On the failure of European planning for less developed regions. The case of Calabria

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ABSTRACT: This study analyzes the negative performance of Calabria's Regional Program 2000-2006, for the enhancement of cultural goods to attract tourism, as an example of the waste of resources of EU ambitious planning for the economic convergence. The empirical analysis shows that the variables relating to cultural sites, education sites and sites with tourism or tourism potentialities had no significance or even negative influence. The significant variables were the number of non profits present in the municipalities and the criminal hubs. The presence of cultural sites is not statistically significant in the allocation of funds to the criminal hubs, After the program the number of visitors and revenues from museum and archeological sites of Calabria lower than before while on average in Italy has had a great increase. On the other hand tourism in Calabria experienced a differential increase , in spite of the waste of the funds of the European regional policy.

KEYWORDS: cultural goods; tourism; public policies; public expenditure; Southern Italy.

JEL Classification: H4; R1; Z1.

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1. Introduction

This study analyzes the negative performance of Calabria's Regional Operation Program (POR) 2000-2006, devoted to projects for the enhancement of cultural goods to attract tourism, as an example of the waste of resources of European Union (EU) ambitious program 2000-2007 for the economic convergence of the less developed European regions with the developed ones (Community Support Framework-CSF 2000-2006). The results of this POR have been negative. The funds of 231 million euro, which would activate a similar amount of co-financing, have been dispersed on the territory in 546 projects. Notwithstanding, the meticulous procedures of selection of the projects, many of those approved resulted inefficient: a large share of the projects was abandoned before completion so that only a 63% of the funds allocated was spent. And the impact of the program , in spite of the importance of the resources mobilized, nearly 450 million of euro in a region with 2 million of residents, has been small or negative. And both the flow of visitors of the cultural sites and of tourists of Calabria have not been enhanced. We show, by statistical analysis, hat generally the variables that have determined the allocation of the funds have been incoherent with the proclaimed objectives of valorization of the cultural patrimony and promotion of tourism.

The paper is divided in seven sections. Section 2 provides a brief survey of economic literature on this issue. Section 3 provides background information on the POR 2000-2006 in Calabria. Section 4 gives an overview of the cultural heritage endowment of Calabria and of the implementation of the program. Section 5 presents the econometric methodology, the data set and the empirical results. Section 6 gives the concluding remarks and policy implications. Section 7 makes suggestions for future researches.

2. A survey of literature

In spite of the optimistic reports of the European Community, (Commission of the European Communities, 2009), in the literature on the European Regional Policies for less developed regions, i.e. those of the so called Obiective 1 (Cini, 2003 and 2007) predominate the researches that demonstrate disappointing results. Some authors argue that the results are poor in the case of regions with weak institutions and better in the other cases. But the regions for whom the financial aid is justifiable are the less developed. And the weakness of the institutions is one of the main characters of the

less developed regions belonging to developed European countries. Basile, De Nardis, and Girardi (2001) demonstrate that in spite of the huge amount of public aid to the poor regions of EU, the distribution of income, labour productivity and employment rates does not show a positive relation with the allocation of the EU structural regional funds, particularly in the Nineties. Boldrin and Canova (2001), argue that to a large degree these policies operated mostly as transfer with redistributive or assistance purpose rather than serving as agents to simulate or increase growth. Puga (2002) observe that, in spite of the large expenditures on European regional policies, the disparities remained or even widened, mainly because of factors connected with the location theory so that more emphasis should be put on the transport structures improvement. Rodriguez Pose and Fratesi (2003), show that the returns to the investments in infrastructures and business support were not significant and that only investment in education and human capital had medium term positive and significant returns. Ederveen, De Groot, Nahuis (2006) show that European structural funds were very largely ineffective, in reducing the regional disparities, with the exception of the regions were institutions are of high quality. Bjorvatn and Coniglio (2006 and 2007) maintain that generally (non only in Europe) the policies to promote regional development very often have had disappointing results and connect them with the weakness of the institutions. In this case targeted policies create rents that attract rent seekers, so that broad base policies would be more appropriate. The targeted plans should be adopted for the regions with strong institutions. The first part of the conclusion seems reasonable. Nevertheless, the second part is unconvincing. Indeed where the institutions work well it seem better to apply the general rules of competition of the European Union and leave to the market economy business to decide in which sectors to make use of the subsidies supposedly given to compensate for the regional global externalities (Van der Beek, 2004).

A less drastic point of view is that of Cappelen, Castellacci, Fagerberg, and Verspagen (2003) who argue that EU regional policies had significant and positive impact on growth of European less developed regions and that the effects are much better in more developed environment. It follows the suggestion of improving the competence of the receiving environment which appears rather *naïve* considering that environment cannot be changed as long as remain the traditional social structures. Beugelsdijk and Eijffinger (2005) argue that the structural regional funds of EU have had a positive effect in the case of the poor countries as Greece and add that the less clean countries (i.e. those more corrupt) did not gain less economic growth from the structural funds. They add that many of those who receive the structural

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funds are not really eligible and therefore use them inefficiently. In the Italian economic literature – Giannola and Imbriani (eds., 2003), Lo Cicero and Reganati (2003), Viesti (2003), Viesti (2009), Viesti and Prota (2009) – there is a widespread consensus on the fact that the Italian public interventions for the development of Southern Italy have, in a large part, failed to reduce the disparities between Centre-North and South, and on the fact that the Regional funds did not obtained their objectives. This has happened both because due to the complexity of the procedures and to other factors, a relevant a share of the funds was not allocated before the time limit and was diverted to other end, and because the share of the funds that was utilized under the prescribed procedures was not allocated properly.

On the other hand Loddo (2006) with a simplified econometric analysis argues that in Italy, in the period 1994-2004, the poorer regions have caught up with the richer regions and that the European structural funds had a role in this convergence. However, agricultural funds had only a transitory positive effect while the resources allocated had dubious effects as from the distributional point of view and for the support of employment, education and the human capital. But V&V and LSE (2007) shows that in the period 2000-2001 the regions of Southern Italy of Objective 1 have grown at the rate of 1.23% per year while those of the Centre-North have grown at a 1.24% rate, while EU 15 gas grown at the 1.96%. Similar results appear in Svimez (2009), and Svimez (2010). While, Cancelo, Faína, and López-Rodríguez (2009) maintain that EU regional funds have been effective in promoting growth in the case of Galicia, a Spanish peripheral region of Objective 1. Borbalá-Szabó (2007) instead maintains that in Hungary the impact of the EU regional policies on economic growth has been disappointing. Ederveen and Gorter (2002), Edereveen, de Mooji, Gorter, and Nahuis (2002), and Ederveen, de Groot, and Nahuis (2006) extensive econometric analysis show mixed results both from the distributive and the growth point of view and add that the impact of these policies on the national policies to reduce regional disparities has been negative. Tugores (2008), considering the EU-15 global macroeconomic results, concludes that the contribution of EU regional policy to the convergence among states is unquestionable for Spain and that has been a factor of the high growth of Ireland. But that there has not been generally a narrowing among regions inside the states. The critical issues are the possible distortions as for the efficient assignment of resources and the risk that the resources placed at service of cohesion may wind up in the hands of specific interests.

This point leads to the consideration of rent seeking, in the terms of Krueger (1974) for less developed economies, where rent seeking is the

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substitute to the missing stimulus to profit seeking. On rent seeking in EU regional policies see also Bjorvatn and Coniglio (2006) and Bjorvatn and Coniglio (2007). Outside EU, for rent seeking as a negative phenomenon in regional policies, see Zaostrovtsev (2003) for Russia, Dreger, Rahmani, and Eckey (2007) for Iran, Fisher (2006) for Africa. Golley (2007) reaches mixed conclusions as for the Chinese regional policies. On the rich literature on rent seeking after the seminal works of Buchanan, Tullock, and Niskanen see, more generally, for all Cogleton, Hillman, and Konrad (eds., 2008).

In the specialized economic literature on cultural goods and on tourism there are several contributions that emphasize the importance of the cultural goods as attractors of flows of tourism. See, for example, Goldoni, Rispoli, and Troncon (eds., 2006), Colbert (2000), Kotler and Scott (1998), Nantel and Colbert (1992), Grossi and Debbia (eds., 1998), Diggles (1986), Hirshmann (1983). More generally, see Forte and Mantovani (2004), and Cooper *et al.* (1998).

On the specific theme of this research, the Regional funds policies in the area of cultural goods and the development of tourism in Southern Italy, the literature is not equally developed. See however Spadaro (ed., 2010), Mantovani (2010), V&V and LSE (2007), and Ferrari and Cariola (2001).

3. Description of Calabria's Operational Regional Program (POR) for the cultural goods as attractors of tourism

In any region of the European Regional Program 2000-2006 regarding Objective 1 (i.e. the less developed European regions), 50% of the funds of the Operational Regional Program came from the European Community. A share of 60% of them came from the European Regional Development Fund (ERDF), which finances productive investment and infrastructure projects in European Union regions. Another 20% came from the European Agriculture Guidance and Development Fund (EAGGF). The remaining 20% came from the European Social Fund (ESF)for 19.6% and for 0.94% from Financial Instruments for Fisheries Guidance (FIFG). The country receiving the European aid, in this case Italy, funds the remaining 50%. Of it about 80% is financed by the Central Government and the remaining 20% by the Regions and Local Governments, in our case by Calabria's Regional government and to a small extent from the municipalities. On the other hand, to receive this money for their project, the private entities that apply for the European financing, must be ready to co finance at

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least 50% of the costs. Public entities as for their projects relating to public services are not obliged to co-financing.

Calabria's Operational Regional Program (POR) 2000-2006, to pursue the European guidelines, has been articulated into six subprograms, denominated as "Axes":

Axis 1 - Enhancement of natural and environmental resources.
Axis 2 - Use of local cultural and historical resources.
Axis 3 - Human resource development.
Axis 4 - Expansion and enhancement of local systems development.
Axis 5 - Improving the quality of cities, local institutions and social life.
Axis 6 - Strengthening of networks and service nodes.

Axis 2, which is the object of our research, had an endowment of 231 million euro, and could mobilized additional resources of similar amount, so that the total import of the project could be 450 million Euro. It was subdivided in three "measures" pertaining to different kinds of projects, classified by their nature and by that of the subjects entitled to receive the funds.

Measure 2.1 - Interventions for the preservation and enhancement of cultural heritage.
Measure 2.2 - Public services for the enhancement of cultural heritage.
Measure 2.3 - Developing entrepreneurial initiatives in the field of cultural heritage.

Measures 2.1 was reserved to projects of public entities while measure 2.3 was reserved to entrepreneurs. Both were administered by the Regional Department of Tourism because the projects, officially, had to be judged from the point of view of the enhancement of tourism. Cultural tourism is very important for the national Italian economy, but up to this point it has had a very limited role in Calabria. Yet, its main archeological sites, museums and monuments are extremely important at the international level. It has seven important archaeological parks: Sybaris, Capo Colonna, Solacium, Locri and Monasterace and a major Archeological Museum in Reggio Calabria. In addition, has an extremely interesting "defensive system", consisting of castles and towers built by the Normans and others from the ninth century B.C. Project funds for development of entrepreneurial initiatives are granted within the limits of the *de minimis* rule. So that they must be small and the dispersion of the funds is inherent to this part of the program.

The program has been constructed in a "gothic style", by four goals, five programmatic strategies for each goal and seven specific action, each articulate in a number of sub-actions. The sum allocated, 231 million Euro, even

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considering that the amount of funds mobilized was nearly the double, were a large amount for Calabria, but per se could hardly justify the complex articulation of the plan. On the other hand, from this construct did not emerged clearly defined priorities.

The four goals are described in an emphatic and vague language as follows.

a) Construction of networks for the enjoyment of cultural and historical heritage, in accordance with already planned network initiatives, and to identify meaningful property at the regional level on which to focus project resources in order to conserve, protect, and enhance.

b) Generate managerial services of both public institutions and private entrepreneurs to meet the demand of residents and tourist for cultural heritage resources.

c) Qualify and support the training of technical and scientific figures tied to the heritage and cultural tourism sector, primarily for cultural management (organization of cultural institutions and utility companies) and management services for the dissemination of local knowledge (tour services).

d) Develop companies and organizations (public and private, profit and non-profit, cultural foundations) relating to the conservation, enhancement, and management of the development of services that combine the benefits of tourism with cultural resources.

Each of the four goals has to be implemented by the following five program strategies:

a) Concentrating resources around cultural emergencies, identified as key exploitable resources, while preserving and restoring heritage buildings, archeological site, and geographical landscapes.

b) Enhance regional cultural identities through the wide range of arts, entertainment, and culture for social and economic development.

c) Provide the region with infrastructure resources, such as physical resources, techniques, methods of intervention, advanced services, and other "horizontal" factors such a knowledge and training of cultural heritage.

d) Create an interconnected function system to strengthen the cultural whole (the network of archeological areas, coastal castles, regional libraries, *etc.*).

e) Fostering entrepreneurship in innovated private management services that specialize in the integration between tourism and cultural heritage.

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The four program objectives articulated in five program strategies must be realized by seven types of actions.

a) Enhancement of the archeological heritage of Ancient Greece.
b) Establish a network of archeology of the Magna Graecia region for the management, enhancement, and protection of archaeological sites and archaeological museums. In particular, the enhancement of the archaeological site of Sybaris is of primary importance.
c) Create theme parks related to archaeological sites through the construction of adequate facilities for their use[1].
d) Recovery, development, and reutilization of the most valuable elements of architectural and landscape heritage (both public and private) for the purpose of establishing infrastructure and equipment aimed at improving and promoting architectural heritage for culture, tourism, local craft, and publishing.
e) Redevelopment of historic centers through the recycling of abandoned buildings for the purpose of cultural tourism, and promoting news business activities in the sector of cultural heritage.
f) Construction of multipurpose centers for the integration of cultural activities and entertainment. These centers must be located in buildings restored as part of the architectural heritage priority.
g) Protection of the landscape through projects aimed at recovery and enhancement of the landscape in both areas of high valued cultural heritage and in areas with projects planned by the regional ecological network[2].

Each action must take in consideration the following six sub-actions.

1. Promotion and implementation of innovative initiatives that enhance the cultural heritage and local identities.
2. Events of significant cultural and anthropological value.
3. Preserving ethnic minorities who have maintained important fea-

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[1] These three actions must be accomplished through:
1. Feasibility studies and implementation projects.
2. Rehabilitation of archeological sites and the restoration of museums and artifacts.
3. Assistance for the construction of infrastructure and facilities.
4. Architectural Heritage and Landscape.
[2] This measure supports the implementation of initiatives of national importance and visibility, realized by partnerships of public and private agencies that promote cultural heritage regional and local identities, to attract flows of cultural tourism.

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<mark>tures of the cultures of origin.</mark>
4. <mark>Activities related to the ancient tradition of craft production, music, the production of objects of culture of pastoral farmers, and local foods.</mark>
5. <mark>Preserving oral traditions.</mark>
6. <mark>Promotion and creation of cultural networks.</mark>

<mark>With a program built in this way, it was possible for the bureaucracy and the politicians to make any choice, by referring to some of the paragraphs of the "economic plan". And the finely targeted economic plan became a discretionary program without any priority.</mark>

4. Overview of the Cultural Heritage Endowment of Calabria and of the implementation of the program

Doubtless, Calabria is rich of cultural goods as many other Italian regions. In the region the Ministry of Artistic and Cultural Goods (MIBAC) maintains 57 archeological sites on over 4,000 hectares of land with nine managing superintendants. There are 19 museums that house art, history, and important monuments. Of these, only five require an admission fee, and among them the National Archeological Museum of Reggio Calabria which has historically maintained the highest number of visitors.

The majority of sites are in the provinces of Cosenza and Reggio Calabria with 14 and 12, respectively. In addition, there are 27 historically significant sites consisting of constructions in historical towns. Of them, 9 are still not officially protected. The remaining 18 historically significant sites consisting of historical buildings and ruins have been object of registration for their protection.

As mentioned above, the most important historical sites consisting of buildings or ruins. in Calabria are the "defensive systems" made of towers, fortresses and castles dating from the ninth century A.C. mostly located on hilltops and near the sea. There are 147 castles, 196 towers, and 43 fortified structures officially recorded and protected. But only few of them are really preserved.

Officially in Calabria there are 35 "theaters": 80% are privately owned and conducted by cooperatives (50%), associations (20%), and private companies (30%). But the only culturally relevant theater is that of Reggio Calabria.

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In some areas there are ethnic minorities (i.e. Albanians, Hellenistic, Occitan, and Gypsies) who have retained important features of their cultures of origins.

The multiplicity of cultural goods of Calabria may be disorienting. However it is easy to individuate the most important of them, by referring to the national classification of the important museums, archeological sites and monuments (inclusive of churches) done by the Ministry of Artistic and Cultural Goods. This classification may appears restrictive as for the historical buildings. We have broadened the list of the major cultural sites of Calabria by including all the castles still preserved. Then we have added to the list the Lyric Theater of Reggio Calabria, the only important theater of the region and the cultural center entitled to Corrado Alvaro, the most famous writer of Calabria.

A year after the expiration of the programs, the three Axes relating to culture had a relatively better achievement in comparison with the other axes of the POR, but they were still very satisfactory. Axis II had an achievement ratio of about as for the fund allocated 50% like Axis V (Social and City Life), and Axis VI (Networks). The program for natural and environmental resources (Axis I), for which Calabria has a natural vocation, has a ratio of only 45%. Local systems for development (Axis IV) had a ration lower than 25% and human resources lower than 5%.

At its termination the Cultural POR had allocated 63.4% of the available resources. But a share of the project financed was abandoned before completion. We here consider the situation in 2007, as resulting by the official accounting at the end of February 2008, when 50% of the funds, as said was allocated, 46,3% was "committed", and of them 82% was really spent. Considering that then 546 projects had been approved and in execution or abandoned, each of them had an average amount of 190.00 euro. With the co-financing, an average investment project had a value of 380 Euro, clearly a dispersion of funds in initiatives with a minimal impact on the valorization of Calabria's important cultural patrimony.

There were only 3 projects exceeding 5 million Euro. They were for the two archeological parks of Solacium in Crotone and the plaster cast and picture gallery in Catanzaro. In the 3 to 5 million Euro category there were four projects for the restoration of historic buildings and the structural adjustment of the National Museum of Cosenza, and there was an appropriation of 3 million Euro for the promotion of demo-ethno-anthropological heritage.

Only 25 projects approved had budgets from 1 to 3 million Euro. Among them two projects for the preservation of the Albanian traditions

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and the creation of network designed to enhance minority languages. Projects with a budget of 500 thousand euro were almost exclusively dedicated to construction and restoration of buildings.

Most projects were in the range between 1 and 250 thousand euro for interventions as library systems, consolidation of buildings and churches, the promotion of crafts in the process of "extinction" such as tailors, carpenters, goldsmiths. The number of projects unfinished at the end of 2007 was 60.7% of the total. The complexity of the procedures and the fragmentation of the expenditure in small project resulted in a large proportion of unfinished projects, seven years after the beginning of the plan. And a share of them has been abandoned before the completion.

Table 1 – Per capita amounts, POR Calabria 2000-2006.

Provinces	Number of projects	Share of projects	Share of population
Cosenza	209	37.5	36.5
Reggio Calabria	157	28.5	28.1
Catanzaro	94	16.9	18.3
Crotone	51	9.1	8.6
Vibo Valentia	45	8.1	8.4

Source: POR Calabria (2009).

As one can see form Table 1, the distribution of the 556 projects by provinces follows closely the provincial distribution of the population, so that one can guess that the voting weight of each province determined the number of projects assigned to it. The fact that the presidents of the centre right regional Government in power until 2004 and the president of the successive centre left Government were respectively of the provinces of Cosenza (Chiaravalloti) and Catanzaro (Loiero) did not affect substantially the distribution of projects by provinces.

Nor the distribution among the provinces was affected by the different importance of their cultural goods per se or as attractor of tourism and by the different needs of valorization of them. The criterion that prevailed, among the provinces, was that of the distribution of the funds in proportion to their electors.

5. Econometric methodology, data and empirical results

In this section we show statistical and econometric analysis results to shed

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light on variables that determined the POR 2000-2006 Axis II fund allocation. The dependent variables considered are the number of projects and the amount of Euro allocated.

In Table 2 some preliminary descriptive statistics are shown.

Table 2 – Exploratory data analysis.

Variable	Mean	Median	Standard Deviation	Skewness	Kurtosis	Range
lnamounts_pc	4.3061	4.5545	1.7295	-0.4602	3.1263	9.4483
lnpayments_pc	4.0135	4.1609	1.6979	-0.3040	2.9617	9.0586
lncommitment_pc	4.2685	4.5367	1.7243	-0.4921	3.2440	9.5749
Projects	2.5524	1	3.6953	5.5770	41.9537	35
Votes	53.9711	54.0975	6.3680	-0.0132	4.3171	47.0650
Nonprofits	25.1667	10	73.2106	6.5077	47.9020	656
Province	0.0238	0	0.1528	6.2470	40.0244	1
Health structures	0.4619	0	0.4997	0.1528	1.0234	1
University	0.0762	0	0.2659	3.1949	11.2075	1
Nursery	0.3048	0	0.4614	0.8483	1.7196	1
Primary school	0.3238	0	0.4690	0.7531	1.5671	1
Secondary school	0.8524	1	0.3556	-1.9868	4.9474	1
Senior high school	0.3571	0	0.4803	0.5963	1.3556	1
T&C	0.0762	0	0.2659	3.1949	11.2075	1
Touristic attractors	0.2810	0	0.4505	0.9747	1.9501	1
TV&R	0.1952	0	0.3973	1.5377	3.3646	1
Soccer	0.0381	0	0.1919	4.8259	24.2896	1
A&C&A	0.7381	1	0.4407	-1.0831	2.1730	1
A&P	0.0524	0	0.2233	4.0182	17.1462	1
L&P	0.4762	0	0.5006	0.0953	1.0091	1
Museums	0.2048	0	0.4045	1.4633	3.1412	1
Cultural sites	0.1143	0	0.3189	2.4247	6.8790	1
Criminal hubs	0.2571	0	0.4381	1.1113	2.2350	1
Councillor	0.0714	0	0.2582	3.3282	12.0769	1

Sources: our calculations.

The tested projects – those of POR 2000-2006 Axes II as resulting from the regional Report of 29 February 2008 referring to end of 2007 [3] – were considered "non Continuous" projects, which means they had a specific end date. This specification allowed for simplified testing and analysis. The dataset, is reported in *Appendix* to Forte, Magazzino, Mantovani, and Skepis (2010) and is synthesized in Table 2 and in various Tables in the *Appendix*. Statistical analysis was conducted only for cross-section containing muni-

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[3]See:
http://www.regione.calabria.it/calabriaeuropa/index.php?option=com_content&task=view&id=120&Itemid=253.

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cipals that received POR funds. The focus on the amount per-capita in municipalities that received projects allows us to examine which priorities if any have been pursued in allocating the funds among them. We constructed a dataset to analyze the relation of the data about the projects in per capita amount in the various municipalities and the variables described below regarding these municipalities.

A variety of regression techniques were used. First, we ran a *Stepwise* regression, always concentrating on the per-capita amounts, i.e. on the municipalities that received funds[4].

Afterwards, we ran a GLM model[5]. In particular, these estimators permit us to estimate GLM-like models involving mean-variance specifications that extend beyond those for known exponential family distributions, and to estimate models where the mean-variance specification is of exponential family form, but the observed data do not satisfy the distributional requirements (Agresti, 1990)[6].

As a third method of estimate, we choose a Robust regression[7]. Finally,

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[4] Stepwise methods provide ways to automate the process of model selection. They work either by subtracting predictors from a complicated model, or by adding predictors to a simpler one according to some pre-set statistical criteria. Stepwise methods cannot consider the substantive or theoretical implications of their choices, nor can they do much troubleshooting to evaluate possible weakness in the models produced at each step. They produce badly biased models in many instances due to over-fitting. Despite their well-known limitations, stepwise methods meet some practical needs and have been widely used.

[5] Nelder and McCullagh (1989) describe a class of *Generalized Linear Models* (GLMs) that extends linear regression to permit non-normal stochastic and non-linear systematic components. GLMs encompass a broad and empirically useful range of specifications that includes linear regression, logistic and probit analysis, and Poisson models.

Crucially, the properties of the GLM maximum likelihood estimator depend only on these two moments. Thus, a GLM specification is principally a vehicle for specifying a mean and variance, where the mean is determined by the link assumption, and the mean-variance relationship is governed by the distributional assumption. In this respect, the distributional assumption of the standard GLM is overly restrictive. McCullagh (1983) offers a full set of distributional results for the quasi-maximum likelihood (QML) estimator that mirror those for ordinary maximum likelihood.

[6] Alternately, Gourioux, Monfort, and Trognon (1984) show that consistency of the GLM maximum likelihood estimator requires only correct specification of the conditional mean. Misspecification of the variance relationship does, however, lead to invalid inference, though this may be corrected using robust coefficient covariance estimation. In contrast to the QML results, the robust covariance correction does not require correction specification of a GLM conditional variance.

[7] An *Iteratively Reweighted Least Squares* (IRLS) procedure obtains robust regression estimates. The first iteration begins with OLS. Any observations so influential as to have Cook's distance D values greater than 1 are automatically set aside after this first step.

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we estimated a quantile regression[8].

We choose the log-linear functional form, and our dependent variable is the natural logarithm of per capita amounts (*lnamounts_pc*), and it represents POR funds of each municipality, divided for its population. *Projects* is the number of approved projects; *Votes* is the electoral flows; *Nonprofit* is the number of nonprofit organizations of any kind of the given municipality; *Province* is a dummy variable, that is equal to 1 if municipal is a Province, and equal to 0 otherwise; *Health structures* is a dummy variable, that is equal to 1 if in the municipal area insists at least one hospital, a nuthouse or a fitness centre, and equal to 0 otherwise; *University* is a dummy variable, that is equal to 1 if in the municipal area there is an academic institution, and equal to 0 otherwise; *Nursery* is a dummy variable, that is equal to 1 if the municipality has got a nursery, and equal to 0 otherwise; *Primary school* is a dummy variable, that is equal to 1 if in the municipal area there is at least one primary school, and equal to 0 otherwise; *Secondary school* is a dummy variable, that is equal to 1 if in the municipal area there is at least one secondary school, and equal to 0 otherwise; *Senior high school* is a dummy variable, that is equal to 1 if in the municipal area there is at least one senior high school, and equal to 0 otherwise; *T&C* is a dummy variable, that is equal to 1 if in the municipal area there is at least one theatre or a cinema, and equal to 0 otherwise; *Touristic attractors* is a dummy variable, that is equal to 1 if in the municipal area there is at least one disco, aquapark, wine-tasting shop, sport-centre, or a beach, and equal to 0 otherwise; *TV&R* is a dummy variable, that is equal to 1 if in the municipal area there is at least one local TV or radio station, and equal to 0 otherwise; *Soccer* is a dummy variable, that is equal to 1 if in the municipal area there is at least one professional soccer team, and equal to 0 otherwise; *A&C&A* is a dummy variable, that is equal to 1 if in the municipal area there is at least one hotel, camping or farm holidays, and equal to 0 otherwise; *A&P* is a dummy variable, that is equal to 1 if in the municipal area there is at least one airport or seaport, and equal to 0 otherwise; *L&P* is a dummy variable, that is equal to 1 if in the municipal area

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Next, weights are calculated for each observation using a Huber function (which down-weights observations that have larger residuals) and weighted least squares is performed. After several WLS iterations, the weight function shifts to a Tukey biweight (as suggested by Li, 1985), tuned for 95% Gaussian efficiency (Street, Carroll, and Ruppert, 1988; Hamilton 1992).

[8] As originally proposed by Koenker and Baxistt (1978), quantile regression provides estimates of the linear relationship between *X* regressors and a specified quantile of the dependent variable *Y*. One important special case of quantile regression is the *Least Absolute Deviations* (LAD) estimator, which corresponds to fitting the conditional median of the response variable.

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there is at least one library or local publisher, and equal to 0 otherwise; *Museums* is a dummy variable, that is equal to 1 if in the municipal area there is at least one museum, and equal to 0 otherwise; *Cultural sites* is a dummy variable, that is equal to 1 if the municipality might be considered as a cultural hubs (see Table E in *Appendix*) and equal to 0 otherwise; *Criminal hubs* is a dummy variable, that is equal to 1 if the municipality might be considered as a criminal hub according to Gratteri and Nicaso (2007) classification, and equal to 0 otherwise (see Table D in *Appendix*); *Councillor* is a dummy variable, that is equal to 1 if the municipality has been represented by a councillor as a member of Regional Government during the period 2000-2006, and equal to 0 otherwise.

As is shown in Table 3, first of all one notices that there are very few differences in the estimated coefficients among four estimation methods applied; in fact, the coefficients are very similar, while standard errors present slight variations. Second column represents the output of Stepwise Backward Robust OLS estimate. Recall that we choose the log-linear functional form, and our dependent variable is the natural logarithm of per-capita amounts (*lnamounts_pc*). In order to control for heteroscedasticity, we applied White's correction.

About regression analysis, as expected, the number of total projects (*Projects*) is statistically significant, and this explanatory variable tends to have a positive influence on per capita amounts of the individual municipalities. The presence of museums in the considered municipalities is not relevant for the allocation of funds per capita. Nor it is relevant the presence of important cultural sites. Also the presence of schools, whether of primary or secondary education does not seem relevant, while the presence of senior high schools is relevant with a negative impact. It seems that because in these municipalities there is already some important public cultural institutions they do not need attention as for the allocation of POR' s funds for culture. A similar consideration may explain the *L&P*'s negative influence on the allocation of these funds. *Touristic attractors,* tend to have a negative impact on dependent variable, too. On the other hand one should notice that they are not significant in the LAD estimate. The variables *TV&R*, *A&C&A* and *A&P* too which may be relevant for tourism are not significant. On balance, one can argue that the presence of relevant touristic facilities and services does not exert an appreciable influence on the allocation of Calabria's POR' funds for culture, even if the development of tourism is among the official objectives of the program. The presence of an academic institution (*University*) increase the funds assigned. This result might evidence that where there is a University the capability of presenting projects

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apt to be approved tends to increase, likely because of the greater competence and intellectual prestige of their authors. On the other hand one must notice that in LAD estimate *University* is not significant and that in IRLS estimate the explanatory variable *University* doesn't have a statistical relevance. This result implies that the presence of an University in a given town it is not important in the policy of the Region as for the allocation of the POR' cultural funds. As previously seen there is a strong correlation between the presence of nonprofits and the allocation of funds to the municipalities. Those with nonprofit institutions have been favored on those without them. However, the variable *Nonprofit* shows a negative incidence on the per capita amount of the projects as for municipalities which received funds. One can explain this result arguing that the competition between the different nonprofit organizations for these public funds has reduced the success of them. A similar consideration may be done as for the criminal hubs. They have been preferred over the other municipalities but they are not significant as for the per capita allocation of the funds. The difference of this result with that relating to nonprofits may be explained considering that the considered criminal organizations are oligopolistic groups and not numerous, small imperfect competition enterprises as most of the Calabria's nonprofits.

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Table 3 – Regression Analysis, POR-Calabria (2000-2006).

Dependent Variable: (lnamounts_pc)	Stepwise Backward Robust OLS[a]	Robust GLM[a]	IRLS	LAD with bootstrapping
Constant	3.4999***	3.4999***	3.4994***	3.6130***
	(.1633)	(.1606)	(.1431)	(.2058)
Projects	.2931***	.2931***	.3744***	.3244***
	(.0678)	(.0666)	(.0575)	(.0774)
Nonprofit	-.0131***	-.0131***	-.0132***	-.0137***
	(.0029)	(.0029)	(.0025)	(.0774)
University	.5930**	.5930**		
	(.2712)	(.2666)		
Touristic Attractors	-.4752***	-.4752***	-.4399**	
	(.1804)	(.1773)	(.2002)	
L&P	-.3128*	-.3128*	-.3705**	-.3607**
	(.1676)	(.1647)	(.1690)	(.1907)
Senior high school	-1.0574***	-1.0574***	-1.0791***	-1.0711***
	(.1911)	(.1879)	(.1893)	(.1840)
Number of obs.	210	210	209	210
F test	43.70		45.19	
	(.0000)			
Log-Likelihood	-321.0666			
Pearson Dispersion		1.295		
R²	.5874		.5731	
R²_adj	.5834		.5604	
Pseudo R²				.3385
BIC	684.9101	-818.4658		
AIC	658.1332			
RMSE	1.1381		1.1462	
Ramsey OV test	2.03			
	(.1107)			
Mean VIF	2.52			
Tolerance Ratio	.3968			
Skewness-Kurtosis test	.98	0.98	9.46	3.30
	(.6129)	(.6129)	(.0088)	(.1920)
Shapiro-Francia test	(.6134)	(.6134)	(.0160)	(.0486)
Shapiro-Wilk test	(.5947)	(.5947)	(.0246)	(.0360)
IQR	1 mild outlier 0 severe outlier	1 mild outlier 0 severe outlier	3 mild outliers 0 severe outlier	9 mild outliers 0 severe outlier
Link test	f.v. significant (f.v.)² not significant	f.v. significant (f.v.)² not significant		f.v. significant (f.v.)² not significant

Notes: a: White correction for heteroskedasticity applied. Significance levels: * 10%, ** 5%, *** 1%. Robust Standard Errors in brackets.

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6. Impact of Calabria's POR projects for culture on cultural sites and on tourism

The POR funds for cultural investments finalized to development of tourism, as the statistical analysis has shown, have been mostly dispersed to purposes different from the valorization of the important cultural sites of the region, without any consideration of priorities. This POR might have even harmed the promotion of Calabria's cultural sites, because the unfinished projects are a high percentage. Moreover the Central government budget may have overlooked Calabria's cultural sites, assuming that of them would take care the special budget of POR.

In 2000, the year of initial funding of POR, museums in Calabria attracted 239,000 visitors of which 59% were of free admissions and the paid admissions amounted to 322,000 Euro, with an 1,5 euro for visitor. Archeological sites had 139,000 visitors. The flow of visitors to the archaeological sites in 2007 has been 87,600 from 139,000 of year 2000 with a loss of 37%. Reggio Calabria Archelogical Museum remained the most visited site with 55,700 visitors (from 87,200 in 2000) with a loss of 36% higher than that of visitors. The average paying visitor left 1.27 Euro in 2007. On the other hand the percentage of non-paying visitors increased from 59% to 61%[9]. The flow of visitors to the archaeological sites in 2007 has been 87,600 from 115,5 of year 2000 with a loss of 31%. The Archelogical Museum of Reggio Calabria remained the most visited site with 55,700 visitors (from 87,200 in 2000) with a loss of 36%.

On a positive note, the revenue in per unit sold of additional services and goods (bookshop, restaurant, guided tours, *etc.*) is higher than the national average. In fact there are gross receipts in the region of 240,400 Euro in 35,400 transactions. This is an average of 6.8 Euro, which is higher than the national average of 4.7 Euro. It is worth noting that from 20,000 visits only 1,800 Euro arose from the in-house cafeterias and 38,000 Euro from the restaurants. This means that visitors purchased items from the gift-shops that were of a higher price on average to make up for the final revenues. There is evidence, in fact, of highly quality books, and merchandising being sold in the shops. This shows that visitors have spending power and that, if stimulated, will buy gift-shop items. It should be emphasized that this positive sector is managed by the private firms.

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[9] The "free lunch" of cultural sites in Calabria is not copied in other regions of Italy, in which the majority of cultural sites require payment for admission. To put simply, their earnings are substantial. Lombardy, Emilia Romagna, Umbria, and Puglia all display this pay-dominate policy, and success in cultural heritage has followed suit.

In Italy in 2000 visitors of museums and monuments were approximately 30 million with a revenue of 77 million Euro. This resulted in an average of 2.5 Euro per visitor. In 2007, in Italy museums and monuments attracted 34,443,097 visitors and produced gross revenues of 106,033,174.64 Euro with an average of 3 Euro per visitor. There is an increase on the flows of 2000 of about 14% for the visitors and of more than 30% for the revenues. For the archeological sites and monuments at the national level in 2007 in comparison with 2000 there has been an huge increase of visitors of about 268% from 6,1 million euro in 2000 to 16,4 million. The amount of revenue increased of 21% to 34.2 million euro from 28.2 million in 2000.

The coexistence of these two divergent trends between Calabria and Italy shows that the POR for culture of Calabria missed the objective of attracting new visitors to Calabria's important cultural sites.

And actually also the objective of connecting Calabria's archeological sites in a unique system which appears among the objectives of the POR has not been realized.

On the other hand tourism in Calabria between year 2000 and 2007 has experienced a great increase of arrivals (nearly 45%) and presences (nearly 39%) , with a spectacular increase of those of the foreigners. Arrivals of the foreigners increased of 78,3% more than the double of those of the Italians who had an increase of 40%. The Italian trend too has been positive. However has been much less pronounced than that of Calabria both for the arrivals and the presences, both of the foreigners and of the Italians. Arrivals, in Italy as a whole had an increase of 20.4% ,less than half of Calabria's percentage. Presences increased by 11.1% .i.e. less than one third of Calabria's percentage. The arrivals of the foreigners, in Italy as a whole, in the considered period increased by 20%, about a quarter of Calabria's percentage. The arrivals of the Italians increase by 18.6%, slightly less than half Calabria's percentage. Considering that in the same period the visitors of the cultural sites of Calabria did diminish substantially one can argue that the great increase of the flow of tourists, and particularly of foreign tourists to Calabria was due to reasons different from the attractiveness of its cultural sites. And Calabria's POR 2000-2006 which had been conceived the enhancement of the cultural sites as an important factor for the development of tourism, has been irrelevant or negative from this point of view.

7. Concluding remarks and policy implications

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Most researches on the effectiveness of the European Regional Programs for the convergence of the less developed regions analyze the issue by connecting the execution of these programs to the economic performance of these regions. These researches, generally, conclude that the programs did not have satisfactory results, from the growth point of view, except in particular cases. These researches, however interesting, are mostly macroeconomics. They do not focus on the structure and performance of these plans and of the resulting projects. Here we consider the specific Regional Operational Program of Calabria 2000-2006, in the area of valorization of cultural goods for the development of tourism, showing that its complex targeted structure, with its apparent rigorousness, allowed a discretionary behavior of the politicians and of the bureaucracy in charge of its execution. The result was a proliferation of projects that did not pursue any priority and that in a large proportion remained uncompleted, so that only 63 of the available funds was spent for the program. One might ask why the bureaucracy and politicians accepted an outcome that seems to contrast with their interest to maximize their budgets, according to the well known "Niskanen's theorem". However, the sums unspent for this program – in accordance with a rule of the European Community – were utilized by Calabria's Government to finance expenditures out of their ordinary budget, "coherent with POR", thus increasing the funds available for their day-to-day administration.

The results of our research for Calabria's POR 2000-2006, coincides with the general results of the European Regional Programs 2000-2006 as applied in Italy. Indeed , as one can see in *Appendix*, only 55.5% of the 45.9 billion Euro allocated for this program was spent for its projects. The remaining 44.5% was destined to coherent projects. They represent a share of 34.7% of the value of the projects approved. The difference between the percentage of the value of the project approved and that of the funds unspent is explained by the fact that a share of the project approved remained unfinished so that part the money allocated to them was not disbursed. The analysis of the composition of the funds allocate to coherent project instead than to the European Regional Program for Sothern Italy shows that the highest percentage regards infrastructures and natural resources (mostly agriculture). The lowest percentage regards human resources and local systems. Clearly in these areas the pressure groups minimized the amount of funds unspent out of the European Development Programs.

Our empirical analysis for Calabria's case study, has shown that mostly reasons, connected with pressure groups, rather than cultural and touristic objectives explain the allocation of the funds. There is no significant statistic relation between the important cultural sites and the allocation of funds.

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Further the regression with the project approved have shown that the presence of at least one museum is not significant, as for the allocation of funds per capita to the municipalities. Also the presence of schools, whether of primary of primary or secondary education does not seem relevant, while the presence of high schools is relevant, with a negative impact. It seems that because in these municipalities there is already some important public cultural institution they do not need attention as for the allocation of POR' s funds for culture. A similar consideration may explain the *L&P*'s (libraries and publishers) negative influence on the allocation of these funds. The presence of an academic institution (*University*) increases the funds assigned. This result might evidence that were there is a University, the capability of presenting projects suited approval tends to increase, likely because of the greater competence and intellectual prestige of their authors. On the other hand, one can notice that in LAD estimates *University* is not significant and that in IRLS estimates the explanatory variable *University* doesn't have a statistical relevance. Touristic attractors tend to have a negative impact on dependent variable, too. Moreover, one should notice that they are not significant in LAD estimates. The variables *A&C&A* (hotels, camping, farmholidays), *TV&R* (television and radio stations), and *A&P* (aero terminals and ports), which are relevant for tourism, are not significant. On balance, one can argue that tourism does not exert an appreciable influence on the allocation of Calabria's POR funds for culture even if the development of tourism was among the official objectives of the program. Considering the flows of visitors and flows of euro paid by them to the cultural sites in 2000 when the program was not yet started and in 2007 after its completion and it emerged that these flows, as for the museum and other sites considered in the official statistics decreased by 11% as for the visitors and by 16% for the revenues. The opposite happened in Italy, with an increase of about 14% of the visitors and of nearly 30% for the revenues. For the major museums and monuments inclusive of the major archeological sites as for Calabria there was a dramatic decline, respectively of while for Italy as a whole threes was a small decline of 2,9% in the visitors and a big increase of 17.5 in the aggregate revenue from the visits.

On the other hand tourism in Calabria between year 2000 and 2007 has experienced a great increase of arrivals (nearly 45%) and presences (nearly 39%), with a spectacular increase of 78.3% of those of the foreigners. Calabria's tourism thus did grow a rate much greater than the average Italian rate in spite of the failure of the POR for culture of operating as a stimulus to its growth. And one may therefore argue that these taxpayers' s resources were wasted.

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8. Suggestions for future researches

Here we considered the European Policy for the development of the less developed regions via the Regional funds, focusing on Calabria as for the cultural sector with impact on tourism, which is potentially a very important axis for the development of Calabria and, more generally, for Southern Italy. What emerged was that the excess of targeted planning allowed a discretionary behavior of the bureaucracy and of the politicians who inefficiency and lack of effectiveness and fostered the rent seeking. Some additional research in this respect has been done in a parallel analysis by two of the present authors[10], more specifically, as for the rent seeking practices, in connection with non-profit pressure groups and criminal organizations of mafia type.

More generally there is a strong need for further detailed scientific research on the allocation and impact of European Structural Funds, also in relation to the new convergence and cohesion Program 2007-2013. It is paradoxical that on the one hand EU maintains that tax exemptions for the business the less developed regions of the community distort the market competition, while on the other hand, with the EU's taxpayer money, finances projects supposedly promoting convergence and cohesion in these regions provided that they derive from a regional plan following EU planning guidelines.

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[10] See: Forte, Mantovani, and Skepys (2010).

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Appendix

Table A – Tourist's flows in Calabria and in Italy (2000-2007).

Presences Italians/Foreigners	2000	2006	% Change 2006/2000	2007	% Change 2007/2000
ITALY	338,885,143	366,764,778	8%	376,641,751	11%
CALABRIA	6,282,074	8,155,053	30%	8,731,335	39%
Presences Foreigners	2000	2006	% Change 2006/2000	2007	% Change 2007/2000
ITALY	140,356,985	156,861,341	12%	163,465,680	16%
CALABRIA	882,837	1,479,247	68%	1,542,133	74%
Arrivals Italians/Foreigners	2000	2006	% Change 2006/2000	2007	% Change 2007/2000
ITALY	80,031,637	93,044,399	16%	96,150,083	20%
CALABRIA	1,083,078	1,476,026	36%	1,568,519	45%
Arrivals Italians	2000	2006	% Change 2006/2000	2007	% Change 2007/2000
ITALY	44,924,162	51,850,572	**15%**	53,276,961	19%
CALABRIA	946,977	1,244,549	**31%**	1,325,825	40%
Arrivals Foreigners	2000	2006	% Change 2006/2000	2007	% Change 2007/2000
ITALY	35,107,475	41,193,827	17%	42,873,122	22%
CALABRIA	136,101	231,477	70%	242,694	78%

Source: MIBAC (2009).

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Table B – Visitors for all museums, monuments, and archeological sites.

2000	Institutions			Visitors					
Province	Payment entrance	Free entrance	Total institutes	Visitors of payment istitution			Visitors of free institutions	Total Visitors	Gross Revenues (Euro)
				Paying visitors	Not paying visitors	Total visitors in payment institutions	Not paying visitors		
Catanzaro	0	1	1	0	0	0	23,580	23,580	0.00
Cosenza	1	5	6	9,595	15,347	24,942	31,215	56,157	18,733.96
Crotone	1	1	2	2,945	8,231	11,176	9,000	20,176	5,541.58
Reggio Calabria	4	4	8	76,762	119,252	196,014	63,160	259,174	281,947.25
Vibo Valentia	1	1	2	8,398	7,652	16,050	3,439	19,489	16,379.95
Calabria	7	12	19	97,700	150,482	248,182	130,394	378,576	322,602.74
Italy	216	164	380	15,488,306	8,236,881	23,725,187	6,450,639	30,175,826	77,017,081.85

2007	Institutions			Visitors					
Province	Payment entrance	Free entrance	Total institutes	Visitors of payment istitution			Visitors of free institutions	Total Visitors	Gross Revenues (Euro)
				Paying visitors	Not paying visitors	Total visitors in payment institutions	Not paying visitors		
Catanzaro	0	1	1	0	0	0	18,147	18,147	0.00
Cosenza	1	4	5	5,951	8,722	14,673	32,668	47,341	11,401.00
Crotone	1	0	1	2,686	5,936	8,622	0	8,622	5,192.00
Reggio Calabria	4	3	7	67,664	91,066	158,730	50,109	208,839	243,344.00
Vibo Valentia	1	1	2	5,861	8,172	14,033	2,844	16,877	10,759.00
Calabria	7	9	16	82,162	113,896	196,058	103,768	299,826	270,696.00
Italy	223	177	400	16,246,943	9,634,213	25,881,156	8,561,941	34,443,097	106,033,174.65

Source: MIBAC (2009).

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Table C – Visitors in archeological sites and monuments.

2000	Institutions			Visitors					Gross Revenues [a] (Euro)
	Payment entrance	Free entrance	Total institutes	Visitors of payment istitution			Visitors of free institutions	Total Visitors	
Province				Paying visitors	Not paying visitors	Total visitors in payment institutions			
Catanzaro	0	1	1	0	0	0	23,580	23,580	0.00
Cosenza	0	2	2	0	0	0	19,800	19,800	0.00
Crotone	0	1	1	0	0	0	9,000	9,000	0.00
Reggio Calabria	2	4	6	0	24,099	24,099	63,160	87,259	0.00
Calabria	2	8	10	0	24,099	24,099	115,540	139,639	0.00
Italy	76	118	194	6,966,989	3,778,561	10,745,550	6,110,562	16,856,112	28,245,726.30

2007	Institutions			Visitors					Gross Revenues [a] (Euro)
	Payment entrance	Free entrance	Total institutes	Visitors of payment istitution			Visitors of free institutions	Total Visitors	
Province				Paying visitors	Not paying visitors	Total visitors in payment institutions			
Catanzaro	0	1	1	0	0	0	23,580	23,580	0.00
Cosenza	0	1	1	0	0	0	19,800	19,800	0.00
Crotone	0	0	0	0	0	0	9,000	9,000	0.00
Reggio Calabria	2	3	5	0	5,625	5,625	63,160	87,259	No data
Calabria	2	5	7	0	5,625	5,625	115,540	139,639	No data
Italy	82	121	203	4,918,258	3,320,598	8,238,856	8,124,201	16,363,057	34,237,406.84

Source: MIBAC (2009).

Notes: *a:* includes the share of revenues of the concessionaries.

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Table D – Criminal Hubs.

Municipality	Populations	Cultural sites	Non-profit	Projects
Africo (RC)	3,465	0	18	0
Amantea (CS)	13,268	0	30	2
Bagnara Calabra (RC)	11,230	0	34	1
Bianco (RC)	4,047	0	16	0
Botricello (CZ)	4,586	0	7	0
Bova Marina (RC)	3,967	0	23	5
Bova (RC)	474	0	6	7
Bovalino (RC)	8,358	0	39	3
Bruzzano Zeffirio (RC)	1,401	0	3	0
Careri (RC)	2,443	0	4	0
Casignana (RC)	775	0	3	1
Cassano allo Ionio (CS)	17,565	2	37	5
Castrovillari (CS)	22,389	0	78	3
Catanzaro (CZ)	95,251	0	535	23
Cetraro (CS)	10,333	0	19	0
Cirò Marina (KR)	13,987	0	26	0
Cittanova (RC)	10,675	0	27	0
Condofuri (RC)	5,055	0	6	3
Corigliano Calabro (CS)	38,241	1	71	3
Cosenza (CS)	72,998	2	477	7
Crotone (KR)	60,010	2	384	7
Cutro (KR)	10,829	0	11	0
Filadelfia (VV)	6,283	0	15	0
Fuscaldo (CS)	8,323	0	25	2
Galatro (RC)	2,307	0	2	0
Gioia Tauro (RC)	17,762	0	55	1
Gioiosa Ionica (RC)	7,044	0	21	2
Guardavalle (CZ)	5,315	0	7	1
Lamezia Terme (CZ)	70,501	1	228	7
Laureana di Borrello (RC)	5,709	0	13	0
Limbadi (VV)	3,630	0	4	0
Locri (RC)	12,997	3	65	4
Mammola (RC)	3,389	0	8	2
Marina di Gioiosa Ionica (RC)	6,440	0	19	0
Melicucco (RC)	4,996	0	13	0
Melito di Porto Salvo (RC)	10,506	0	39	4
Mesoraca (KR)	7,125	0	20	1

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Mileto (VV)	7,157	1	33	1
Monasterace (RC)	3,426	1	16	1
Montebello Ionico (RC)	6,922	0	16	0
Oppido Mamertina (RC)	5,559	0	23	1
Palizzi (RC)	2,709	0	12	1
Palmi (RC)	19,435	1	45	5
Paola (CS)	17,195	0	51	2
Petilia Policastro (KR)	9,594	0	28	0
Petronà (CZ)	3,010	0	5	0
Platì (RC)	3,823	0	15	0
Polistena (RC)	11,591	0	30	3
Reggio di Calabria (RC)	180,353	3	656	17
Rizziconi (RC)	7,650	0	25	0
Rocca di Neto (KR)	5,614	0	13	0
Roccella Ionica (RC)	6,762	0	33	2
Roghudi (RC)	1,365	0	0	0
Rosarno (RC)	15,051	0	15	0
San Ferdinando (RC)	4,339	0	11	1
San Gregorio d'Ippona (VV)	2,338	0	4	1
San Lorenzo (RC)	3,357	0	8	1
San Luca (RC)	4,106	0	7	0
San Lucido (CS)	5,906	0	16	0
Seminara (RC)	3,352	0	12	1
Serra San Bruno (VV)	7,068	1	18	1
Siderno (RC)	1,6734	0	34	2
Sinopoli (RC)	2,329	0	3	0
Soriano Calabro (VV)	3,068	0	14	1
Staiti (RC)	395	0	3	0
Stignano (RC)	1,373	0	1	0
Stilo (RC)	2,816	1	7	1
Strongoli (KR)	6,107	0	9	2
Taurianova (RC)	15,799	0	30	0
Vibo Valentia (VV)	33,957	2	155	6
Villa San Giovanni (RC)	13,119	0	53	2
Zungri (VV)	2,182	0	5	0
Total	1,019,235	21	3,794	146

Source: Gratteri and Nicaso (2006).

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Table E – Cultural Sites Considered by Municipality and Province.

	Cultural Site	Municipality	Province
1	Archeological park of Scolacium	BORGIA	
2	Archeological Museum of Lamezia (Neolithic)	LAMEZIA TERME	CATANZARO
3	Norman Castle	SQUILLACE	
4	State Archeological Museum	AMENDOLARA	
5	Archeological Park of Sibari	CASSANO ALLO IONIO	
6	Sibarite' s National Archeological Museum	CASSANO ALLO IONIO	
7	National Gallery of Cosenza	COSENZA	
8	Norman Swew Castle	COSENZA	COSENZA
9	Antiquarium of Scalea – Torre Cimalonga	SCALEA	
10	Norman Castle	CORIGLIANO	
11	Maritime Aragon Castle	BELVEDERE	
12	Swew Castle	ROSETO	
13	Pathirion	ROSSANO	
14	Nao Tower	CROTONE	
15	National Archeological Museum	CROTONE	CROTONE
16	Le Castella	ISOLA DI CAPO RIZZUTO	
17	Norman Castle	SANTA SEVERINA	
18	Church of Saint Francis of Assisi	GERACE	
19	Church of Saint Giovannello	GERACE	
20	"Centocamere" Archeological area	LOCRI	
21	Greek Roman Theatre	LOCRI	
22	National Archeological Museum	LOCRI	
23	Archeological area	MONASTERACE	REGGIO DI CALABRIA
24	Leonida Repaci' s Cultural house	PALMI	
25	Aragon Castle	REGGIO DI CALABRIA	
26	Cilea's Municipal Theatre	REGGIO DI CALABRIA	
27	National Archeological Museum	REGGIO DI CALABRIA	
28	The Catholic	STILO	
29	Ruffo' Castle	SCILLA	
30	State Museum	MILETO	
31	National Archeological Museum "Vito Capialbi"	VIBO VALENTIA	
32	Norman Swew Castle	VIBO VALENTIA	VIBO VALENTIA
33	Murat' s Museum	PIZZO	
34	Murat Castle	PIZZO	
35	Cistercensis Convent	SERRA SAN BRUNO	

Source: Forte, Mantovani (2004).

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Table F – Italian European Regional Program 2000-2006 Coherent Projects.

Axis	Absolute Values (mln €)	% Financial Endowment	% Identified Projects
Natural Resources	4,173	54.5	38.9
Cultural Resources	794	31.5	26.6
Human Resources	1,542	18.6	15.8
Local Development Systems	4,092	27.7	22.4
Towns	1,433	70.2	44.6
Infrastructural Investments	8,377	85.7	64.0
Technical Assistance	23	2.6	2.5
Total	20,434	44.5	34.7

Sources: Svimez (2010).

Regression results: a comment

According to the diagnostic checks, the goodness-of-fit is acceptable (the coefficient of determination and the adjusted coefficient both are >56%), while the F-stat reveals as the set of independent variables (jointly considered) significantly differs from zero, since we strongly reject the null hypothesis.

Ramsey' RESET test controls whether non-linear combinations of the estimated values help explain the endogenous variable (Ramsey, 1969). The intuition behind the test is that, if non-linear combinations of the explanatory variables have any power in explaining the endogenous variable, then the model is mis-specified. Since we don't reject the null hypothesis that the model has no omitted variables, we might conclude that it is well-specified.

The mean Variance Inflation Factor is equal to 2.52. VIF gives a quick check for multicollinearity. 1/VIF tells us what proportion of an explanatory variable's variance is independent of all the other X variables. A low proportion indicates potential trouble. VIF values provide guidance but not direct measurements of the increase in coefficient variances. Nevertheless, Chatterjee and Hadi (2006) suggest a sort of "rule of thumb": if the mean VIF is considerably larger than 1, we could suspect for the presence of multicollinearity. With our mean VIF less than 3, and our largest VIF close to 5.5, our regression clearly doesn't meet both criteria. Moreover, the tolerance statistics is >0.2, so there is not a multicollinearity problem (Menard, 1995).

Moreover, the pairwise correlation coefficients matrix patently shows us that – either we use Bonferroni-adjusted significance level or Sidak-adjusted significance level – exists only a troublesome correlation between amounts and payments, but this collinearity doesn't distort very deeply our estimate (Abdi, 2007).

Yet, if our model really is specified correctly, then if we were to re-

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gress *lnamounts_pc* on the prediction and the prediction squared, the prediction squared would have no explanatory power. This is what *linktest* does (Tukey, 1949; Pregibon, 1979).We find that the prediction squared does have explanatory power, so our specification is not as good as we thought. Although *linktest* is formally a test of the specification of the dependent variable, it is often interpreted as a test that, conditional on the specification, the independent variables are specified incorrectly.

Finally, we analyze the normality of residuals. We conducted three different test to check the Gaussian distribution of residuals: Jarque and Bera test (1987), Shapiro and Wilk test (1965), Shapiro and Francia test (1972). Since all these tests fail to reject the null hypothesis of normality, we are able to conclude in favour of normality assumption.

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