables in the dependent variable and its spatial

lags. For that reason, Le Sage and Pace (2009) define a partial derivative approach commonly followed in the literature. The description of the process is too long to be presented in this paper. Nevertheless, the derivation of equation [9] illustrates intuitively the process.

[20] Moral-Benito (2011) shows that the Arellano-Bond GMM estimator with time persistent variables may underperform with respect a quasi-maximum likelihood estimator in small samples. In fact, Moral-Benito, Allison & Williams (2017) develop a panel data estimator that considers predetermined explanatory variables and behaves better than the Arrellano-Bond in that scenario. Unfortunately, they do not have developed yet a version for spatial panels. For the sake of robustness table 3 has been re-estimated using the quasi-maximum likelihood estimator for spatial panels developed by Belotti, Hughes & Mortari (2016). Results, not reported here but available for the interested reader, do not change dramatically except for the significance level of the spatially lagged regional expenditure. The parameter δ, which is estimated separately, is still strongly significant, however.

[21] Two examples in which the dependent variable is, precisely, public expenditure in ALMP expressed as a share of GDP are Rueda (2005) and Vlandas (2011).

[22] In fact, some of the studies referred estimate a positive coefficient whose absolute value is close to one.

[23] Using also data from the 17 Spanish regions

[24] As an increase in the availability of Funds 'E' promotes the raise of μ_i in all regions, which turns into a lower provision of the public good 'a' (AMLP) also because of the imitation effect

[25] Van Vliet & Koster (2011) find, instead, a significantly positive coefficient for the variable GDP per capita