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Laws and Legislature Size in Italian Regions:
Which will be the Effect of an Increase in the
Number of Legislators?

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Laws and Legislature Size in Italian Regions: Which will be the Effect of an Increase in the Number of Legislators?*

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ABSTRACT

We analyze the effect of different legislature size on the number of laws enacted in Italian regions and the relationship between regional public expenditure and laws. According to the theory, legislature size has an indefinite effect on these variables because logrolling and transaction costs may have canceling effects. We find a significantly negative effect of the number of legislators on laws. We also uncover a strong political-cycle effect, which increases legislation in voting years. We use these findings to forecast the effects of the increase in the number of legislators that is taking place in most regions.

Keywords: Legislature size, law, logrolling.

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1. Introduction

The economic theory of government has modeled fiscal policy in democratic regimes as the result of competition between different pressure groups. One class of models developed in this line of research has investigated the growth of government by examining the enactment of a body of laws as the event that causes a public sector of a given size. According to these models, because legislative authorization is necessary for expansions in the size of the public sector, factors that lead to increases in the output of laws over time will also tend to increase the size of government (Shughart and Tollison, 1986). This literature draws upon the two main theoretical hypotheses of the interest group theory of government that 1) legislative output is driven by the benefits and the costs the citizens (interest groups) face in utilizing the legislature to increase their wealth; 2) each legislator act brokering wealth transfers among various interest groups. Within this theory, demand for wealth transfers translates into a demand for legislation and the amount of legislation ultimately supplied depends in part of the institutional characteristics of the legislature itself (such as the size of legislature). Yet, despite its widespread acceptance as a conceptual proposition, so far this theory has not received broad attention from the existing empirical studies. In addition, most of the empirical contributions focus on the American institutional setting.

In this paper we build upon the literature outlined above and examine the legislative activity of the fifteen Italian regions characterized by the so-called “ordinary Statute” from 1980 to 2002. Specifically, we relate the number of regional laws to some economic and political-institutional determinants. Two parallel processes have occurred in the Italian regions in the last few years. First, the regions have been invested with the power to write their own constitutions (Statutes), which policy makers tend to use to enlarge the legislature. Second, an important process of devolution of the expenditure and tax responsibilities is taking place. As these processes of regional institutional and fiscal reform are still in progress,

preliminary empirical evidence about the factors that affect the legislative activity may be relevant in an evaluation of ongoing changes and to gain a picture of the new institutional setting of these jurisdictions.

The rest of the paper is organized as follows: Section 2 reviews the literature; Section 3 illustrates the reform that has taken place in the institutional structure of the Italian regions over the last few years; in Section 4 we describe the data and specify the variables used for the empirical analysis. We then present the results in Section 5, and Section 6 offers some concluding remarks.

2. Literature review

Since the seminal contribution of Stigler (1976), the production of legislation has been linked to the size of legislature. Such institutional characteristic plays a pivotal role in explaining the legislative output also in Crain (1979). Crain finds that the relation between legislative output and the size of a legislature is not predictable a priori. This is because a larger legislature could be associated either with higher production costs required for assembling legislative majorities or, alternatively, with lower decision making costs if the returns from increased labor specialization in the committee apparatus dominate the effect of larger sized groups on decision making costs.

McCormick and Tollison (1981) formalize the problem of an interest group deciding how much to spend on buying legislative influence, and its agent (lobby) deciding how to allocate this budget (E) across the two houses of the legislature in order to maximize the organization's return from legislative influence. The organization knows that the votes (V) it will receive in the two houses are a function of its expenditure in each house (E^h and E^s) and the size of each house (h and s), therefore: $V^h = V^h(E^h, h)$ and $V^s = V^s(E^s, s)$. The problem

faced by the interest group is to maximize the net returns from legislative influence $Y^n = Y - E$ subject to $E = E^h + E^s$, $Y = Y(V^h, V^s, L, W, P)$, and the previous vote functions, where W is the wealth of the community, P is the population, and L is legislative size. Total legislature size (defined as the sum of the lower and upper houses) has opposing effect on the costs to interest groups of obtaining votes in the legislature. On the one hand, an increase in the number of legislators results in a lower cost of lobbying because of additional competition between vote suppliers. With a larger legislature, each legislator has a smaller relative power to influence the political process; therefore he can demand a smaller brokerage fee. Furthermore, if larger legislatures are associated with fewer voters per legislators, it will be cheaper for voters to monitor their representatives. These considerations suggest that legislative output will increase as the size of the legislature rises. On the other hand, as long as the number of legislators increases, the transaction costs needed to find a viable majority of votes are also increased. Then legislative output would be predicted to fall as total membership grows. In the end, the effect of changes in legislature size on the enacted laws is essentially an empirical question.

Shughart and Tollison (1986) analyze the factors that influence the output of legislation using data on the legislative activities of the U.S. Congress from its first session in 1789 through the 96th assembly ending in 1980. They also estimate a production function for enacted laws and find that the enactment of bills over time depends on factors influencing the demand for and supply of legislation. Specifically, increases in legislature size lead to more than a proportional increases in the legislative output. That is, as the size of the U.S. Congress increases, the effect on competition of larger legislatures more than offset the transaction costs to individuals and groups of obtaining a majority in both chambers.

This literature review suggests that a) the legislative activity is a process linked to some institutional characteristics of the legislature; b) investigation on legislative output is a

more comprehensive way to analyze the governmental growth, since many of governments' intrusions into economic life (such as non-price trade barriers, price-entry regulations or antitrust exemptions at the state level, but at the regional level the government has regulatory power too) are off-budget.

3. A closer look at Italian regional government

Municipalities, Provinces, Metropolitan Areas, Regions and the State constitute the Italian Republic. The autonomy of these jurisdictions is an important feature of the Italian political and institutional system. The 1948 Constitution states that the regions, provinces and municipalities are autonomous entities, with their own Statutes, powers and functions (art. 114). The regions Friuli Venezia Giulia, Sardinia, Sicily, Trentino-Alto Adige and Valle d'Aosta enjoy particular forms of autonomy, according to their special Statutes adopted by constitutional law. Furthermore, the Trentino-Alto Adige region encompasses the Autonomous Provinces of Trento and Bolzano (art. 116). In this paper we do not consider these regions because they tend to behave as outliers (Fiorino and Ricciuti, 2005).

The Constitution also establishes the regional branches of government, which are the Council, the Cabinet and its President. While the Council exercises the legislative power granted to the Region and all other functions conferred on it by the Constitution and by law, the Cabinet is the executive branch of regional government. The rules that regulate the functions and the mechanism of election or appointment of such bodies of government have changed during our sample period. Until the reform passed in February 1995, the Council was elected under a proportional system and the legislators held office for a 5-year term. The number of legislators varied according to the regional population¹ and, in the regions with

¹ On the basis of the law passed in 1968 (n. 108) the number of regional legislators is 80 for regions with more than six million inhabitants; 60 for regions with more than four million inhabitants; 50 for regions with more

special Statutes, was established by the relevant Statute. The Council appointed the Cabinet, which was composed of the President and a certain number of members, usually called “*assessori*”.

The changes occurred in the political and institutional scenario of the early ‘90s and the difficulties in reaching stable governments led to an important reform of the regional and local government electoral system. The reform has modified both the electoral system and the tenure length of regional legislators. In 1995 the mechanism by which the members of the regional Council are elected switched from a pure proportional representation system to a mixed one. Specifically, 80 percent of the legislators are elected on the basis of provincial lists (art. 1, par. 2) and the remaining 20 percent by a majoritarian system on the basis of regional lists (art. 1, par. 3). A *premium for the majority* in two steps was also introduced, so that the absolute majority of the legislators will be held by the coalition linked to the regional list that has obtained the relative majority of the votes.² The President was not directly elected but indicated by the coalition supporting him, and the law reduces the tenure length of the Council from five to two years if the relationship of confidence between the Council and the Cabinet breaks down during the first two years. The law was first applied in the 1995 regional elections.

Art. 122 (par. 1) was modified by a constitutional law passed in 1999. It states that the President of the regional Cabinet is elected by universal and direct suffrage, unless the regional Statute establishes otherwise. The elected President appoints and dismisses the members of the regional Cabinet. The first direct election of the President took place in the

than three million inhabitants; 40 for regions with more than one million inhabitants and, finally, 30 in all other regions. This relationship between regional population and legislature size makes possible endogeneity between regional government spending and legislature size irrelevant (according to the argument that says that higher government spending needs more legislators because of increased specialization).

² To allow for this premium, the number of legislators can be increased if votes do not provide such a majority when translated into seats. This is the case of Abruzzo and Calabria in our sample.

2000 regional elections, but voting rules for the assembly were not changed.. The constitutional law of 1999 also gives the regions the opportunity to write their own statutes (art. 123). The statute determines the form of government and the fundamental principles of the organization and functioning of the Region, in accordance with the Constitution. In other words, the regions can choose their own form of government and electoral rules, within some boundaries. In particular, they can set the number of legislators. Table 1 reports the number of bills enacted into laws, the old and the new number of regional legislators according to regional constitutions. and the variation in the number of bills enacted into laws. Beside two outliers (Abruzzo and to a less extent Tuscany) a North-South pattern appears: in southern regions (which are typically poorer than northern ones) there is a much lower number of laws in the 1980-2002 period. Twelve out of fifteen ordinary statute regions plan to increase the number of legislators, in most regions this change has come into effect during the regional elections in April 2005.

[Table 1 about here]

4. Variables and data

The goal of our analysis is to investigate the determinants of the legislative activity in Italian regions. The benchmark specification is:

$$LAWS_{i,t} = \alpha_1 GDPpc_{i,t} + \alpha_2 SIZE_{i,t} + \alpha_3 Z_{i,t} + \varepsilon_{i,t}, \quad (1)$$

where *LAWS* is the number of regional laws.³ Lagona and Padovano (2002) claim that the distribution of laws **enacted by the national parliament** over time has a Poisson distribution. The descriptive statistics do not support this idea for our series since the Asymptotic test statistic (distributed as a $\chi^2(2)$ is equal to 171.13 [p = 0.0000], and the Normality test statistic (which has the same distribution) is equal to 106.77 [p = 0.0000]. *GDPpc* is the regional gross domestic product; *SIZE* is the number of legislators that captures the idea that the size of the legislature affects the amount of the legislative activity (McCormick and Tollison, 1981; Shughart and Tollison, 1986). In the light of the previous discussion, we do not have any *a priori* expectation on the sign of this variable. *Z* is a vector of political variables that includes *ELE*, *IDEO*, *REF* and *HERF*. *ELE* is the electoral dummy variable which account for the rational opportunistic cycles literature (Rogoff, 1990; Alesina, Roubini and Cohen, 1997). Such literature argues that manipulation of fiscal policies obtained by reducing taxes and/or increasing spending before the elections raises the probability for the incumbent government to be re-elected. This because governments make use some temporary asymmetric information of the voters to signal their competence to provide public goods efficiently. Accordingly to this hypothesis, we expect that the number of laws is higher in the election years. To test this hypothesis we use the standard specification in the literature which is a variable which takes value of 1 in the election years and 0 otherwise.

As far as political system is concerned, from the elections held in 1980 to the elections held in 1995, that is the end of the so-called first republic, the Italian regions were run by 1)

³ The legislative activity of a region also includes other forms of legislation enacted by the regional government. They are typically not included in the database we have used. However, for three regions (Tuscany, Emilia Romagna and Umbria) they were given together with laws. We have eliminated them from the database, and they amount to about ten per each region for the whole time-span. Therefore we can claim that their relevance is quite limited. Nonetheless the focus of our analysis is based on the regional assembly, and other forms of legislation belong to other bodies of the regional institutional structure, and the degree of substitutability between these forms of legislation is limited.

majority governments formed by the Christian Democrats (*DC* party), as in Molise, or the Communist party (*PCI*) as in Emilia Romagna, Tuscany and Umbria, or by 2) coalition governments driven by the *DC* party and in turn by the Socialist party (*PSI*) and the other three small parties (*PSDI*, *PLI* and *PRI*)⁴, or alternatively headed by the *PCI* with the participation of the *PSI* and of the *PSDI* (as in Emilia Romagna, Tuscany and Umbria). From 1995 to 2002, the introduction of the majority system in the election of both regional councils and national parliament has modified the Italian political framework. The result has been the creation of two coalitions that include right-wing and left-wing parties. On this basis, we use a dummy variable labeled *IDEO* which takes value of 1 when the regional government is driven by the *DC* party or the right-wing coalition and 0 when it is run by the *PCI* or the left-wing coalition. This variable captures the idea of the rational partisan cycle literature (Hibbs, 1977; Alesina, 1987; Alesina and Sachs, 1988). In these models different political parties have ideological preferences over economic goals and fiscal instruments, so that the alternation of parties in government leads to political cycles. Specifically, right-wing governments prefer a less expansionary fiscal and monetary policy than left-wing government. Accordingly, we test whether right-wing regional governments tend to legislate less than left-wing governments.

REF is a dummy variable meant to capture the effect of the reform of 1995 (therefore it is equal to zero before this year and equal to one afterwards). *HERF* is the Herfindhal index for concentration of seats of the majority supporting the regional government with respect to the overall legislature. It ranges from 0 (a legislature in which each legislator belongs to a different party) to 1 (when all members belong to the same party). Finally, $\varepsilon_{i,t}$ is a stochastic error. All monetary data are in real per capita terms (1995 base = 100), and are expressed in euros. Data on regional legislative output are available on the website of the *Camera dei Deputati della Repubblica italiana*. Istat (various years) is the source of the data on

⁴ *PSDI*, *PLI* and *PRI*, and are respectively the Social Democrats, the Liberals and the Republicans.

expenditure. *GDPpc* and population are taken from Crenos (2004). The regional election's results are collected in Istat (1990) and Ministero dell'Interno (various years). Data concerning the regional governments' composition are based on information provided by Siscr (various years). We use regional data spanning from 1980 to 2002. We consider all fifteen ordinary statute regions. Table 2 and 3 report the summary statistics and the correlation matrix for the above variables, respectively. The latter shows virtually no problem in collinearity among the variables, with the exceptions of *HERF/REF*, *GDPpc/SIZE*, and *HERF/GDPpc*.

[Table 2 and 3 about here]

5. Results

Table 4 reports the results for the relationship between laws and legislature size. In column (1) we provide the basic equation estimated without regional dummies.⁵ Results are poor: *GDPpc* is significantly positive, *SIZE* is insignificantly positive, and the only significant variable is *ELE*, at the highest level. The adjusted R^2 is extremely low, showing that the equation fit the variability of the number of laws very poorly. Yet, the joint significance of the variables (Wald test – which is distributed as a χ^2 with a number of degrees of freedom equal to the number of variables with the exception of the constant) is very high.

In equation (2) we estimate the same equation adding regional dummies. The picture changes: *GDP* is significantly positive, *SIZE* is negative and significant at the 1% level, and *ELE* confirms its significance, though the point estimate is somehow lower.⁶ The equation

⁵ This specification includes a constant, which is significantly positive (point estimate 31.184, standard deviation 16.11 and therefore the p-value is 0.054).

⁶ We have experimented with the variable *ELE* lagged one, to see whether the political cycle starts one year before the election. This new variable has always been insignificant. Results are available upon request.

now explains around 60% of the variability, a dramatic increase with respect to equation (1). The joint Wald test rejects again the hypothesis that the coefficients are simultaneously equal to zero, and the same applies to the Wald test for regional dummies. Because the time variation of *SIZE* is limited, we interpret the fact that *SIZE* and individual dummies are significant as an indication that they actually capture different characteristics of individual data. Therefore, we use individual dummies in all subsequent estimations. In equation (3) we add the variables *IDEO* for the ideological orientation of the regional government and *REF*, the dummy for electoral reform in 1995. None of these two variables is significant, whereas the results for the other variables – and for the overall specification - are in line with the previous equation. The fragmentation variable (*HERF*) is positive and significant at the 5% level (equation 4). In a less fragmented assembly the transaction costs of passing a new law are smaller, therefore there is a positive effect on the number of laws.⁷

Finally, in equation (5) we re-estimate equation (2) removing from the sample Abruzzo, a possible outlier. In this case there are no important differences with respect to previous results, *SIZE* is slightly reduced in magnitude. This result is also robust to the exclusion of Tuscany, another possible outlier. We have reiterated the exercise using the number of articles the laws include instead of the number of laws. This because logrolling among legislators can take place not only between laws but also within each law. Results⁸ do not show any important difference.

[Table 4 about here]

⁷ The inclusion of *HERF* reduces the size, but not the variance, of *REF* that is still insignificant. This is possibly due to the high correlation between the two variables. For this reason we show the results with and without *HERF*.

⁸ Available upon request from the authors.

6. Conclusions

In this paper we have analyzed the determinants of laws in Italian regions. We found a negative relationship between the number of legislators and the number of laws, meaning that the bargaining costs overcome the benefits for each legislator to see his piece of legislation passed to favor the lobby that elected him. We therefore expect, *ceteris paribus*, a negative impact of the increase in legislature size on laws passed in Italian regions as a result of the reform that has just taken place in most regions.

Moreover, regional per capita GDP is positive reflecting a tendency of richer regions to have more laws. Richer regions possibly are more heterogeneous in the groups represented in the society, therefore more legislation is demanded. A lower fragmentation of the legislature is also positively related to laws: an assembly with less parties or a dominant party finds it easier to pass a new law.

References

- Alesina, A. (1987). "Macroeconomic policy in a two-party system as a repeated game". *Journal of Economics*, 102: 652-678.
- Alesina, A. and Sachs, J. (1988). "Macroeconomics and politics". *NBER Macroeconomic Annual*: 13-52.
- Alesina, A., Roubini, N. and Cohen, G.D. (1997). *Political Cycles and the Macroeconomy*. Cambridge: The MIT Press.
- Camera dei Deputati della Repubblica Italiana (2005). Database Leggi Regionali, www.camera.it.
- Crain, W.M. (1979). "Cost and output in the legislative firm". *Journal of Legal Studies* 8: 607-622.
- Crenos (2004). Regio-It 1970-2002. Data-base on the Italian regions, University of Cagliari.
- Fiorino, N. and Ricciuti, R. (2005). "Legislature and constituency size in Italian regions: forecasting the effects of a reform". *Quaderni del Dipartimento di Economia Politica n. 448*, Università di Siena.
- Hibbs, D.A. (1977). "Political parties and macroeconomic outcomes". *American Political Science Review*. 71: 1467-1487.
- Istat (various years). *Statistiche dei bilanci delle amministrazioni regionali, provinciali e comunali*. Roma: Istat.
- Istat (1990). *45 anni di elezioni in Italia*. Roma: Istat.
- Lagona, F. and Padovano, F. (2002). "The political legislation cycle", mimeo.
- McCormick, R.E., and Tollison, R.D. (1981). *Politicians, Legislation, and the Economy*. Boston: Martinus Nijhoff.
- Ministero dell'Interno (various years), *Elezioni Regionali*, Roma.
- Rogoff, K. (1990). "Equilibrium political budget cycles". *American Economic Review*. 80: 21-36.
- Shughart, W.F., and Tollison, R.D. (1986). "The political economy of legislation and the growth of government". *Research in Law and Economics* 9: 111-127.
- Siscr (various years). *Guida alle Regioni d'Italia*, Seat, Roma.
- Stigler, G.J. (1979). "The size of legislatures". *Journal of Legal Studies* 5: 17-34.

Table 1 – Laws and legislators

Regions	Laws 1980-2002	Old legislators	New legislators
Abruzzo	2,395	43	50
Apulia	853	60	70
Basilicata	1,047	30	40
Calabria	688	43	54
Campania	813	60	80
Emilia Romagna	1,050	50	65
Lazio	1,493	60	71
Liguria	1,118	40	51
Lombardy	1,310	80	80
Marche	1,028	40	42
Molise	670	30	30
Piedmont	1,382	60	60
Tuscany	1,892	50	65
Umbria	1,031	30	37
Veneto	1,264	60	60

Source: www.parlamentiregionali.it for legislators and www.camera.it for laws.

Table 2 – Summary statistics

	Mean	S.D.	Min	Max
ELE	0.21	0.41	0.00	1.00
GDPpc	14,327.83	3,950.44	6,813.47	23,240.15
HERF	0.681	0.137	0.128	0.880
IDEO	0.59	0.49	0.00	1.00
LAWS	507.26	223.49	73.00	1,476.00
REF	0.34	0.47	0.00	1.00
SIZE	48.57	13.98	30.00	80.00

Table 3 – Correlation matrix

	ELE	GDPpc	HERF	IDEO	LAWS	REF	SIZE
ELE	1.000	-0.029	0.033	0.006	0.125	0.057	0.001
GDPpc		1.000	0.409	-0.194	0.179	0.382	0.424
HERF			1.000	-0.227	0.081	0.660	0.189
IDEO				1.000	-0.057	-0.276	0.257
LAWS					1.000	-0.075	0.110
REF						1.000	0.012
SIZE							1.000

Table 4 – Relationship between laws and legislature size

	(1)	(2)	(3)	(4)	(5)
GDPpc	0.176* (0.081)	0.201* (0.107)	0.317** (0.114)	0.272** (0.112)	0.246** (0.095)
SIZE	0.082 (0.241)	-1.608*** (0.584)	-1.582*** (0.543)	-1.557*** (0.535)	-1.274** (0.509)
ELE	8.207*** (1.583)	7.436*** (1.428)	6.832*** (1.456)	7.041*** (1.509)	7.457*** (1.518)
IDEO			-4.791 (5.629)	-4.909 (5.504)	
REF			4.750 (3.470)	-1.264 (4.625)	
HERF				24.283** (9.525)	22.783** (8.733)
Obs.	345	345	345	345	322
R ²	0.050	0.603	0.613	0.617	0.534
Wald (joint)	27.99 [0.000]	66.81 [0.000]	68.24 [0.000]	80.24 [0.000]	39.87 [0.000]
Wald (dummy)		438.84 [0.000]	578.11 [0.000]	685.57 [0.000]	501.34 [0.000]

Numbers in parentheses are robust standard errors. Numbers in brackets are p-values. *, **, and *** denote significance at 10%, 5%, and 1% levels, respectively. Specification (1) includes a constant (not shown).