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Abstract

In the last decade, Italy has experienced a considerable decentralization of functions to the regions. This transformation has been especially relevant for the National Health System that has *de facto* assumed a federal system design. The federal reform aimed at disciplining public health expenditure, which drains a substantial share of the budget of Italian regions and is among the main causes of the regional deficits. Political economic analysis, however, suggests that impact of federalism on public expenditure depends on central and local government strategies to win in the electoral competition. Results derived in this preliminary study indicate that political competition actually works as a tool of fiscal discipline; it shows a restraining effect on public health expenditure.

Keywords: fiscal federalism; local budget; multi-level policy-making; public expenditure; political competition; health economics

JEL Classification: D72; D78; H51; H72; I18

1. Introduction

It is well known that public expenditure can be strongly influenced by political economic matters. The strategic utilization of public resources to support the re-election of political representatives has been extensively explored, among others, by the literature on political business cycles and on interest groups' lobbying [see Mueller (2003)]. Moreover, the theoretical analysis has highlighted how the pursue of political goals may not only induce excessive spending but also the adoption of inefficient forms of transfers, even in presence of efficient (or less inefficient) ones [Alesina *et al.* (1999), Coate and Morris (1995), Hillman (1989), Magee *et al.* (1989)].

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The scenario is further complicated by the presence of multiple policymakers, as in the case of fiscal federalism. In fact, on the one hand centralization may trigger free-riding and local over-expenditure while, on the other hand, decentralization generates externalities related to horizontal and vertical competition [Persson and Tabellini (2000)].[1] Theoretical and empirical analyses suggest that the impact of decentralization on expenditure is likely to be ambiguous because of several counteracting effects. For example, while fiscal as well as political competition may constrain expenditure growth [see Mueller (2003)], political decentralization may have a positive impact on public expenditure for several reasons. For example, local communities may decide to expand public services when they (and not the national government) control provision. Moreover, the multiplication of centers of policymaking is likely to determine additional costs. In addition, from a political economic perspective, a larger number of legislative districts may imply more redistribution and pork-barrel, causing public overspending [as shown by Weingast *et al.* (1981)]. Regarding this issue, some studies have pointed out that the impact of decentralization on the size of government depends on the specific institutional framework. In this respect, separation of powers and open rules of decision-making seem to limit over-expenditure under centralization.[2]

In a decentralized framework, the ways in which local expenditure is financed does have an impact on the magnitude of the public sector. A recent literature has focused on the political determinants of intergovernmental grants. They represent a cost for the financing government, whereas the political benefits of their utilization often accrue to the spending (local) agents. This simple observation suggests that the political motivations of grants can be at least as fundamental as the efficiency and equity justifications, and a growing number of studies indicate that intergovernmental grants indeed are often assigned to maximize the political

[1] Besley and Coate (2003) compare the costs of common pool effect with the benefits of internalization of spillovers deriving from centralization. It is shown that, with centralization, a cooperative legislature will over-provide public goods. The reason is that local voters will strategically appoint representatives with high demand for spending. In Dur and Roelfsema (2005), that result is reverted in the case costs cannot be shared among districts (as in the case of environmental regulation or shelter provision to asylum seekers).

[2] See, for example, Migué (1997), Mazza and van Winden (2002), Dur and Roelfsema (2005).

return for the donor.[3] Moreover grants are occasionally instrumental to bail-out local governments under financial troubles [Rodden *et al.* (2003)].

Potential over-expenditure is clearly linked to an inadequate control of the electorate that allows a government to increase the size of the public sector in order to pursue its own goals. Public choice literature indicates that the design of a specific institutional framework characterized by check and balances and adequate electoral competition may help the community to tame the Leviathan and/or to hinder particularistic policies favouring interest groups [Wittman (1995)]. In this paper we concentrate on the latter aspect of a competitive political market.

In principle, the impact that political competition may have on the size of the public sector is ambiguous. On the one hand, we can presume that stronger competition will induce the government to behave more efficiently, even in case of particularistic policies [Becker (1983, 1985)]. On the other hand, more competition could induce expansionary policies by the incumbent to reinforce his or her political position. However, such policies can be undertaken also through tax reduction, and not necessarily through an increase in expenditure. Furthermore, political consensus can be acquired also by improving the quality of the services, with a potentially positive impact on expenditure.

In a recent study, Solé-Ollé (2006) investigates the impact of political competition on the local expenditure of 500 Spanish municipalities in the period between 1992 and 1999. He finds evidence that the size of the electoral margin of the incumbent has a positive influence on expenditure. Building on that study, we attempt to verify the impact of political competition on health expenditure of the Italian regions from 1990 to 2003. Health expenditure accounts for the largest share of regional expenditure and represents the main example of decentralization of public expenditure.

The paper is organized as follows. Section 2 presents a synthetic but comprehensive description of the evolution of decentralization in Italy. This analysis is helpful to put in the right perspective the links between the growth of public sector and decentralization in the specific case of Italy. An analysis of potential tools to impose fiscal discipline is also provided. After a brief

[3] Guccio and Mazza (2005) provide a small survey of the empirical studies verifying the impact of political economic variables on the allocation and/or size of intergovernmental grants.

description of the Italian health care system, the decentralization of health responsibilities at a regional level and the relevant literature on the determinants of regional health expenditure, Section 3 illustrates the empirical framework for the investigation of the impact of political competition on health expenditure, describes the dataset and discusses the estimation results. Section 4 concludes.

2. The fiscal discipline of intergovernmental relations in Italy

2.1. The Italian state was born as a unitary state

The Italian state was born in the second half of the XIX century through the unification of several existing states, under the monarchs of Piedmont. The founding fathers did not accept the proposal, supported by several scholars, to adopt the model of a federation. Because of the too many differences among institutions, laws, economies, customs and languages[4], they believed that the model of a unitary state was necessary for nation building.

The organization of the State replicated the model of Piedmont, which, on turn, followed that of Napoleon's France. It included three levels of government: central, provincial, and municipal. This structure stayed in place until the endorsement of the Constitution of the Republic in 1948. The Constitution introduced a fourth level of government – the regional one – immediately subordinate to the central level. Five regions (Valle d'Aosta, Trentino Alto Adige, Friuli Venezia Giulia, Sardinia, and Sicily) obtained a special autonomy.

Functions assigned to provinces and municipalities related to the administration of local public services, but local authorities had little power to actually rule the matter. The State retained most of the power; it decided which services local authorities had to provide and which services they could discretionally decide to provide. Local authorities have never been able to intervene when national laws did not provide it for. At the end of the XIX century ruling classes shared the worry that socialist run municipalities would pursue

[4] At that time, lower classes of some areas did not know Italian and spoke only dialects.

redistribution policies. However, in the XX century many services provided by private companies through concessions passed to municipalities.

Consumption taxes on a great variety of goods were the main feature of municipal finance. They survived for more than a century, though they were modified several times with changes of taxable income and tax rates depending on the financial needs of municipalities[5]. In accordance with the *zeitgeist* of the time, the State did not have redistribution functions, for a long time; hence there were not redistribution transfers in favour of the areas with a lower per capita tax contribution capacity. However, an implicit redistribution policy did take place as local authorities of poorer area were allowed to run deficits accumulating substantial debt loads.

Italian municipalities have always complained about the scarcity of resources available as opposed to their tasks. They have also complained about the fact that the State transferred them national tasks, especially at times of financial crises. Sometimes, their pressure led to the transfer to the centre of some of these tasks, reducing the pressure on municipal finances.

Financial discipline was achieved through traditional instruments such as declaration of difficulties, national control, and the electoral mechanism. The electoral mechanism, however, was distorted for a long time as there were limits (linked to sex, social status and education) to the right to vote; thus, the institutions redistributing the fiscal burden did not represent lower classes.[6]

2.2. Intergovernmental relations in the first and second post-war periods

The upheaval in intergovernmental financial relations that followed WW1 led to their radical reform. The State centralized various tasks previously delegated to local authorities – especially concerning education – and normalized the tax system leading to the reduction of income. Local per capita expenditure, which in 1912 amounted to 1/3 of the national one, declined to less than 16%. The central

[5] Revenue also derived from a tax on family income and the possibility to add, next to the national tax, a tax on income from land and buildings. This rule applied also to provinces and it represented the main source of tax return.

[6] In the South the percentage of people entitled to vote was half compared to Northeast. Only in 1912 universal suffrage was extended to the male population, and in 1946 also to the female population.

commission for local finance (*CCFL – Commissione Centrale per la Finanza Locale*), which used to have only an advisory role, played an important part; it had the power to intervene on the budget of each institution, reducing their expenditures and/or increasing their fiscal income.

During the WW2 and the post-war period, local expenditure further decreased.[7] However, successively, it started to increase under the nation-wide expectation of good quality local services, supported by the pro-South policies of the national government, and the relaxation of the control system. The CCFL stopped being the guardian of fiscal discipline, and became the executive board responsible for the result of the bargaining process between national and local politicians to obtain and keep electoral consensus.[8]

Deficit of local budgets were continuously approved and covered with mortgages from the loan institution *Cassa Depositi e Prestiti – CDP*. Debt was financed with further debts as the deficit included interests on previous debts. This strategy caused a long crisis of local finances worsened by the fact that the system of higher municipal tax was expensive[9] and surtaxes on buildings and land had limited contingence sensitivity[10].

2.3. The reform of 1971: the introduction of a derivate local finance

These features explain the reason why, the reform of the Italian fiscal system that took place in the 1960s, focused on the need to regulate intergovernmental financial relations. The idea that expenditure autonomy instead of fiscal autonomy was sufficient to guarantee local autonomy prevailed. However, the Parliament neither approved the bill to reform local finance defined by the commission in charge, nor it accepted the government's proposals. Therefore, within the general reform of the fiscal system of 1971, only a partial reform of local finance took place. The reason was that the Parliament was still defining the powers of the

[7] In 1949 it represented less than 13% of national expenditure.
[8] The right to vote had been extended to the whole population.
[9] In the 1960s the cost of collecting taxes on consumption, as a percentage of the total tax income, corresponded to more than 18%, six times more expensive than the cost to collect the homologous national tax on business.
[10] Tax bases on land and buildings were checked by the land register and were updated with delay and without connection to inflation, also because of the electoral pressure of interested taxpayers.

Regions,[11] and the financial relations of the latter with local authorities were not clear yet.

An income tax (excluding subordinate work earned income) was introduced to finance sub-national governments.[12] However, the State still collected that income waiting for the reform to be completed. The financing of the regions took place through quotas of national taxes corresponding to the cost of the national functions devolved to them, without introducing tax autonomy. The main local taxes and quotas of national taxes were abolished, *ad hoc* transfers (to be periodically adjusted) were introduced and Municipalities were given a tax on the increase of the value of buildings. Local authorities running deficits were given further resources as long as they would start programs of budgetary reclaim.

However, the objective to restore local authorities finance through taxes did not succeed: local authorities running deficits did not respect the over mentioned programs and increased in number. The inflation of the 1970's worsened the financial crisis. Thus, in 1977 the State intervened again with a new fiscal reform, which aimed to consider in advance the total needs of local finance. Limits to the increase of local current expenses, smaller than the rate of inflation, were introduced with consequent reduction of expenditure in real terms. More strict rules about investment expenditures and the related loans came into force. Local authorities (with the exception of smaller municipalities) were not allowed to hire new personnel, and wages had to be approved by the Central Commission, which was responsible only for this. The existing local taxes and tariffs increased and local authorities had the obligation to balanced budget and could not get into debts to finance current expenses. The State covered with *ad hoc* transfers the deficit of those local authorities that did not respect these measures.

These measures had two main pitfalls. The reorganization of local finance was based on the evaluation of financial needs that resulted insufficient when compared to reality. This did not stop the process of negotiation aiming to obtain a favourable treatment; on the contrary, it perpetuated the same problem that it intended to solve. The local authorities that had mismanaged and those that had

[11] It took more than 20 years, after their creation, for regions to be actually implemented.
[12] Successively, the Constitutional Court extended the exclusion to self-employment earned income.

increased their expenditures beyond the need of their population were rewarded, whereas efficient local authorities were penalized. Local expenditure consolidated through time, with periodical increases to account for inflation.

At the same time, Regions became responsible for the administration of the national health system, though the central level of government fixed the needs according to the amount of services provided within the whole nation also to citizens who did not pay taxes. The taxes collected from companies and workers covered the cost.

2.4. The strengthening of tax autonomy in the 1990s

In the 1990s, the limits connected to the system of controls necessary for effective financial intergovernmental relations lead to the need to give tax authority to sub-national governments. The idea being that voters control on expenditure increase was more efficient than any other instrument. Furthermore, the constraints in the use of transfers prevented sub-national governments from having real expenditure autonomy.

In 1992, a municipal tax on buildings (*Imposta Comunale sugli Immobili - ICI*) was established.[13] Provinces became responsible for some national taxes. Also regions got tax autonomy through the introduction of the regional tax on productive activities (*Imposta Regionale sulle Attività Produttive - IRAP*) that substituted social contributions and other national taxes charged to companies. They were also entitled to surtax the tax on personal income (*Imposta sul Reddito delle Persone Fisiche - Irpef*), with a minimum and maximum tax rate allowed.

As a consequence of these reforms, local authorities' tax revenue increased from less than 7% of total income in 1978 to 45% in 2002. During the least years the role of this revenue diminished because of the increase of transfers connected to the devolution of new functions on one side, and of the limits to the increase of tax rates on the other side. In 2008, in contrast with the previous measures favouring fiscal federalism, the municipal tax on homes was abolished within the present government's program of reduction of fiscal pressure.

[13] There was a common tax rate of 4%, but in 1996 municipalities got the power to increase it (within the ceiling of 7%) and to allow for tax exemptions and tax breaks.

At the beginning of 2000, a wider attempt to reform the regional finance, aiming at introducing fiscal federalism principles, did not succeed though the Parliament had approved it. The program planned to transfer to the regions 40% of the financing of the health system (instead of the amount corresponding to their needs). Poorest regions would obtain transfers to partially supplement their per capita tax income compared to the national average. However, because of the opposition of these regions, the system was not implemented.

2.5. The Interior Stability Pact

In the same years, two important laws deeply modified financial intergovernmental relations. Following the accession to the European Monetary Union and the Stability and Growth Pact, Italy could not overcome the annual limit of 3% of budget deficit for the whole public administration. The objective was that of reaching break even in the long term and of reducing the public debt to 80% of GDP.[14] These obligations required consistent behaviour from sub-national governments.

In 1999, the financial law introduced the Interior Stability Pact (*Patto di Stabilità Interno - PSI*) to rule the financial administration of these governments. The main objective of this pact was that of controlling the public financial balances, but its structure varied through years according to the bodies involved, the limits or the reduction of current expense, the relevant budget items, and the system of rewards and punishments. The inclusion in the pact of limits to or reduction of public expenditure seems in conflict with the principles of autonomy that the Italian Constitution set.[15]. The success of the pact was limited because of the delay (two years) in the application of the penalties for those governments that did not comply.[16]

[14] In 1994, public debt reached 121.5% compared to 41% of 1970.
[15] The Constitutional Court admitted them only as an extraordinary measure.
[16] Although, there are not official data about the respect of the rules set, in 2006 18% of municipalities, among those that provided information, were not complying with the rules of the Pact.

2.6. The reform of the Constitution of 2001

In 2001 a long political debate on the reform of the constitutional organization of financial intergovernmental relations, aiming at attributing wider administrative and legislative functions to sub-national governments, came to an end. The Constitution set the legislative functions of the State and the competing functions of the state and the regions, leaving to the latter all the matters not explicitly considered. The principle of subsidiarity came into force as for administrative functions; hence municipalities have authority unless when, for economic of suitability reasons, higher levels of government have authority.

As means of finance, sub-national governments can rely on their own taxes as well as shares of national taxes related to the areas under their authority. Bodies with a lower per capita fiscal capacity obtained redistributing transfers without destination constraint to allow the financing of all their functions. The reform also introduced extraordinary tools to finance single bodies in need. It was possible to get into debts only to finance investment expenditures.

However, this reform has not taken place, yet. Under the Berlusconi's government, a special Commission was created in order to propose a new system of public finance according to the suggestions of the Conference State-Local authorities (*Conferenza unificata Stato-Autonomie*). These suggestions, though, were never stated because the Parliament was considering a wider reform of federalism,[17] and because the Conference did not reach an agreement. The Commission, thus, for almost five years, mainly produced studies and researches. The successive Prodi's government presented a bill (*disegno di legge - ddl*) to implement fiscal federalism, which became invalid following the fall of that government and the early end of the legislature. The successive Berlusconi's government prepared a new bill following that prepared by Prodi.

The main issues in the implementation of the constitutional reform relate to: the level of equalization (*perequazione*), the governments entitled to equalization, the relation between the regions and local authorities. To evaluate the adequacy of the resources available to sub-national governments, it is necessary to consider the standard costs related to their functions. The most recent bill proposes to

[17] The reform was approved but it was later rejected through a popular referendum.

distinguish these functions in two categories: a) those referring to services related to political and civil rights of citizens (health, education, and assistance); b) all the others. As for the former category, governments with smaller per capita contributing power must receive redistributing transfers to cover the lack of resources deriving from taxes and other shares. For the other functions, there is a non-complete redistribution of funds.

The distinction of these two categories of functions has been criticized, as it is not based on the constitutional norms regulating redistribution. Other criticisms related to the determination of the regional expenses concerning the second category of functions. The calculation refers to the total amount of the current national transfers for those expenses. These transfers have to be abolished and substituted with new taxes, the average tax rate of which has to be calculated referring to this total amount (neglecting the amount of transfers received by each government/body). As a consequence, for poorer regions, i.e. the southern ones, which at present receive the highest pre capita grants, the reference for redistribution will decrease. Moreover, for these regions per capita fiscal capacity is calculated referring to the national average and not to that of the richest region.

The limits of the planned redistribution system involve also the new national functions that in line with the constitutional reform will be devolved to the sub-national levels of government. These functions will be financed according to the rules mentioned above. As a result, the poorer regions, where now public services are financed by the state, will have to increase fiscal pressure to maintain the current level of services, or will have to accept a lower level of services. Local authorities criticise the present bill because of their subordination to regions and the reduction of their autonomy.

To ensure the respect of the European Community's obligations, a special technical body, composed by members of the various levels of government, will control the fiscal discipline of intergovernmental relations. The system envisages rewards for the efficient governments and penalties for those who do not respect the rules.[18]

[18] Punishments include the automatic increase of tax rates, the impossibility to enrol personnel or to make discretionary expenses, as well as penalties for governmental or administrative bodies.

2.7. The tools to impose fiscal discipline: electoral mechanism, control and bail-out

Two objectives have been behind the reforms of intergovernmental relations that have been taking place in Italy in the last decades leading to the revision of the Constitution. First, to increase collective welfare, expanding the autonomy of sub-national governments; in this way, the supply of public services can better correspond to citizens' demand, taking into account the local peculiarities. Second, to put a limit to the continuous increase of public expenditure and debt burden by increasing administrators' responsibilities through the attribution to the local governments of taxing powers (in place of national transfers) in order to foster electoral control of the taxpayers.

The second objective has been widely debated. It has been argued that, to make sub-national governments fully responsible, taxes has to finance expenses, since national transfers tend to stimulate those governments to reduce taxes and to manage inefficiently the resources obtained. Actually, this is true for those subordinate governments that finance their activities first through taxes and, successively, using national transfers. However, if the framework is characterized by a derivate finance, as it is the case in Italy, the attribution of a higher degree of tax autonomy can stimulate administrators' efficiency. In fact, taxes (introduced because of the higher degree of autonomy), instead of national transfers, influence administrators' choices. Administrators have to choose whether to maintain the same degree of expenditure and services offered asking for new taxes, or to curtail the level of expenditure through better administration reducing pressure on taxpayers. Transfers, though reduced, are fix assets in their budgets; decisions relates only to taxes.

The Italian experience, as in other countries, has led to doubt the efficacy of the electoral mechanism as a tool to control fiscal discipline of intergovernmental relations. The literature has highlighted some aspects of the problem. Sub-national governments violating the discipline can get support from the central government, especially when on both levels the same parties or coalition are in charge. Bail-out reduces, if not eliminates, the negative effects of bad administration on taxpayers.

The latter do not reduce consensus to politicians in charge who, in turn, use their electoral success to sustain their political partners at national elections.

In Italy, the electoral mechanism showed a further limit. In the poorer regions with slower development public expenditure represents a tool to get consensus; it allows the creation of assisted electoral clienteles to realize electoral exchange: public favours for political support. Electors consider these favours within a framework where there are few chances of earning through the market, and political support is useful to enter the public administration and have a career there (and sometimes also within private companies benefiting from public financing), and they do not consider the negative effect on the quality of public administration. In several cases of regional or municipal elections, administrations running deficits, and thus subject to sanctions, or with a poor quality of services, were re-elected from voters thanks to the nepotistic policies.

For electoral mechanism to function properly taxpayers-voters must have information about the relation between services quality and the responsibility of those providing them on the one side. On the other side, they must have information about the connection between tax load and the body imposing taxes. Apart from the cases of fiscal illusion that hide the real tax burden, it has to be put in evidence that some forms of local tax collection may induce the taxpayers to interpret them as state taxes. However, when more governments of different levels are responsible for the provision of a public service, e.g. health, it is difficult for taxpayers to understand who is responsible in case of bad administration of the service. This is even more the case when a technical body, separated from the government, is in charge for the provision of the service.

2.8. The role of the market

The market is an additional instrument to promote fiscal discipline. First, in the capital market, sub-national governments can get funds to finance investments. They used to finance also current expenditure through debts, but now the Constitution forbids it. It is still unclear how to define investment expenditures: wide definitions allow for inefficient behaviour, but strict definitions risk limiting investments in human resources.

Local authorities can use derivatives to substitute existing debts, with initial gains from interests to be used for current expenditures. As a consequence, the state has disciplined this issue also because of the crisis that has characterized the market of these products.

The prohibition to use debts to cover current expenditures, however, can be eluded, though temporarily, delaying the payment to firms providing goods and services to public administrations. Using this device, governments with financial problems have highly increased their debt load for current expenditures especially in the health sector. Their difficulties have worsened and they have exerted strong pressure to get help from higher levels of government worried about the spread of financial problems among firms for which public administrations are the main, if not unique, client.

Another form of elusion of this prohibition, results from the negative impact of disputes with creditor firms or employees about wage increases. These controversies generate further costs to cover trial expenses or interests on credits.

The market can also play an important role in imposing fiscal discipline to the provision of local public services whose costs are covered through tariffs paid by users. These services are often supplied within a natural monopoly and local authorities tend to neglect an efficient management, increasing the amount of employees for nepotistic reasons without introducing technological innovations. When private companies provide these services through concessions (*concessioni*), the possibility to use tariffs to cover administrative inefficiencies does not stimulate public expenditure control. In this framework competition *in* the market cannot exist, but it is possible to have competition *for* the market imposing limits to direct administration (in house) of services and the introduction of calls for tenders to assign the concessions. The calls stimulate competition among firms aspiring to the concession and this brings to the most convenient conditions both for public administrations and users.

In Italy, a reform following this line has been introduced, but it is not being implemented because of the resistance of local authorities and some political parties (belonging also to the majority). Local authorities want to keep control over public bodies, as this is a tool to obtain electoral consensus. Parties believe

that in some cases, like water management, provision from a private firm, although regulated and under public control, does not respond to public interest.

3. Empirical analysis

3.1. The Italian NHS and the decentralization process

Italy has a National Health Service (NHS) - *Servizio Sanitario Nazionale, SSN* - which was established in 1978 to replace the previous system of health insurance funds. It provides all citizens and legal residents with comprehensive care throughout the country.[19] For a long time, the system has been characterized by inappropriate incentives to foster expenditure control given that spending responsibilities were allocated to regional governments while the financing was to be guaranteed by the State through centrally assigned budgets. This situation caused systematic expenditure overruns, resulting in frequent deficits which were covered *ex-post* by the national government, without imposing any credible sanction to the overspending regions.

In the 1990s, the need to curb spending so as to meet the Maastricht criteria has led to undertake a set of reforms with the threefold aim of introducing managerialism within the health system, creating an internal market for health services and increasing the autonomy of regions in both the financing and delivery of health care. The devolution of political powers to regional governments was further strengthen in 2001, when an amendment was made to the Title V of the Constitution. The new article 117 reserves the State the exclusive right to determine "the essential levels of services concerning civil and social rights that must be guaranteed on the whole national territory" and introduces safeguard of health amongst the subjects concerning concurrent legislation between State and regions. As a result, health care responsibilities are shared between the State,

[19] The SSN was originally organized on the basis of a strictly vertical three tier structure of government: central (Ministry of Health), regional (20 Regional Health Authorities, RHAs) and local (local health agencies, *Unità Sanitarie Locali*, USL). A National Health Fund (Fondo Sanitario Nazionale, FSN) was created which was financed mainly from general taxation, employer and employee payroll contributions and a health tax levied on self-employed. This was determined annually by the central government and allocated up to down.

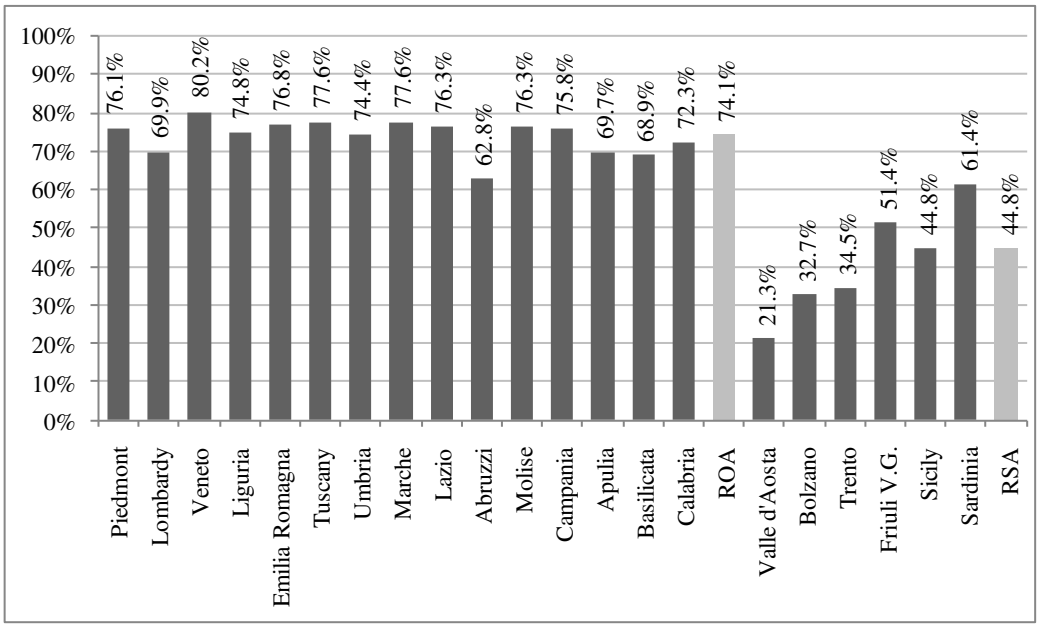
which set the general objectives of health policies through the National Plan and defines the basic health benefit package (*Livelli Essenziali di Assistenza*, LEA)[20] to be provided uniformly across the country, and regions, which are in charge of guaranteeing the provision of LEAs but are also free to administer and organize the supply in accordance with their population needs.[21]

Parallel to the devolution process, the introduction of fiscal federalism resulted in an alignment between funding and spending powers, making regions financially accountable for any health deficit they incur by allowing them to raise local taxes (to a limited extent) and to introduce cost-sharing on drugs and services.[22] Starting from 2001, the National Health Fund is formally abolished and regional funds come from a regionally collected tax on productive activities (*Imposta Regionale sulle Attività Produttive*, IRAP), a regional share and surcharge of the centrally administered personal income tax (*Imposta Personale sul Reddito*, IRPEF), and a set amount of the per litre petrol excise. To pursue equity principles, an inter-regional equalisation mechanism (*Fondo di Perequazione Nazionale*, FPN), financed by a fixed proportion of the national VAT revenue, had to be developed to transfer funds to those regions unable to raise sufficient resources to meet population health care needs[23].

As a consequence of all these reforms, regions have used their autonomy to introduce different organizational models of health care. Moreover, the increased decentralization and reliance on regional sources of finance has even exacerbated the interregional divergences in both funding and spending on health care. This notwithstanding, health expenditure accounts for the largest share of total expenditure in all regions, with values that in 2006 reached an average of 74,13% in regions with ordinary autonomy and 44,82% in those with special one (figure 1).

[20] LEA covers all medical care considered to be necessary, appropriate, and cost-effective.
[21] An overview of the Italian health care system, which includes the debate on the regional responsibilities is provided by France *et al.* (2005).
[22] For further details on the Italian health care financing system, see Bordignon *et al.* (2002).
[23] The amount of funds transferred to or received from the FPN had to be determined according to a complex formula, allowing for the fiscal capacity of a region, its population size and age composition, its historic expenditure on health care, the size and the specific characteristics of its territory.

Fig 1. Share of regional health care expenditure on total current expenditure (2006)



Source: ISTAT
ROA = Regions with ordinary autonomy.
RSA = Regions with special autonomy.

3.2. The determinants of regional health expenditure

In the last few years, the determinants of health expenditure in single countries with either a federal system (e.g. USA, Canada and Switzerland) or multiple autonomous jurisdictions (e.g. Spain and Italy) have been examined.

Compared to the vast array of studies based on international data, disentangling factors driving health care expenditure at a sub-national level allows to reduce part of the existing heterogeneity across countries attributable to differences in the extent of health converge and internal design [Di Matteo and Di Matteo (1998)].

Following the ongoing international debate, most papers have focus on estimating the relationship between income and within-country public per capita health expenditure. They have reached the conclusion that health care is not a luxury good [for Canada, Di Matteo and Di Matteo (1998) and Ariste and Carr (2001); for the USA, Freeman (2003); for Spain, Costa-Font and Pons-Novell (2007)] and that international income elasticities are generally larger than national or regional ones [Di Matteo (2003)].

Apart from income, ageing population and structural characteristics of health care supply relating to economies of scale (number of beds per hospital) and productivity (the number of personnel per hospital) have also proved to be relevant drivers of regional per capita health expenditure both in Italy [Giannoni and Hitiris (2002)] and in Spain [Cantarero (2005)].

However, the role played by income and demographic variables in explaining health care expenditure of sub-levels of government has been recently questioned. Using US state-level and Canadian province-level data, Di Matteo (2005) shows that ageing population distributions and income explain a relatively small portion of health expenditures when a time trend variable, as a proxy for technological change, is added to the model. Crivelli *et al.* (2005) find that cantonal per capita socialized health expenditure in Switzerland seems to be income independent, because of the fixed package of health care benefits offered to all residents.

The decentralization framework does seem to be important in estimating health expenditure. Costa-Font and Rico (2006) conclude that devolution in Spain has not widen interregional inequalities in health expenditure but fiscally accountable Autonomous Communities exhibit a higher per capita health expenditure, once controlling for other determinants. By applying a multilevel hierarchical model to a unique sample of 110 regions in eight OECD countries in 1997, Lopez-Casasnovas and Saez (2007) find that where there is decentralization to the regions, policies aimed at emulating diversity tend to increase national health care expenditure. Moreover, without fiscal decentralization, central monitoring of finance tends to reduce regional diversity and therefore decreases national health expenditure. Similarly, Cantarero Prieto and Lago-Peñas (2009) assume that whenever the central government commitment toward fiscal equalization is strong and/or public health expenditure is financed by specific grants, the regional income elasticity of public health expenditure is lower. Consistently, they find that regional GDP growth is translated into more health care expenditure only in those Spanish regions enjoying higher tax autonomy.

Few papers have specifically taken into account the public budget mechanisms used to finance regional health care. For the Italian case, Levaggi and Zanola (2003) empirically demonstrate an asymmetry in the response to

intergovernmental grants: local expenditure is highly responsive to increases in grants-in-aid from central government, but it is relatively insensitive to grants reduction (a "flypaper effect"). Furthermore, the introduction of a soft-budget constraint hypothesis results in a stronger effect of grants and a lower response of own resources which indicates that, before reducing expenditure, regional governments prefer to incur in some deficit. Bordignon and Turati (2009) contribute further to the literature on soft budget constraints. Their results show that the link between ex-ante funding and expenditure is stronger when regional expectations of future bailing out are lower. Moreover, they show that during the 1990s more autonomous Italian regions had lower expectations for future bailing out and that a political "alignment effect" existed, with regions ruled by politically "friendly" governments reducing health expenditure more than those run by "unfriendly" ones.[24]

Political factors have proved to exert an influence on public health care decision-making at a sub-national level. As for Spain, Costa-Font and Pons-Novell (2007) find evidence suggesting that decentralization and the political ideology of the incumbent parties running the health system of the Autonomous Communities - in a context characterized by some inter-jurisdictional competition - may foster mechanisms leading towards the expansion of health care expenditure. Evidence of spatial interactions between neighbouring Spanish regions in spending decisions is also found in Costa-Font and Moscone (2008). With regard to political effects, their findings stress the need to consider the interaction between ideology and income. Indeed, regional left-wing incumbents raise public health expenditure in relatively richer regions, which is in part due to the increasing competition with the private sector in such areas. Finally, examining the determinants of the public-private balance of health care expenditures in Canada, Di Matteo (2009) finds that provinces governed by centre-left parties are associated with lower public shares in the physician and other health professional categories.

[24] Solé-Ollé and Sorribas-Navarro (2008) provide empirical support for the impact of partisan alignment in the allocation of intergovernmental transfers in Spain in the decade 1993-2003.

3.3. Empirical framework

a) Median voter health expenditure

The starting point of our model is the level of per capita public health expenditure desired by the median voter. Following the previously described literature, this is assumed to be a linear function of real per capita income, the proportion of population aged 65 and over, supply variables and real per capita national transfer revenue to regions.[25] Therefore, the estimated model can be written as:

$$EXP_{it}^{V} = \beta_1 + \beta_2 P\_GDP_{it} + \beta_3 OLD_{it} + \beta_4 F\_TRA_{it-1} + \beta_5 HB_{it} + \beta_6 PH_{it} + u_{it} \quad [1]$$

where the subscript *it* refers to region *i* in year *t*, *EXP* measures per capita public health expenditure at a regional level, *P_GDP* is per capita gross domestic product as a proxy of the median voter income; *F_TRA* indicates per capita intergovernmental grants; *OLD* is the percentage of population aged 65 and over; *HB* designates the number of hospital beds per 1,000 inhabitants; *PH* is the number of physicians per 1,000 inhabitants and u_{it} is the disturbance term.

b) Quality of public health services

The above model assumes that the median voter is only interested in the level of public health expenditure and not also in the quality of the health services provided. If this is not the case, it might be that the median voter is willing to pay a higher price for better quality services. Therefore, equation [1] would become:

$$EXP^{*V}_{it} = EXP_{it}^{V} + \tau\, QUAL_{it-1} + \varphi\, PRIV\_EXP_{it} \quad [1.1]$$

This expression states that if the previous year quality of regional health services ($QUAL_{it-1}$) was high, the median voter is expected to pay for a fraction τ of it during the following year. It is also assumed that the quality of health services affects the level of private expenditure (*PRIV_EXP*). In particular, by

[25] Levaggi and Zanola (2003) take into account also private health expenditure as an independent variable to investigate the relationship between it and public spending.

making the hypothesis that the relationship between public and private expenditure is one of partial substitutability, a high level of public health care is likely to reduce the level of private expenditure.

c) Regional government target level of health expenditure

We assume that each regional government pursues a target level of health expenditure, measured in per capita terms, which is generally higher than the one preferred by the median voter. The difference between the two levels depends on a portion λ (positive) of the regional per capita imbalance between target and actual per capita health expenditure in the previous year:

$$EXP_{it}^{T} = EXP_{it}^{V} + \lambda\, IMB_{it-1} \qquad [2]$$

The regional per capita imbalance in year *t-1* is given by the difference between health expenditure, grants from the central government (*F_TRA*) and local revenue (*L_REV* = taxes and co-payments) in that year, all expressed in per capita terms:

$$IMB_{it-1} = EXP_{it-1} - F\_TRA_{it-1} - L\_REV_{it-1} \qquad [2.1]$$

Rules of financing regional health expenditure in Italy have changed repeatedly during the last decade. In general terms, the share of regional financing through local taxes and co-payments has grown considerably over time. Therefore, considering the lagged level of regional deficit allows avoiding a potential overestimate of the marginal effect of this variable in the first period when regions received funds for health care only through grants-in-aid. Furthermore, this partial adjustment model accounts for the dynamic behaviour of budgetary decisions.

d) Effect of party competition

Following Solè-Ollè (2006), we make two different hypotheses about the behaviour of politicians/parties: namely the *Leviathan* and the *Partisan* ones. Under the former hypothesis, it is assumed that the regional government, which acts as a

power-maximizing agent, selects a target level of public health expenditure that is always higher than the one desired by the median voter. Under the *Partisan* hypothesis, the target level of public health expenditure depends on the party ideology about the public sector size. Therefore, it is predicted that a left-wing regional government will select a target level that is higher than the one preferred by the median voter. The opposite will happen in the case of a right-wing regional government. Under both hypotheses, however, the target level of public health expenditure is influenced by political competition.

In the literature, different ways of measuring the degree of party competition have been provided. One of the most used is the electoral margin obtained by the incumbent in the last round of voting [Tucker (1982); Boyne (1994)]. Following this approach, we measure the degree of political competition as the percentage of votes won by the actual party with the (relative) majority in the last election held (*P_COMP*): the higher (lower) this percentage, the lower (higher) the degree of political competition. In the Leviathan model [3.1], P_COMP is supposed to have a negative effect on expenditure growth, since a smaller electoral support for the majority party in power (suggesting more fragmentation and competition in the political arena) induces it to fulfil the level of expenditure wanted by the median voter. On the opposite, the *Partisan* model [3.2] predicts that increased competition reduces the level of public health expenditure for left-wing governments and increases it for right-wing ones.

Leviathan model

$$EXP_{it}^{T} = EXP_{it}^{V} + \lambda\, IMB_{it-1} + \delta\, P\_COMP_{it} \qquad [3.1]$$

Partisan model

$$EXP_{it}^{T} = EXP_{it}^{V} + \lambda\, IMB_{it-1} + \delta\, LEFT_{it} * P\_COMP_{it} \qquad [3.2]$$

An interesting aspect is given by the ability of voters to clearly identify the political responsibilities. In a proportional electoral system, with coalition governments, it might be difficult for the voter to assign political responsibilities for expenditure levels different from the desired ones [Powell and Whitten (1993);

Anderson (1995)]. In such a case, political competition becomes less effective in restraining expenditure since coalition governments are less prompted to pursue the interests of voters [Solè-Ollè (2006)].

In the 1990s, Italian regions have undertaken electoral and government system reforms which have led to the direct election of the president.[26] In this context, it is easier for the voter to identify the political responsibility of each government choice. To account for this institutional change, the previous Leviathan and Partisan models are amended as follows:

Leviathan model

$$EXP_{it}^{T} = EXP_{it}^{V} + \mu\, MAJ_{it} + \lambda\, IMB_{it-1} + \delta\, P\_COMP_{it} \qquad [3.1.a]$$

Partisan model

$$EXP_{it}^{T} = EXP_{it}^{V} + \mu\, MAJ_{it} + \lambda\, IMB_{it-1} + \delta\, LEFT_{it} * P\_COMP_{it} \qquad [3.2.a]$$

where MAJ is a dummy variable which assumes value equal to 1 in the years in which the majority rule applies and 0 otherwise.

e) Special interest politics

If the government is interested not only in the target level of expenditure but also in the spending composition so as to favour lobbies, equation [2] can be transformed into:

$$EXP_{it}^{T} = EXP_{it}^{V} + \rho\, LOB * EXP_{it-1} + \lambda\, IMB_{it-1} \qquad [4.1]$$

where ρ is expected to be positive.

[26] This reform has not been implemented simultaneously in each region but in different years, according to regional constitutions.

3.4. Data

The data set employed in this study consists of a sample of cross-sectional and time series observations for the 19 Italian administrative regions.[27] Available information comes from several sources and covers the period 1989-2003. However, in the estimation process, only data for the period 1990-2003 are used as one year is needed to create the lagged variables. Therefore, the final simple results in 266 observations for 14 years. A detailed description of the variables used in the analysis, together with their summary statistics, is reported in Table 1.

Many of them do not require further explanations since their inclusion is standard in the literature on the determinants of regional health expenditure. Monetary variables are all expressed in real per capita terms, at 1995 constant prices. As a proxy of the average quality of public health services (*QUAL*) we use the interregional patient mobility. We assume that whenever a region has a positive financial balance from patient mobility, the quality of its public health care services is higher than the national average.[28]

The variable *P_COMP* measures the political competition which results from the fragmentation of the government coalition. It has been already mentioned that this variable is computed as the electoral percentage support obtained in the last election by the incumbent party having the majority of votes. As this percentage decreases, the leading party reduces its political influence and the political scenario becomes more fragmented; thus, competition between parties increases. The opposite has also been assumed to be true.

As a proxy for special interest expenditure we assume the ratio between public expenditure for private specialist and pharmaceutical care and total public health care expenditure (*LOB*). To account for the effect of rounds of voting on public health expenditure, the variable *E_YEAR* is added which assumes value 1 in the years of regional elections and 0 otherwise. Finally, a standard linear time trend variable is included in the model to capture health sector price growth.

[27] We exclude Trentino Alto Adige, an autonomous region where the responsibility of public health care is devolved at a provincial level.

[28] In Italy, citizens have free choice of the region in which to obtain health care. Regions of residence financially cover their patients' mobility.

Table 1. Definition and summary statistics of the variables employed in the analysis

Variable	*Meaning*	*Data source(s)*	*Mean*		*Standard deviation*	*Minimum*	*Maximum*
EXP	Real per capita regional public health expenditure	Ministry of Health	*Overall*	995.04	135.22	708.20	1,342.18
			Between		76.71	850.82	1,129.41
			Within		112.64	779.44	1,247.94
P_GDP	Real per capita GDP	ISTAT, Regional Accounts	*Overall*	16,232.54	4,194.35	8,901.36	24,145.34
			Between		4,114.15	10,310.62	22,925.61
			Within		1,223.41	13,812.31	19,000.18
OLD	Percentage of population aged 65 and over	ISTAT, Regional Accounts	*Overall*	17.94	3.19	10.82	26.18
			Between		2.96	12.83	23.60
			Within		1.35	15.34	20.57
F_TRA	Real per capita national transfers to regions	SANITEIA and ISTAT (Regional Accounts)	*Overall*	930.11	147.41	623.64	1,358.29
			Between		61.55	837.22	1,039.99
			Within		134.64	599.70	1,305.65
HB	Regional number of hospital beds per 1,000 inhab.	ISTAT, Italian Statistical Yearbook	*Overall*	5.70	1.32	3.03	9.04
			Between		0.80	4.20	7.29
			Within		1.07	2.93	8.17
PH	Regional number of physicians per 1,000 inhab.	ISTAT, Italian Statistical Yearbook	*Overall*	6.67	1.29	3.30	14.44
			Between		0.96	5.19	8.26
			Within		0.89	3.86	13.19
QUAL	Dummy variable for regions with a strictly positive financial patient mobility balance	Ministry of Health	*Overall*	0.40	0.49	0.00	1.00
			Between		0.39	0.00	1.00
			Within		0.30	-0.45	1.26
PRIV_EXP	Real per capita private (household) health expenditure	ISTAT (Regional Accounts)	*Overall*	283.80	74.56	136.15	443.75
			Between		55.36	188.45	366.78
			Within		51.43	144.78	364.68
IMB	Real per capita regional deficit	Ministry of Health	*Overall*	161.29	222.72	-396.43	1,379.98
			Between		140.11	13.20	488.28
			Within		175.89	-700.82	1,257.36
P_COMP	Electoral percentage obtained by the incumbent at the last election held	Istituto Cattaneo	*Overall*	34.65	8.81	17.00	47.20
			Between		5.52	23.56	44.11
			Within		6.98	17.42	47.58
LEFT	Dummy variable for regions with a left party in power	Istituto Cattaneo	*Overall*	0.40	0.49	0.00	1.00
			Between		0.39	0.00	1.00
			Within		0.31	-0.38	1.33
MAJ	Dummy variable equal to 1 when regional elections are based on the majority rule	Istituto Cattaneo	*Overall*	0.58	0.49	0.00	1.00
			Between		0.05	0.50	0.71
			Within		0.49	-0.14	1.08
LOB	Ratio of regional private specialist and pharmaceutical expenditure on total regional public expenditure	Ministry of Health	*Overall*	0.15	0.04	0.08	0.31
			Between		0.03	0.11	0.21
			Within		0.03	0.10	0.26
E_YEAR	Dummy variable for electoral years (regional elections)	Istituto Cattaneo	*Overall*	0.21	0.41	0.00	1.00
			Between		0.02	0.14	0.29
			Within		0.41	-0.07	1.07

Note: all monetary values are expressed in Euros, at 1995 prices.

3.5. Estimates and discussion of results

As for the estimation methodology, we follow the previous literature which assumes poolability of the data and linearity of the functional form. There are

mainly two econometric approaches for analyzing the proposed models: the panel data approach (including pooled OLS, GLS random effects and panel fixed effects), and the cross-sectionally heteroskedastic and timewise autoregressive model, also known as the Parks-Kmenta approach.[29] Given the short time period considered in this analysis, previous literature suggests to employ GLS random effects [Bordignon *et al*. (2003)].

Table 2. Median voter expenditure

Independent variable: EXP, in Euros at 1995 prices
Functional form: linear
Estimation period: 1990 – 2003
Estimator: GLS random effects

Variable		(1)	(1.1)
		EXP	EXP*
Constant		234.345***	291.897***
		(45.483)	(45.031)
P_GDP		0.007***	0.009***
		(0.002)	(0.002)
OLD		3.072	4.245**
		(1.906)	(2.000)
F_TRA $_{(t-1)}$		0.451***	0.469***
		(0.034)	(0.032)
HB		15.907***	6.314
		(3.668)	(3.963)
PH		-0.808	-0.648
		(2.486)	(2.347)
QUAL			26.658***
			(7.047)
PRIV_EXP			-0.283***
			(0.079)
TREND		127.945***	113.397***
		(8.415)	(9.327)
R^2	*within*	0.9047	0.9152
	between	0.8422	0.8304
	overall	0.8836	0.8892
Breusch-Pagan LM[(1)]		225.52***	247.76***
Observations		266	266
Number of regions		19	19

(1) Breusch-Pagan = Breusch-Pagan test OLS vs random effects.
Notes: White heteroskedasticity-consistent standard errors are reported in parentheses.
***, ** and * denote significance at 1, 5 and 10 per cent levels, respectively.

Table 2 shows the estimation results of models [1] and [1.1]. These are generally in line with previous expectations. According to the existing literature, a positive sign should be expected for the variable measuring the effect of per capita income in model [1]. With regard to the aged population variable, a positive effect is expected in both models: all other things being equal, an increase in the regional proportion of population aged 65 and over is likely to determine an

[29] See Greene (2003).

increase in regional per capita public health expenditure. The variable for the quality of services (column 2) has a rather strong and significant impact on health expenditure and indicates the existence of a substitution effect between public and private health care.

Table 3. Government target expenditure and political competition

Independent variable: EXP, in Euros at 1995 prices
Functional form: linear
Estimation period: 1990 – 2003
Estimator: GLS random effects

		(1)	(2)	(3)	(4)	(5)
		EXP	EXP	EXP	EXP	EXP
Constant		205.072***	235.399***	243.452***	204.220***	208.657***
		(44.946)	(46.510)	(47.418)	(45.017)	(43.784)
Median voter expenditure						
P_GDP		0.006***	0.006***	0.006***	0.006***	0.006***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
OLD		4.922***	4.756***	5.548***	4.979***	4.079**
		(1.778)	(1.777)	(1.880)	(1.823)	(1.834)
F_TRA $_{(t-1)}$		0.459***	0.460***	0.454***	0.460***	0.466***
		(0.034)	(0.034)	(0.034)	(0.034)	(0.035)
HB		16.057***	18.834***	16.901***	16.157***	16.008***
		(3.575)	(3.576)	(3.916)	(3.583)	(3.472)
PH		-2.632	-3.655	-3.406	-2.802	-2.420
		(2.421)	(2.454)	(2.437)	(2.461)	(2.327)
TREND		125.124***	121.566***	122.077***	125.094***	124.698***
		(8.308)	(8.268)	(8.249)	(8.322)	(8.307)
Political variables						
IMB $_{(t-1)}$		0.051***	0.052***	0.052***	0.051***	0.051***
		(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
P_COMP			-1.068***	-1.169***		
			(0.341)	(0.353)		
MAJ				-9.059		
				(6.703)		
E_YEAR					1.798	
					(6.643)	
LEFT * P_COMP						0.224
						(0.208)
R^2	*Within*	0.9099	0.9117	0.9163	0.9117	0.9117
	between	0.8534	0.8551	0.8412	0.8505	0.8506
	overall	0.8912	0.8930	0.8919	0.8909	0.8910
Observations		266	266	266	266	266
Number of regions		19	19	19	19	19

Notes: White heteroskedasticity-consistent standard errors are reported in parentheses.
***, ** and * denote significance at 1, 5 and 10 per cent levels, respectively.

Table 3 illustrates the estimation results for the effect of party competition in both the Leviathan and Partisan models. We adopt the prudential approach of testing the model by introducing one political variable at a time. Therefore, the comparison between columns one and two indicates the impact of political competition. In column three, the dummy variable for the effect of the

institutional transition to a majority system for regional election is inserted. The purpose is that of verifying whether this variable has an influence on the containment of public health expenditure due to a more visible responsibility of the winning party (or coalition). Column four shows the impact of the regional electoral year on public health expenditure, testing the possibility of a strategic use of deficit by the incumbent government. Column five reports the estimation results for the Partisan model.

As expected, results from column two show a negative impact of political competition/fragmentation on the health expenditure variable in the Leviathan model. That is, when political competition increases, the regional government target level approaches the level desired by the median voter. On the contrary, for lower levels of political competition, the government target level is higher than the median voter spending level.

Interestingly, the introduction of the majority system variable has a negative but not significant impact on regional public health expenditure. Similarly, the variable related to the election year is not statistically significant. Finally, in the Partisan model, where different ideological positions exist, political competition does not show a significant effect, although the sign of the variable is positive.

Concerning the impact of quality (Table 4), results remain basically unchanged. Looking at the marginal effects of political competition and financial imbalance, these variables appear to have a more modest effect on regional public health expenditure than in previous estimates. This suggests that quality may be used by the electorate as an indirect (low-power) tool to control public expenditure.

In Table 5, column three confirms that interest groups exert a significantly positive influence on public health expenditure at a regional level. The variable for political competition (computed as the percentage of votes over the total) continues to show a negative sign. An interesting result is that of quality. By comparing columns one and two, it appears that whenever quality is evaluated by the voters, the influence of interest groups on public health expenditure is lower.

Table 4. Government target expenditure and political competition when quality matters

Independent variable: EXP, in Euros at 1995 prices
Functional form: linear
Estimation period: 1990 – 2003
Estimator: GLS random effects

		(1)	(2)	(3)	(4)	(5)
		EXP*	EXP*	EXP*	EXP*	EXP*
Constant		259.152***	286.699***	284.142***	259.230***	253.836***
		(42.489)	(43.026)	(43.994)	(42.590)	(40.109)
Median voter expenditure						
P_GDP		0.009***	0.009***	0.010***	0.009***	0.009***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
OLD		5.492***	5.593***	5.243***	5.625***	4.615***
		(1.645)	(1.575)	(1.665)	(1.700)	(1.608)
F_TRA $_{(t-1)}$		0.480***	0.484***	0.492***	0.480***	0.490***
		(0.033)	(0.034)	(0.035)	(0.034)	(0.035)
HB		7.204*	9.561***	10.516***	7.194*	7.822**
		(3.791)	(3.615)	(3.753)	(3.817)	(3.639)
PH		-1.840	-2.584	-2.629	-2.080	-1.170
		(2.242)	(2.219)	(2.199)	(2.283)	(2.199)
TREND		111.135***	105.220***	102.622***	111.179***	110.686***
		(9.237)	(9.374)	(9.879)	(9.297)	(9.265)
Quality of public expenditure						
QUAL		23.217***	20.815***	21.095***	23.733***	20.185***
		(6.809)	(6.380)	(6.369)	(6.788)	(6.913)
PRIV_EXP		-0.267***	-0.300***	-0.346***	-0.268***	-0.256***
		(0.075)	(0.076)	(0.092)	(0.076)	(0.074)
Political variables						
IMB $_{(t-1)}$		0.047***	0.049***	0.049***	0.047***	0.049***
		(0.018)	(0.018)	(0.019)	(0.018)	(0.019)
P_COMP			-1.100***	-1.068***		
			(0.333)	(0.336)		
MAJ				7.958		
				(7.936)		
E_YEAR					1.213	
					(6.277)	
LEFT * P_COMP						0.138
						(0.193)
R^2	*within*	0.9123	0.9169	0.9123	0.9123	0.9121
	between	0.8560	0.8420	0.8513	0.8514	0.8595
	overall	0.8930	0.8919	0.8909	0.8910	0.8937
Observations		266	266	266	266	266
Number of regions		19	19	19	19	19

Notes: White heteroskedasticity-consistent standard errors are reported in parentheses.
***, ** and * denote significance at 1, 5 and 10 per cent levels, respectively.

Table 5. Government target expenditure and special interests

Independent variable: EXP, in Euros at 1995 prices Functional form: linear Estimation period: 1990 – 2003 Estimator: GLS random effects				
		(1)	(2)	(3)
		EXP	EXP*	EXP*
Constant		175.678***	233.401***	260.993***
		(44.576)	(43.936)	(44.683)
Median voter expenditure				
P_GDP		0.008***	0.010***	0.010***
		(0.002)	(0.002)	(0.002)
OLD		6.206***	6.352***	6.329***
		(1.788)	(1.733)	(1.669)
F_TRA $_{(t-1)}$		0.398***	0.422***	0.428***
		(0.035)	(0.035)	(0.036)
HB		12.440***	5.227	7.675**
		(3.537)	(3.779)	(3.642)
PH		-2.599	-2.409	-3.084
		(2.430)	(2.284)	(2.260)
TREND		92.395***	86.492***	82.296***
		(12.033)	(11.624)	(11.383)
Quality of public expenditure				
QUAL			24.857***	22.490***
			(6.855)	(6.500)
PRIV_EXP			-0.206***	-0.237***
			(0.078)	(0.079)
Political variables				
IMB $_{(t-1)}$		0.040**	0.037**	0.039**
		(0.016)	(0.017)	(0.018)
LOB * EXP $_{(t-1)}$		0.535***	0.459***	0.438***
		(0.137)	(0.133)	(0.131)
P_COMP				-1.048***
				(0.331)
R^2	*between*	0.9096	0.9172	0.9187
	overall	0.8534	0.8395	0.8488
	within	0.8903	0.8892	0.8882
Observations		266	266	266
Number of regions		19	19	19

Notes: White heteroskedasticity-consistent standard errors are reported in parentheses.
***, ** and * denote significance at 1, 5 and 10 per cent levels, respectively.

4. Concluding remarks

The preliminary results of this study offer some interesting insights on political economic aspects of health care decentralization in Italy. According to common wisdom, decentralization is likely to strengthen the control of the electorate on the public outcome and therefore to constrain public expenditure. This paper contradicts this presumption, showing that less fragmentation, implying a large electoral support for the main incumbent party, has a negative sign on regional health expenditure. Other interesting results have been derived relatively to the impact of quality perceived by the voters.

Clearly, this paper is still in a preliminary form and further analysis will be devoted to better define the basic political model aiming at capturing the impact of political competition on regional expenditure and deficits.

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