

## GOVERNMENT GRANTS TO CULTURAL INSTITUTIONS\*

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*Abstract.* In Italy, three grant programs subsidize cultural institutions, the *Ordinary Annual Grant* (quantitatively the most important), the *Annual Grant* and the *Extraordinary Grant*. Since 1996 law 534/96 regulates their provision. It greatly innovates on the previous legislation, by redefining the prerequisites to become a recipient and specifying some performance indicators to which the size of the grant must be tied. This paper examines the effects of the introduction of these performance parameters, the government choice process and the redistribution profile of the grants using official data gathered for the purpose.

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## *1. Introduction*

The Italian government subsidizes cultural institutions – foundations, museums, theatres, libraries, cultural associations and the like - through three different grant programs. The first is the *Ordinary Annual Grant* (“Contributo Ordinario Annuale” – henceforth, OAG), accredited to institutions included in a special list, called OAG list. This list is revised every three years; hence, once an institution is in it, the grant is safe, for an amount that cannot be changed, for three years, until the next revision. The second program is the *Annual Grant* (“Contributo Annuale” – henceforth AG), accredited on a yearly basis to institutions excluded from the current OAG list. The third program is the *Extraordinary Grant* (“Contributo Straordinario” – henceforth EG) assigned to institutions in the OAG list for the pursuit of “... single endeavors of outstanding artistic or cultural interest or [...] extraordinary research programs”. The first program is quantitatively the most relevant: in 1999 the sum of the OAGs assigned was 18,2 billion of old liras (some 9400 million euros), whereas the AGs and the EGs reached only 5,6 and 1,4 billion, respectively (equivalent to 2,9 and to 0,72 million of euros).

The programs were all established in 1980 through law 123/80, which regulated also the procedures to be followed in the distribution of the grants. This law was hardly selective; it did not specify what a cultural institution is and left a significant amount of discretion to the bureaucracy responsible for the provision, the Ministry of Cultural Goods and Activities (henceforth, the Ministry). All three grants were actually lump sum. To mend this unsatisfactory situation in 1996 the Parliament abolished law 123/80 and replaced it with law 534/96. Neither this law provides a definition of a cultural institution, but it does specify the requisites and the type of activities which an institution must pursue in order to be eligible for the OAG, the AG and the EG. Furthermore, law 534/96 sets some performance parameters to which the size of the subsidy must be tied, thereby marking an evolution toward a (kind of) matching grant.

This paper analyses the reform of government support to cultural institutions in Italy brought about by law 534/96. In particular, our analysis tries to answer a series of questions. First and foremost, we aim to assess the impact (if any) of the introduction of the performance parameters of law 534/96. This evaluation is based on the data included in the OAG lists published by the Ministry from 1980 to 2000 on the *Gazzetta Ufficiale*; essentially, the name of the cultural institution and the amount of the allotted grant. The data thus cover 5 assignments regulated by law 123/80 and the first 2 regulated by the new law 534/96. We will look for structural breaks in the series coincident with the introduction of the law<sup>ii</sup>. Second, we investigate which policy the Ministry has pursued in distributing the OAG and what criteria it has applied in revising the OAG list every

three years. Third, we look at the interactions between the OAG and the other two grant programs, the AG and the EG, to see if the government employs them as substitutes or complements to the money distributed through the OAG. In particular we have information about 5 distributions of the AG and the EG from 1997 to 2001 to some 270 cultural institutions<sup>iii</sup>. Finally, we examine the redistributive properties of these grants, namely, whether they are regressive or progressive with respect to income and how they are distributed across the various regions— always a sensitive issue, in a country characterized by unequal level of development, also in the cultural sector, such as Italy.

As this is the first empirical analysis of these programs, we choose a strategy of inquiry that may be defined “bottom-up”. We make the stylized facts and the testable hypotheses emerge from the data through the application of a series of descriptive statistics. We then use the regression analysis to verify the hypotheses and provide them with confidence intervals. The basic goal of this inquiry is to provide information about the distribution of these grants, rather than testing a specific theory.

The rest of the paper is organized as follows. Section 2 confronts the criteria established by law 123/80, on the one hand, and law 534/96, on the other, for the provision of the OAG, the AG and the EG in their institutional detail. Section 3 describes the main characteristics of the data set, and points out some stylized facts in the history of the OAG program. In section 4 we evaluate the information related to the OAG through a battery of tests and panel regressions. These allow us to point out the effects of the new law, the main determinants of the distribution of the grant and the redistributive profile of the law. In section 5 we confront the provision of the OAG with those of the AG and EG, to check whether they are complement or substitutes programs and how they are distributed geographically. Section 6 reassumes the main findings of the analysis.

## *2. The statutory criteria for the provision of the grants*

2.1. The OAG under law 123/80. Law n. 123 of 1980 (approved on April 2<sup>nd</sup> of that year) states that the OAG may be supplied to institutions that “...provide services of relevant cultural value ... promote or pursue scientific research”, have a program of future activities spanning for at least three years and “own the structures needed to carry out those activities”. These requisites are rather vague and leave ample discretion to the authority in charge of selecting which institutions are to receive the grant. The decision making process that leads to the assignment of the OAG consists in the compilation of the OAG list by the Ministry and in its promulgation with the agreement of the competent committees of the Chamber of the Deputies and of the Senate. This

agreement is rather *pro forma* and has always been granted; thus the Ministry has the monopoly of the decision.

Successive controls are possible, but are quite generic. The institutions included in the list must file a report of their activities and present a budget on a yearly basis, but there is no effective Ministerial scrutiny on these documents. The law simply states that the Ministry “oversees” these institutions and whether they use the money granted according to the institution’s aim; but the grant can be suspended only if the institution proves “inactive”. Albeit seemingly drastic, this measure is in fact hard to implement because a) the requisites of the documents that the institutions must provide are vague (any type of report or any type of budget is apparently acceptable) and b) it is not specified who, whether the Ministry or the institution, must prove the institutions’ inactivity and how. The law neither sets any minimum requirement for an institution to be considered “cultural”, nor refers to the legal status of the institution; any association of private individuals is in principle eligible for the OAG. Hence the suspension of the grant is a measure devoid of deterrence power.

2.2. The OAG under law 534/96. The law 534/96, approved on October 17<sup>th</sup>, 1996, has introduced five main innovations in the provision of the OAG.

First, the law has introduced new requisites that the cultural institutions must possess in order to be included in the list. There is a new “subjective requisite”, namely, the cultural institutions must be established through a legal act and be non-profit. Moreover, the “objective requisites”, implicitly defined in law 123/80 have been made more stringent. On the one hand, the law defines what type of activities the institutions must perform in order to be defined a cultural one. It must promote and carry out documented and accessible activities of scientific research and cultural elaboration; supply services of renowned and significant cultural value related to its research activity and documental patrimony; classify, catalogue these resources and make them accessible to the public by means of information technologies; organize conferences and exhibitions; carry out editorial activities. On the other hand, the law also sets requisites concerning the cultural patrimony of the institution and its use: “the cultural institution must possess a patrimony consisting in (alternatively) books, archives, museums, movies, media resources ... that must be publicly accessible in a continuous form”.

Second, the provision of the OAG becomes conditional on other financial resources that the institution must raise privately, such as revenues from the sale of goods and services, donations and the like. This is a quite important requisite from the point of view of theory, as it marks the move to the matching status; yet its practical relevance is limited, as the law does not set a minimum benchmark, either in absolute or

in percentage terms, that the cultural institutions must raise in order to meet this requisite; in principle, even a single euro might do.

Third, the law innovates on the criteria that set the amount of the grant. This must be correlated to a) the value of the historical documental heritage and the growth thereof; b) the value and the growth of the archives and libraries; c) the completion of research and educational activities of public interest. The reference to the growth of the endowment is significant, as is intended to encourage the institution to make use and invest its resources in order to increase its cultural capital, instead of just financing current expenditures. The problem with some of these requisites is that they are difficult to evaluate and are subject to the discretion of whoever assesses them, such as the “continuity” of the activities of the institution, the “accessibility” of the cultural capital, the “relevant cultural value” of the services supplied by the institution or the “public interest” that the research activities “must” elicit. This said, the law 534/96 makes it clear that the provision and size of the grant is conditional on the satisfaction by the institution of certain performance indicators, a requisite absent under the previous legislation.

Four, the law imposes new forms of control on the effective use of grant. The recipients must publish a budget according to the guidelines of the Ministry, transmit a report to the Ministry on the activities already carried out and a program of the future ones. The failure to transmit such documentation may cause the exclusion of the institution from the OAG list. Moreover, the Ministry may ask any type of document from the recipient institution, else the grant may be retired. The suspension of the grant may be also due to lack of activity of the institution, where the burden of the proof now lies on the institution itself.

Finally, the decision making process has been slightly, though not substantially modified. The OAG list is still composed by the Ministry but the Special Committee for Cultural Institutions (an internal body to the Ministry, established by the law 123/80) must revise it before the final approbation by the competent committees of the Chamber of Deputies and of the Senate.

2.3. The EG. Both the laws 123/80 and 534/96 foresee that the cultural institutions included in the OAG list may apply for an extraordinary grant to pursue single activities of relevant cultural and artistic value or specific research programs. The application procedure and the requirements to be met are fairly easy, since the inclusion in the OAG list is enough of a guarantee for the Ministry of the merits of the applying institution. Hence, in the application the institution must just describe the project and motivate the budget request. The Ministry is empowered to supply the grant having

heard the Special Committee for Cultural Institute. Once it has received the grant, the institution is not even supposed to present a report on how it has spent it.

2.4. The AG. The AG is conceived for the cultural institutions that are not recipient of the OAG and is distributed on an annual basis. Both laws of 1980 and 1996 require less demanding criteria to be eligible for the AG than for the OAG – there is an air of a “second rate” grant in the wording of the laws about it. In terms of subjective requirements, neither the cultural institution needs to be established as a society, nor must it be non profit. In terms of objective requirements, however, the 1996 law does impose some more stringent criteria with respect to the previous discipline. According to the 123/80 the institution had only to be active since three years, submit a program of cultural activities for three more years and own the means needed to fulfill the program in order to be eligible for the AG. On top of these requisites the law 534/96 also demands that the cultural activities be “relevant”, else that a scientific program be “carried out” and not simply “promoted”. Beside the extension of the AG to scientific endeavors, the other differences between the two laws are just matter of words. Neither law mentions *ex-post* controls by the Ministry on the institutions, but the new law requires the institutions to report on the issue.

### *3. Stylized facts in the history of the OAG*

The data about the three grants have never been collected together before, nor have they ever been used for scientific inquiry. Thus, especially those about the OAG, for which information is complete, a first round of descriptive statistics enables to single out some stylized facts of the history of the grant since its first distribution in 1980. Data about the AG and EG, instead, are more recent and sparse, and it is much harder to extract a tendency with these types of indicators. We thus defer the analysis of the AG and EG to section 5.

The total budget allotted to the OAG program increased significantly during the time period under consideration, from 5 billions in 1980 to 20 billions in the year 2000, topping at 22 billions in 1993 (table 1 and figure 1). However, once we consider the dynamics at constant 1990 prices, the growth of the OAG budget is far less dramatic. The total budget did increase by 35% between 1980 and 1984, going from 13.1 to 17.7 billions of 1990 liras, but remained flat at this level for the three following assignments. Between 1997 and 2000 the budget decreased to values just above those of 1980.

The number of cultural institutions recipient of the OAG increased between 1980 and 1990, almost doubling between the first and the second distribution, an evident information lag. This trend reversed since 1997, when a significant drop occurred, only partially reabsorbed in the year 2000 (table 1 and figure 2). As in 1997

the new law received its first application, this go-down-and-then-up swing may also reflect the adjustment by the cultural institutions to the new legal framework.

Table 1 reports some further information about the distribution of the OAG. The minimum size of the grant has increased, while the modal grant remained stable in real terms till 1993, decreased in 1997 and stayed there in the year 2000. The maximum size grant has always been on the decrease. In current values, the average grant has always risen, particularly in 1993, because of the joint increase of the budget and the slight decrease of the number of recipient institutions. The real value of the average grant, instead, decreased from 1980 to 1990, slightly rose in the two following distributions and remained basically constant until the year 2000. The standard deviation was very high in 1980 and 1984, because of an outlier grant of 1800 and 2400 million liras to the *Accademia dei Lincei*, a long established scientific institutions (it dates back to the XVII<sup>th</sup> century). As this provision was not repeated in the following distributions, these became more homogenous; the standard deviation slowly increased from 1987 to 1997, to decrease again in the year 2000. The (statistical) distribution of the OAG across cultural institutions shows a significant degree of skewness and kurtosis but tended to a standard normal till 1997, as shown by the Jarque Brera index. This process reversed for the assignment of the year 2000.

**TABLE 1**

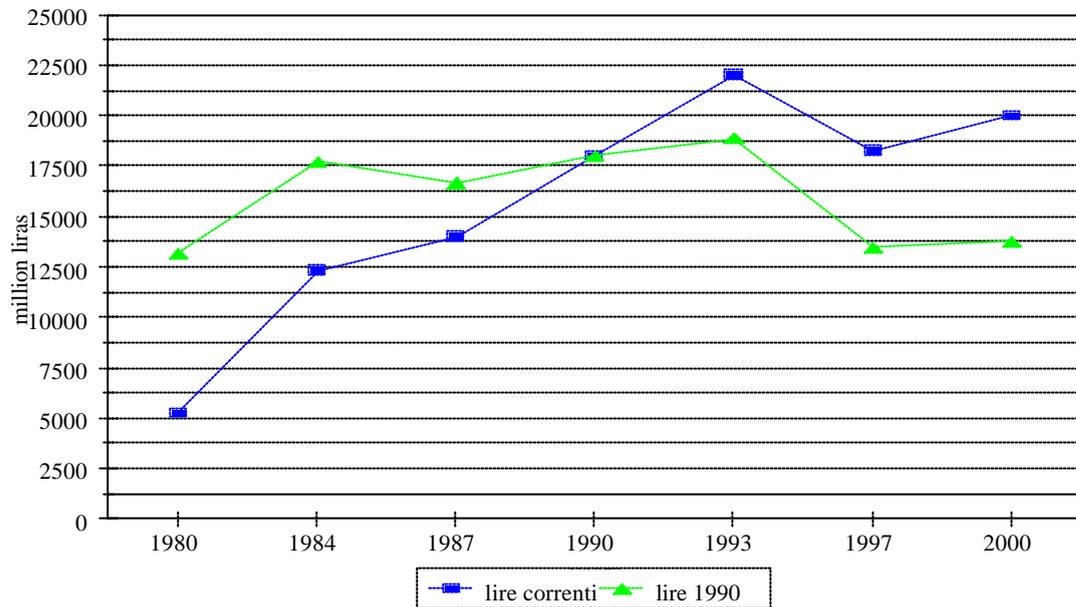
**DESCRIPTIVE STATISTICS**  
Current prices (millions of liras)

Variable	1980	1984	1987	1990	1993	1997	2000
N. of institutions	84	148	177	202	190	128	159
<u>Total budget</u>	5241	12300	14000	18000	22000	18240	20000
Maximum size grant	1800	2500	720	720	940	860	860
Minimum size grant	10	20	20	30	40	50	50
Mean size grant	62.4	83.1	79.1	89.1	115.8	142.5	125.8
Modal size grant	10	40	50	60	75	50	50
Standard deviation	197.3	209.5	83.4	88.8	111.7	132.7	123.9
Skewness	8.3	10.6	4.1	3.5	3.6	2.4	2.7
Kurtosis	73.4	121.5	26.7	20	20.9	10.2	12.2
Jarque-Bera	18315	89368	4645	2844	2940	407	765

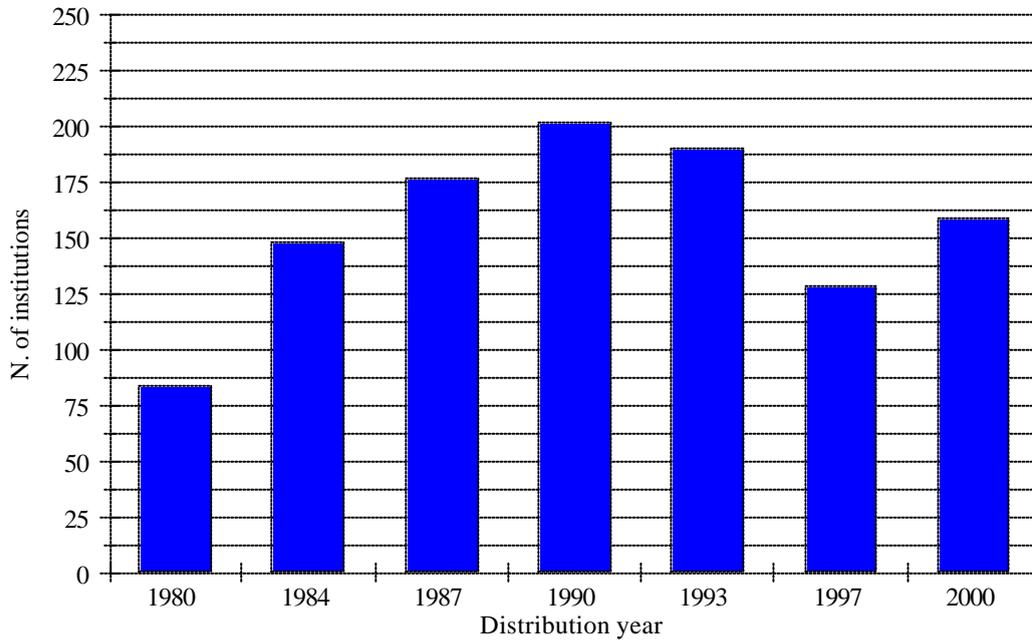
1990 prices (millions of liras)

<u>Total budget</u>	13168.3	17697.8	16666.7	18000	18867.9	13461.2	13534
Maximum size grant	4522.6	3597.1	857.1	720	806.2	634.7	574
Minimum size grant	25.1	28.8	23.8	30	34.3	36.9	34
Mean size grant	156.1	119.6	94.2	89.1	99.3	105.2	85.6
Modal size grant	25.1	57.5	59.5	60	64.3	36.9	34
Standard deviation	495.7	301.4	99.3	88.8	95.8	97.9	83.7
Skewness							

**Figure 1**  
**Total budget**



**Figure 2**  
**Institutions recipient of OAG**



This statistical evidence thus suggests that the assignment of OAG in 1997 was of a quite peculiar character, especially with respect to the three previous assignments. For what it concerns the total budget, the number of recipients and the modal size grant,

the trend was reversed, while for the average and minimum size grant, skewness and kurtosis the trend accelerated. The distribution of the year 2000, however, only partially confirms the structural break of the series occurred in 1997. On the one hand, in 2000 the total budget slightly rose in real terms from the 1997 levels, though is still 25% less than the average of the 1984-1993 interval; moreover, the average size grant kept decreasing and is the lowest of the entire sample period. On the other hand, the number of recipients turned again upwards by 25%, and the (statistical) distribution of the OAG, which had approached a standard normal until 1997, moved away from it in 2000, as the skewness, kurtosis and Jarque Brera indices show.

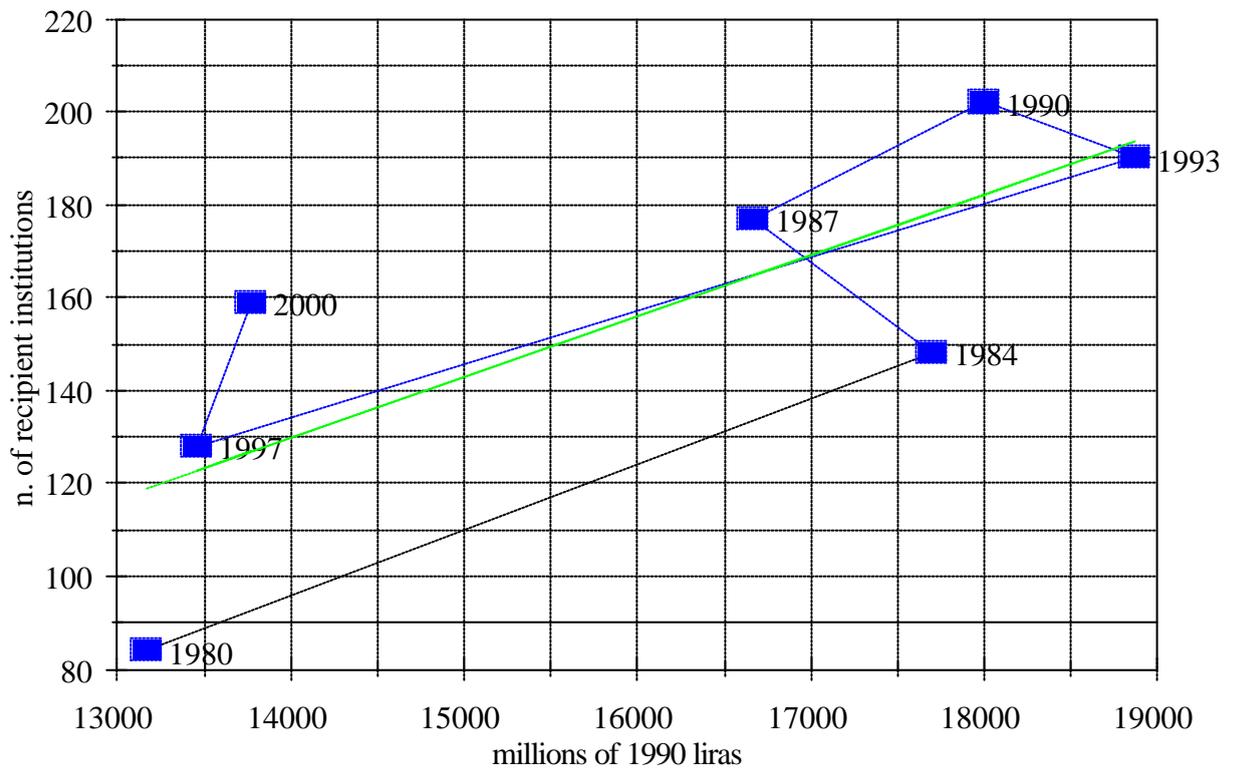
#### *4. Empirical explanations*

Before drawing any sort of firm interpretation of these facts, the statistical significance of these apparent trend continuities and reversals must be evaluated. Most of all, we must assess whether the downs and up that characterize the last OAG distributions can be interpreted as an income or as a substitution effect. In the first case, the changes are essentially driven by variations in the size of the budget constraint – the 1997 budget was an extremely tight one, to satisfy the Maastricht criteria in time to join the EMU, while the 2000 budget was a pre-election one – and little role should be attributed to the new discipline introduced by the law 534/96. In the second case, instead, the provisions of the new law motivate the changes in the size of the allotted grants, regardless of the binding force of the budget constraint. To sort this conundrum we must evaluate the impact of the law holding the budget size constant.

4.1. Aggregate analysis. A first look to the correlation between the total OAG budget and the number of the institutions recipient for the whole time period seems to indicate that we are in front of an income effect. As Figure 3 illustrates, this correlation is positive, which suggests that the Ministry increased or decreased the number of institutions beneficiaries according to the size of the budget available. The opposite explanation, namely, that the number of institutions “caused” the OAG budget size is not convincing, because the OAG is not an entitlement. The OAG list is in fact compiled after the OAG budget is set. Looking at the size of the individual grants, two rationales seem to emerge behind the Ministry choices. The first rationale is to endow the “best” institutions – those that tend to make the list every time - with a *constant average* grant, in real terms. The second rationale is to give *some* support to those institutions which had not received the OAG in the previous assignment. Those institutions that are newcomer to the list or were excluded (for whatever reason) from it in the previous distribution have been generally assigned the minimum size grant. The first rationale makes premium on the second in the distributions above the regression

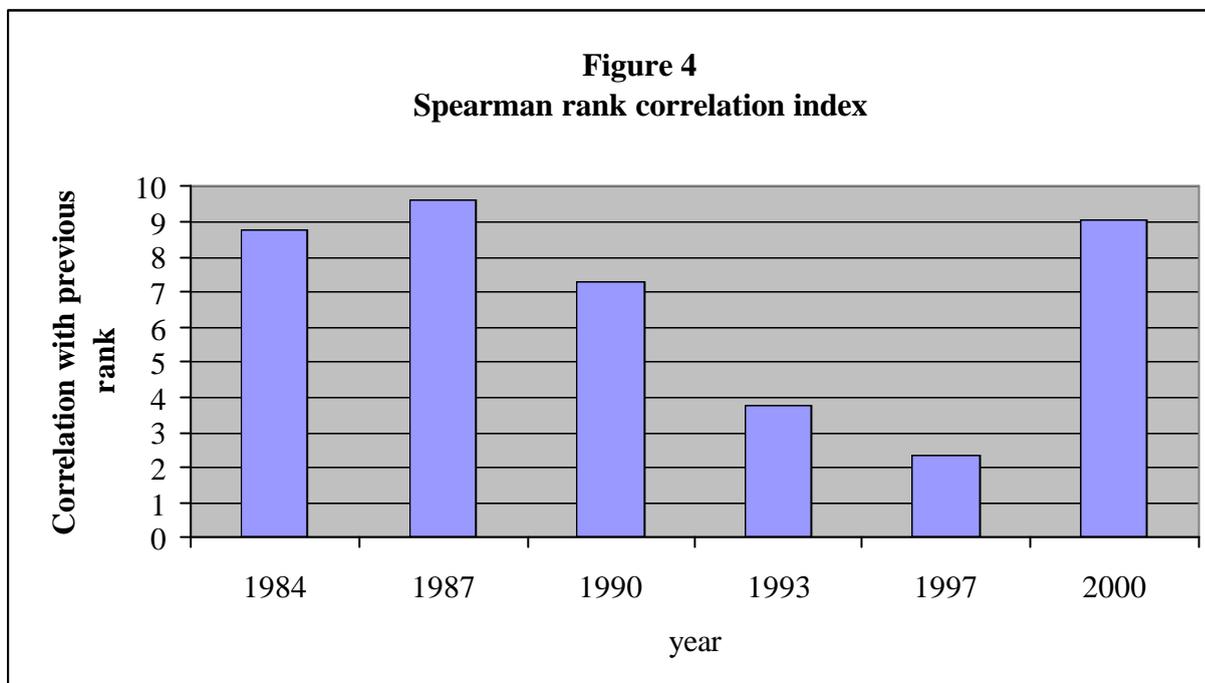
line (years 1987, 1990, 1997 and 2000), while the second prevails in the distributions below the line - 1980, 1984 and 1993. All and all, if we are in front of an income effect, it seems logical to conclude that the changes occurred in 1997 were the result of the lower size of the budget, rather than of the new law; similarly, the generosity of the other years was made possible by the larger financial means available

**Figure 3**  
**Total budget and number of recipients**



Yet, it would be hasty to conclude for an income effect. Figure 4 reports the Spearman rank correlation coefficient, corrected for the numerous ties present in our sample, for the entire 1980-2000 time interval. A value of 0 implies that no institution present in the rankings of the distribution of year  $t$ , whatever the position, is also present in the distribution of year  $t-1$ . A value of 1 instead means that the rankings of the distributions of the years  $t$  and  $t-1$  are identical. The diagram shows that the distribution of 1997 is the least similar, whilst the one of 2000 is the most similar to the previous one. Hence, the application of law 534/96 in 1997 coincides with the greatest changes in which institutions received how much with respect to the previous distribution.

Furthermore, these changes proved resilient in the distribution of the year 2000. To emphasize the point, the introduction of the new law produced changes within the set of the institutions recipient of the OAG which go beyond the income effect.



The disaggregated data show that, in 1997, 115 of the total 128 institutions that received the OAG were also in the list of 1993; yet they received a grant of very different size with respect to 1993 and, most of all, turned out in quite different positions in the rankings. In 1997 only 20% of the institutions received the same grant as 1993, while 37,4% of them obtained a lower grant and 42,6% a larger grant. In the majority of cases these variations are by a factor of more than 40%, while before 1997 the convention was to increase the grant to all institutions by a factor of 20%-40%, in order to keep it constant in real terms. On the contrary, in the distribution of the year 2000, 122 institutions out of the total of 147 were recipient also in 1997 and received exactly the same grant. The remaining 25 institutions were in the list of 1993 but not in that of 1997 and have been generally reintroduced at the minimum size grant. In the absence of any comment or document from the Ministry about the criteria followed in these distributions of the OAG, we can conclude that the law 534/96 did unsettle a previously static situation, and that new equilibria have been promptly attained.

4.2. Regression analysis. Three questions about the distribution of the OAG still await an answer. First, we must explore the determinants of the size of the grants

allotted to the cultural institutions in the 7 distributions that took place between 1980 and 2000. Second, we must check to what extent the changes that took place in 1997 are due to the law or to the size of the budget. Third, we must characterize the distributive profile of the OAG. To these ends, we estimate the following model:

$$\mathbf{X}_{it} = \mathbf{a}_0 + \mathbf{a}_1 \mathbf{DEM}_{it} + \mathbf{a}_2 \mathbf{SUP}_{it} + \mathbf{a}_3 \mathbf{BUD}_{it} + \mathbf{a}_4 \mathbf{LAW}_{it} + \mathbf{e}_{it} \quad (1)$$

$\mathbf{X}$  is a matrix of dependent variables, where  $i$  denotes the cultural institution and  $t$  the year of the distribution of the OAG. The data include 7 distributions to 255 institutions, thereby 1785 observations per variable, a guarantee of efficient estimates. In the analysis of the determinants of the amount of the grants,  $\mathbf{X}$  takes on the value of the grants allotted to each institution in constant 1990 liras (labelled  $CON_{it}$ ) and we estimate equation (1) in the levels – a static model. When, instead, we look for changes triggered by the policy decisions of the Ministry,  $\mathbf{X}$  takes on the first differences in the grants allotted to each institution. Equation (1) then becomes a disequilibrium model.

The choice of the independent variables follows the suggestions of two strands of literature: the one on government subsidies to cultural institutions (Landes, 2001; Thorsby, 1994; Withers, 1979) and that on the political push/demand pull of government policies (Congleton and Shughart, 1991). The idea underlying the specification of Equation (1) is that the Ministry may distribute grants reacting to two sets of forces. On the one hand, the Ministry may consider the demand for the services provided by the subsidized institution (demand pull). Else, the Ministry may be sensitive to rent seeking activities by the cultural institutions themselves (supply push). In Equation (1) the independent variables are grouped in two sets of regressors: **DEM** is a vector of indicators of the demand for cultural services, while **SUP** is a vector of signs of lobbying activities. Arguments of **DEM** are the (real) income level of the province where the cultural institution is located ( $Y_{it}$ ), the per capita income ( $YPC_{it}$ ), the size of the population ( $POP_{it}$ ) and the population density ( $DEN_{it}$ ). Cultural services are typically luxury goods, with an income elasticity of demand greater than 1 (Thorsby, 1994). Although Equation (1) is not a demand equation, we nevertheless expect a positive coefficient on the income variables. Furthermore, to the extent that cultural services generate positive externalities, we should expect them to be subsidized more where there is a larger population, or where it is more dense. Hence a positive sign on the population variables. Another variable of the **DEM** class is  $CITY_{it}$ , a dummy that takes the value of 1 if the cultural institution is located in a major Italian city (precisely, Torino, Milano, Venice, Genoa, Bologna, Florence, Rome, Naples and Palermo) and 0 otherwise. While  $CITY_{it}$  is a qualitative version of a population scale variable, it may also serve as an indicator of the Ministry's willingness to counterbalance the naturally

richer cultural *humus* of the cities by giving more subsidies to cultural institutions located in small centres – a choice that should be indicated by a negative coefficient.

The **SUP** vector consists of variables that meter the history of the relationship between each cultural institution and the Ministry for what it concerns the distribution of the OAG. In the absence of data that provide evidence of lobbying activity as an excessive return on productive factors (Grampp, 1989), we ground the specification of our variable on Olson's (1982) theory that interest groups' capture of regulatory agencies is some function of time. The main disadvantage of this type of indicators with respect to the approach suggested by Grampp is that they do not discriminate between wasteful rent seeking and efficient learning by doing, which is also some positive function of time. A combination of variables is therefore needed to disentangle the two effects. We employ  $CONSEC_{it}$ , a counter of the number of consecutive distributions of OAG in which the institution  $i$  has received a positive subsidy; the lagged value of the contribution,

$CONT_{it-1}$ , which should outperform  $CONSEC_{it}$  if the relationship between the cultural institution and the Ministry does not need several reiterations to provide economic returns. We also use two dummies,  $FIRENZE_{it}$  and  $ROMA_{it}$  that equal 1 if the cultural institution is located in that city and 0 otherwise. These variables account for the fact that more than 1/3 of the cultural institutions that have been in the OAG list at least once are either in Rome or in Florence. This may generate local informational advantages, especially in the application for the grants, which may be particularly relevant in Rome, where also the Ministry operates. The idea behind these dummies is that special relationships develop not only with time, but with geographical proximity.

The variable  $LAW_{it}$  captures the effects of the legal framework in shaping the distribution of the OAG. Again it is a dichotomous variable that equals 0 for the OAG distributions regulated by law 123/80 and 1 for the distributions regulated by law 534/96. This variable performs most of the task of providing statistical significance to the evidence found so far on the effects of the new law. Finally, the variable  $BUD_{it}$  controls for the scale of the budget available for the OAG grant in each distribution. Combined with  $LAW_{it}$ , it discriminates income effects, due to the size of the budget, from the substitution effects, due to the change of the law and to the process of adaptation that it has required, in the provision of the OAG.

The model has been estimated via pooled feasible GLS techniques that weights each cross section making use of White heteroskedasticity-consistent standard errors and covariance matrix. Table II reports the results for the amount of the grants in the levels. Of the various specifications used, corresponding to different combinations of

arguments of the **DEM** and **SUP** vectors, we have chosen the ones that carry the highest explanatory value<sup>iv</sup>.

The estimates are quite precise and in line with theory. Among the demand indicators, several population and income variables performed well, so we have chosen per capita income in deference to Occam's razor. The positive sign on  $YPC_{it}$  suggests that more is spent in relatively richer provinces, thereby making the OAG a (slightly) regressive subsidy, like most government's forms of support to the arts. This tendency is confirmed by the positive coefficient on  $CITY_{it}$ , which shows that the Ministry is not using the OAG to promote cultural activities where these are relatively scarcer. Among the political push variables, local informational advantages (even holding  $CITY_{it}$ , constant) seem more important than the time length of the relationship between the cultural institution and the Ministry; the  $CONSEC_{it}$ , counter never came out statistically significant, while the  $ROMA_{it}$ , and  $FIRENZE_{it}$ , dummies are so. The relative size of the two coefficients is evidence of a higher grant-per-institution ratio in Florence than in Rome.

**TABLE II**  
**DETERMINANTS OF THE OAG SIZE**

Dependent variable: $CON_{it}$		
Regressor	Coefficient	$p$ -value
$C$	-21.91	0.02
$YPC_{it}$	0.002	0.00
$CITY_{it}$	23.96	0.00
$ROMA_{it}$	13.54	0.07
$FIRENZE_{it}$	74.05	0.00
$LAW_{it}$	-30.72	0.00
$BUD_{it}$	0.002	0.01
Adjusted R-squared	0.46	
S.E. of regression	133.93	
Log likelihood	-5789	
Durbin-Watson stat	2.03	
F-statistic	30.99	0.00

The estimate of the static version of Equation (1) confirms that the new law has upset previously established equilibria. Holding budget size constant, institutions that received large OAG provisions under the slack provisions of law 123/80 receive smaller outlays, if any, under law 534/96, and vice versa. The negative and highly significant coefficient on  $LAW_{it}$  is clear evidence of a “substitution effect”. The positive sign on the  $BUD_{it}$  coefficient denotes a moderate income effect, mainly used in favour of “new coming” institutions in the OAG list, as already suggested by Spearman rank correlation index. Finally, the model explains almost 50% of the variation of the dependent variables and is overall quite precise, as shown by the value of the  $F$  statistics.

It remains to establish whether the new law is itself “endogenous” to a tighter budget policy, connected to Italy’s effort to join the EMU. In other words, it may be the case that the law, with its more stringent criteria, has been introduced in order to reduce the budget outlays in the subsidization of cultural institutions. In this case the coefficient on the  $LAW_{it}$  variable could be interpreted as a sort of indirect income effect. This point requires a separate analysis, but some evidence can be provided also in the context of our model. If the law has been introduced to reinforce the OAG budget constraint, we should find evidence that this constraint was slacking before the promulgation of the law. To verify this, we have estimated Equation (1) for longer time intervals (e.g.: 2 distributions, 1980 and 1983; 3 distributions, 1980, ’83 and ’87, and so on), to check whether the binding force of the budget constraint, measured by the estimated coefficient on  $BUD_{it}$ , remained constant through time. An erosion of this binding constraint may open the need to control the outlays through a legal innovation. If, instead, the budget constraint holds steadily, one can infer that the new law has been introduced with different goals, such as to guarantee a better quality of cultural services and the like. Table III reports the estimated coefficients and  $p$ -values on  $BUD_{it}$ , in the different samples. After the first two samples needed for the convergence towards efficient estimates, the value of the estimated coefficient appears stable between 0.23 and 0.31. This lends empirical support to our original interpretation of the negative sign on the coefficient on  $LAW_{it}$  as a substitution effect and disposes of the “endogeneity” hypothesis. It thus does seem that law 534/96 was introduced to reform the market of the services provided by the cultural institutions, rather than to improve the budget. After all, the OAG budget is not a large one.

**TABLE III**  
**BINDING FORCE OF THE BUDGET CONSTRAINT**

Sample period	1980-83	1980-87	1980-90	1980-93	1980-97	1980-2000
Coefficient on $BUD_{it}$	0.06	0.003	0.003	0.003	0.002	0.002
$p$ -value	0.15	0.08	0.02	0.001	0.02	0.007

Some further evidence on the effects of the introduction of law 534/96 can be gathered by estimating Equation (1) on the changes of OAG assignments from one distribution to the other. Setting  $\mathbf{X}$  equal to the first differences of  $CON_{it}$  and regressing it on its lagged value and the other independent variables specified in equation (1) makes such model a disequilibrium analysis. Moreover, in order to check whether the effects of the introduction of the new law remain constant through time we have estimated the disequilibrium model on two sample periods: the first comprises the OAG distributions from 1980 to 1997 and captures the immediate effects of the reform. The second is the full sample from 1980 to 2000, which encompasses possible adjustments to the new law. Table IV reports the results.

Several results are interesting. Among the demand pull variables,  $CITY_{it}$  is negative and statistically significant in the full sample. There is thus some evidence that the Ministry has recently started to use the OAG to balance the lower cultural activity of the small centres. The per capita income, instead, is never statistically significant (only at the 8% level in the full sample), a sign that the OAG is becoming income neutral, at least at our level of geographical aggregation.

The variables belonging to the **SUP** that carry the highest explanatory power are the level of the previous contribution  $CONT_{it-1}$  and the dummy  $ROMA_{it}$ . Both estimates are quite precise. The positive coefficient on  $CONT_{it-1}$  suggests that the level of the previous assignment is a good predictor of how much the institution is going to receive in the current distribution. This may be interpreted both as a learning-by-doing phenomenon and as a lobbying effect, with quite opposite evaluations in terms of efficiency properties of the distribution process of the OAG. The positive coefficient on  $ROMA_{it}$ , however, shows that the grant tends to subsidize more and more the cultural institutions of the Capital<sup>V</sup>, thus lending plausibility to the lobbying explanation.

**TABLE IV**  
**CHANGES IN THE DISTRIBUTION OF OAG**

Dependent variable:  $dCON_{it}$

Regressor	Coefficient	<i>p</i> -value	Coefficient	<i>p</i> -value
Sample period	1980-1997		1980-2000	
$YPC_{it}$	-9.53E-05		-10.01E-04	
		0.12		0.08
$CITY_{it}$	-1.654326	0.15	-3.678277	0.00
$ROMA_{it}$	9.723558	0.00	6.567389	0.00
$CONT_{it-1}$	0.209729	0.00	0.162455	0.00
$LAW_{it}$	-33.25503	0.00	-14.02110	0.00
$BUD_{it}$	0.000182	0.05	0.000142	0.05
$AR(1)$	Yes		Yes	
Adjusted R-squared	0.46		0.53	
S.E. of regression	155.2732		146.4342	
Log likelihood	-3124.908		-3690.513	
Durbin-Watson stat	1.92		1.94	
F-statistic	77.71	0.00	52.44	0.00

Holding the budget size constant, the negative and statistically significant coefficient on the  $LAW_{it}$  dummy confirms that the introduction of law 534/96 thwarted the equilibria established under the previous legislation. Yet it must be noted that the size of the coefficient is twice as much in the 1980-97 sample than in the 1980-2000 sample. New equilibria have been promptly attained, in the sense that the cultural institutions that climbed the rankings of the OAG list in 1997 have remained on top in the year 2000. This result emerged also from the Spearman rank correlation index and the regression analysis confirms that this interpretation rests within quite tight confidence intervals.

Finally, in this disequilibrium model we have forced the intercept to zero because it was not statistically significant. The  $F$  statistics shows an overall precise estimate of the model, which explains half of the variation of the dependent variable.

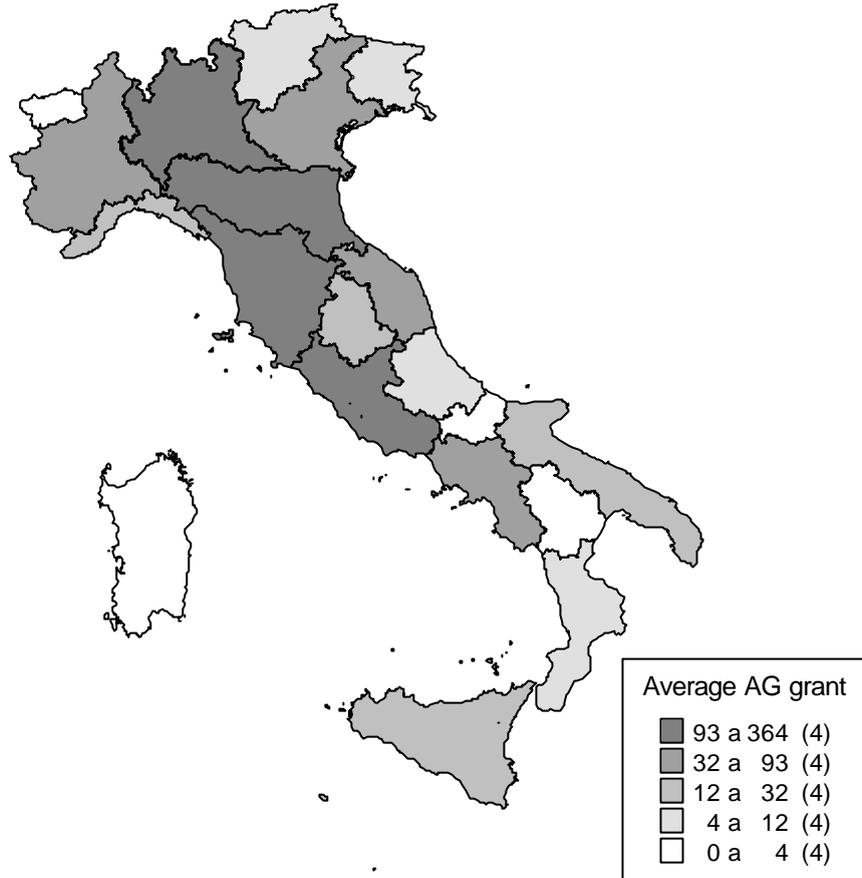
### 5. *The OAG and the other grants*

The relationship between the distribution of the OAG, on the one hand, and of the AG and EG, on the other, is the last to be investigated. To this end, we have gathered the data about the distribution of the AG and EG for the years 1997, 1998, 1999, 2000 and 2001: as for the OAG, they provide the information about the amount of the grants and institution recipient<sup>vi</sup>. We thus have 3 allocations of AG and EG after the OAG distribution of 1997, and 2 allocations after that of 2000.

The first aspect to be remembered is that the law (both the 123/80 and the 534/96) makes the OAG and the AG substitute programs; the AG can be delivered to institutions that are not in the current OAG list. This mutual exclusion is only temporary, since only 15 institutions recipient of the AG have never made the OAG list. However, this provision of the law clarifies the relationship between the two programs and leaves us with the task of characterizing the distributional profile of the AG.

Figure 5 illustrates the geographic distribution of the average size of AG in the 1997-2001 period. For visual convenience, the distribution of the average AG size, measured as the ratio of the sum of the AG distributed in one region between 1997 and 2001 divided by the number of cultural institutions resident in that region, has been categorized in 5 classes, corresponding to decreasing shades of gray. As it was the case of the OAG, the AG provision tend to be higher in the central regions, then in the northern and finally in the southern ones. Of the four regions in the top average AG bracket, three (Emilia, Toscana and Lazio) are central and one (Lombardy) northern. Of the four that compose the lowest AG bracket, three (Molise, Basilicata and Sardinia) are southern and one (Valle d'Aosta) northern. It must be stressed that data are averages, thus they are not sensitive to the smaller number of cultural institutions that are resident in the South; and they refer to a program, the AG, being *de jure* substitute of the OAG, should counterbalance its slightly regressive profile. Instead, the AG seems even more regressive, at least with respect to regional income.

**FIGURE 5**  
**GEOGRAPHICAL DISTRIBUTION OF THE AG**



As for the EG, being available to the institutions already in the OAG list, it can be distributed either as complementary or as substitute benefit to the OAG, depending on whether the Ministry is relatively more generous in EG funds with those institutions that have received less in the previous OAG distribution.

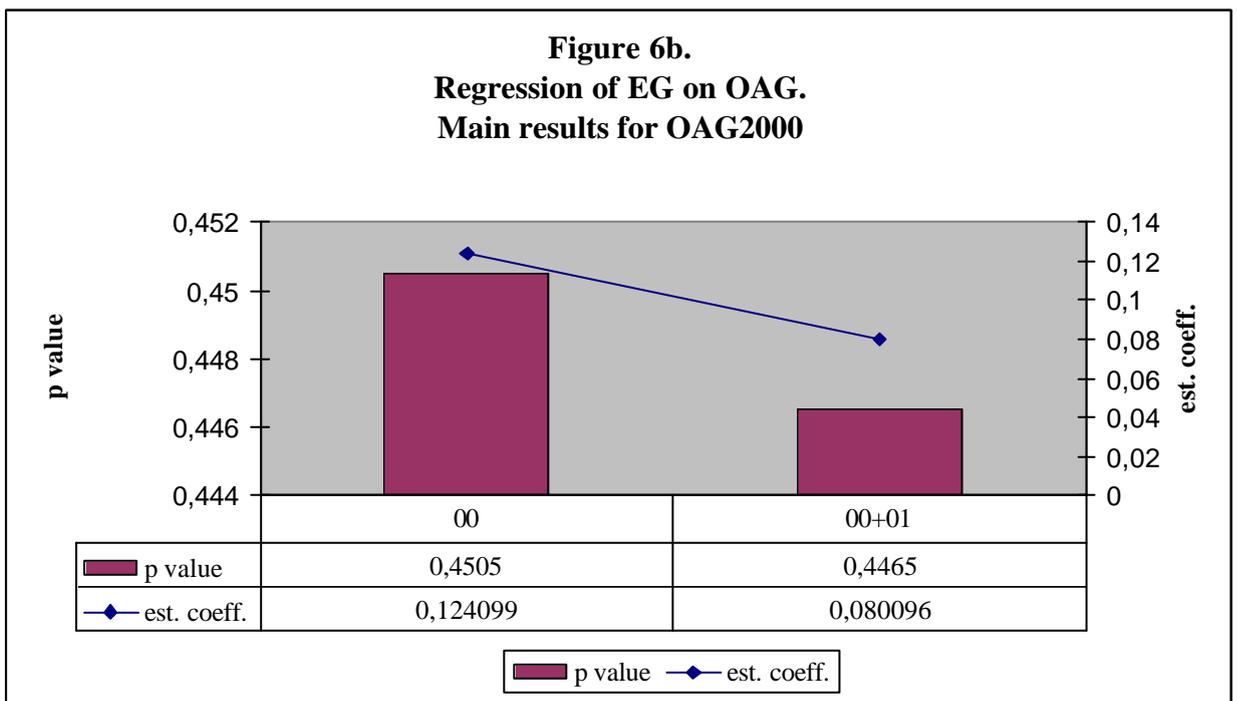
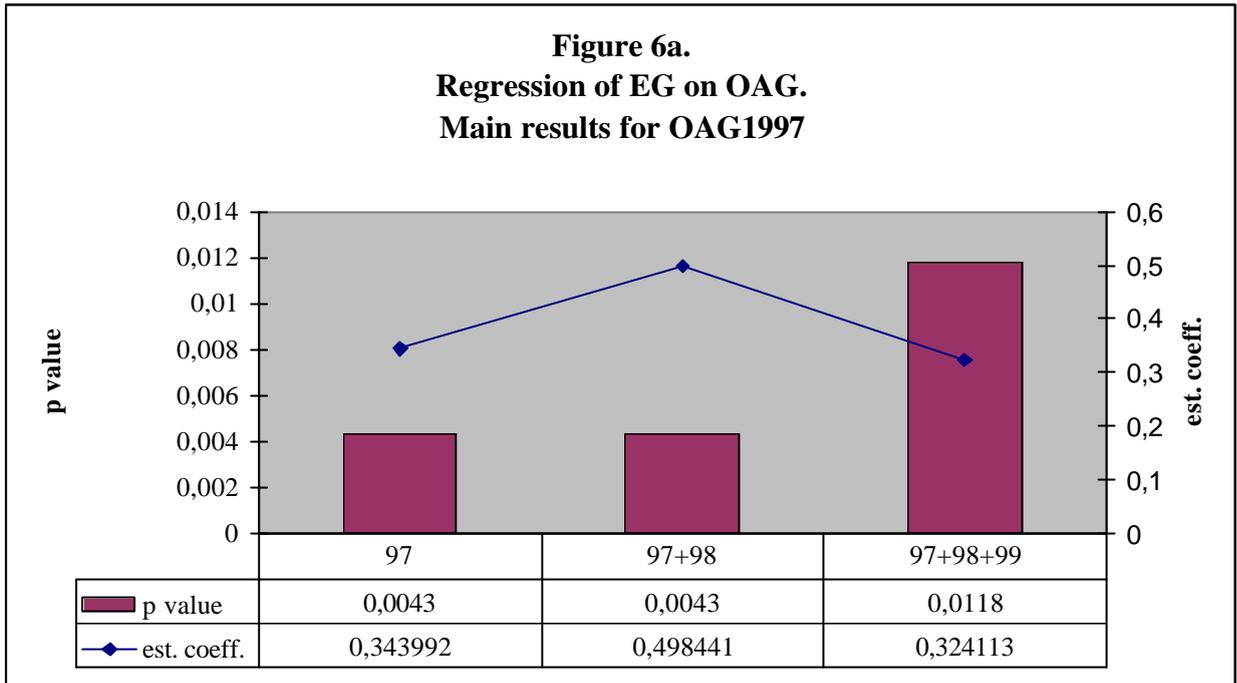
The focus of our analysis is to discover which of the two hypotheses is true, and to what extent. We have tried to estimate models similar to Equation (1) using the EG as dependent variables, but the only regressor that holds any explanatory power is the size of the previous OAG grant obtained by the institution, probably because of the high persistence of the other variables. Hence we have run two sets of simple cross section regressions specified as follows:

$$\sum EG_{it} = a_0 + a_1 OAG_{it} + e_t \quad (2)$$

A positive sign on the  $a_1$  coefficient suggests that the two group of programs are treated as complements, i.e., the institutions that obtain relatively larger OAG tend to

receive also larger EG; a negative coefficient implies that the grants are substitutes, possibly because the Ministry tends to give more EG to the institutions that, for various reasons, have been penalized in the last OAG distribution; finally, a coefficient statistically not distinguishable from 0 is evidence that the Ministry treats the three programs independently. Moreover, since the EG is distributed annually, while the OAG every three years, any of these relationship may evolve during this time interval; the “memory” of the last OAG distribution may for instance fade away. In order to evaluate this possibility too, we have estimated equation (2) using first the values of the EG of the same year of the last OAG distribution; then we have used the sum of the contemporaneous and of the following one and two years since the last OAG distribution. The comparison of the estimated  $a_1$  coefficients allows to see the evolution of the relationship among the two sets of grants in the time interval between two OAG distributions.

Figure 6a and 6b reassume the main results of this set of regressions for the OAG distribution of, respectively, 1997 and 2000<sup>vii</sup>. In all cases the estimated  $a_1$  coefficient is positive and highly significant. The two programs are thus complements; the Ministry supplies relatively more benefits to those institutions that score high in the OAG distribution. This either because the Ministry uses the status of OAG recipient as a screening device to select the institutions worthy of receiving more financial support; or because there is a lobbying effect subject to positive returns to scale. The regression cannot disentangle the two explanations, but the value of the  $ROMA_{it}$  dummy in the estimates of equation (1) make the lobbying explanation look plausible.



As for the persistence of this complementarity during the three year time interval, the comparison of the estimated  $a_1$  coefficients, illustrated in Figure 6a, reveals that after the OAG distribution of 1997 the complementarity of the OAG and EG grants rose in 1998 with respect to 1997, but tapered off in 1999 with respect to 1998. In Figure 6b, instead, the shrinking effect is more immediate. A possible explanation of

this partially different dynamics is that in 1997 the institutions had to adapt to a new law for all the three grants, not only the OAG. Those institutions that were quicker to adapt obtained more in all the programs. This results in a higher than normal degree of complementarity, shown by the higher value of the 1998 coefficient with respect to that of the regression with only 1997 data. All in all, the comparison of figure 6a and 6b does indicate that the relationship between the three programs is evolving and deserves further examination, when more data will become available.

### *6. Conclusion*

In this paper a variety of statistical indicators, descriptive and inferential, and several panel regressions have been used to analyze the reform of government support to cultural institutions introduced in Italy through law 534/96. Among the various findings, the following seem particularly relevant.

First, the comparison of the texts of the old and of the new law indicates that law 534/96 tried to transform the three grant programs from lump sum to matching ones. This attempt failed because no quantitative, or at least, no observable indicator of performance of the cultural institution has been explicitly tied to the amount of the grant. All three grants are still in fact lump sum and great discretion remains in the hands of the Ministry that delivers them.

Nevertheless, the introduction of the law produced considerable changes both in the institutions that received the largest subsidies and in the average size of the provisions. Holding the budget size constant, the regressions show that these changes have been determined by the new provisions of the law, to which certain cultural institutions were quicker and more able to adapt than others. The new equilibria seem to persist also in the second distribution regulated by the law 534/96. The analysis of the evolution of the budget constraint through time allows to exclude the possibility that the new law was introduced to reinforce a slacking binding constraint and to limit the public outlays in the cultural sector.

Among the determinants of the size of the grant, personal income, as an indicator of demand of cultural services, does not appear an important one. The OAG is only slightly geographically regressive, while the AG seems much more so, although at a much lower budget. The OAG tends to be concentrated in large cities; after the introduction of the new law, the provisions of the cultural institutions located in Rome rose significantly, a very likely lobbying effect.

Finally, while the law sets the AG as a substitute grant to the OAG, the EG is complement, as it is distributed in greater sum to the institutions that already have a large OAG endowment.

More information on the nature and economic consequences of these grant programs could be elicited if information about the activities of the single cultural institutions were available; significant progress and meaningful research in cultural economics, especially in Italy, is possible only if data are gathered.

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<sup>ii</sup> Of course it would be desirable to have data also about the activities of the single cultural institutions, in order to assess somehow their performance. Unfortunately no such information is available.

<sup>iii</sup> Data about the distribution of the AG and EG before 1997 are still not accessible. They have been asked to the Ministry, but have not been provided.

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<sup>iv</sup> The results for other specifications are available upon request.

<sup>v</sup> This result is corroborated by the negative coefficient on the dummy *FIRENZE<sub>it</sub>*, not reported because collinear with *CITY<sub>it</sub>*.

<sup>vi</sup> The data are courtesy of the Ministero dei Beni Culturali. Although official, they are not reported on the *Gazzetta Ufficiale*, contrary to the distribution of the OAG.

<sup>vii</sup> The complete set of regressions is available upon request.

