Representation, Policy Making and Accountability: Learning from Changes in Democratic Institutions

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Abstract

This thesis proposes a political economy analysis of the impact of institutional change on representation, policy making and accountability. Specifically, it focuses on the transition from parliamentarism to presidentialism and it exploits information from a unique database on a natural experiment that took place in Italy in the 1990s. We first provide an introduction and critical overview of the related political economy literature. Chapter 1 analyses the effect of the constitutional transition on the structure of governments and fiscal policy outcomes. It develops a theoretical framework for the analysis of citizens' ability to hold representatives accountable in a world of multiple policy issues. The model predicts that institutional change improves accountability and that it modifies the relationship between the executive and legislative preferred policies. These changes are reflected in changes in policy decisions on fiscal expenditure. Findings show that differentiation widens between mayors and the leading parties in the legislature. Furthermore, political changes (as captured by differentiation) affect the expenditure choices in the three largest categories of public expenditure. Chapter 2 analyses the interplay between constitutions and the occurrence of political business cycles. The results show that, once the effect of elections is allowed to vary across constitutional regimes, we observe tax cuts and other policy changes before elections only after the institutional transition took place. Finally, Chapter 3 analyses how the introduction of presidentialism substantially enhanced the quality of elected representatives that are part of the executive. The empirical results show that educational levels of elected representatives rose, and that there was a change in the occupational mix due to the large number of elected politicians with high opportunity-cost professions that joined the local governments. This can be explained by higher self selection of good quality politicians in the political competition for executive seats after the reform.

To My Parents - Ai Miei Genitori

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Introduction

Government interventions in economies produce wide ranging impacts. Governments engage in public goods provision, regulation, productivity enhancing interventions, macroeconomic stabilization, redistribution. Traditional public economics focused on the analysis of guiding criteria for optimal government intervention. The government was assumed to be a benevolent agent maximizing social welfare through its policy choices[1]. However, policy decisions are not the outcome of an abstract entity that acts as a social planner and maximizes the total welfare of a given polity. Policy decisions are the outcome of a collective decision making process,and are performed by individuals that do not necessarily act benevolently, i.e. in line with citizens' preferences.

The political economy literature analyzes government and other players behavior within an institutional framework, focuses on the incentives faced by agents in the policy making process and the role of institutional choices in affecting policy outcomes. Its research agenda is to provide better models of political processes that will provide a deeper understanding of the forces determining policies. Moreover, these models should offer guidance on how institutions of choice could be structured in order to improve the policy process. James Buchanan, with his work on public finance in the democratic process (1967) and subsequent publications, provided seminal contributions on the analysis of the role of the constitution in the determination

[1] The selection of policies would take place after a choice had been made on how to evaluate the collective impact of a policy by aggregating the effects that this policy has on each society members' welfare.

of policies. Inspired by his readings of the Italian school of public finance, he introduced formal analyses of the impact of self-interests and special interests on policy making and government behaviour, in juxtaposition to the traditional public economics analysis, which was based on the assumption of benevolent governments. The so called "new -political economy" (in opposition to the use of "political economy" to broadly describe economics since Adam Smith's contributions to the discipline) traces its origins from three distinct strands of literature:

- the developments of formal analysis of political science,
- the public choice tradition of the Virginia School led by Buchanan himself, and
- the analyses of macroeconomic policy that initiated in the late seventies.

Prior to the development of these three traditions, the Arrow impossibility theorem[2] had already delivered the dismal result of collective decision making analysis. The essence of collective choice relied on finding a method that allowed a comparison of gains and losses in an economy, that stemmed from a certain policy intervention. The appealing idea of deriving societal preferences from those of individuals in a society according to some agreed principles (rather than adopting a notion of what is good for society on grounds of moral reflection of benevolent dictators) was dismissed in 1951 with the proof that no method of preferences aggregation could satisfy a set of desirable aggregation properties. As William Riker put it "Politics, not economics, is the truly dismal science". Understanding how social decisions are taken and what role is played by political institutions thus formed the agenda of positive collective choice theory.

A few years after the end of the second world war, Duncan Black (1948) developed an influential model of (spatial) political competition. Black's model, which

[2]This result, provided in Arrow's PhD thesis, demonstrated that only a dictatorship can gernerally and simoultaneously satisfy unanimity, independence and transitivity.

was similar to an earlier spatial competition model developed by Hotelling in 1929, produced the median voter theorem. Anthony Downs (1957) extended Black's results to representative democracy, providing a very influential model of policy selection in an election with two competing candidates. The key finding of Downs' study is that when candidates that only care about winning the elections (rather than caring about the actual policy implemented), are able to commit to the announced political platform and to compete on a single political issue, the political equilibrium that prevails is one where both candidates will offer the policy that is preferred by the median voter.[3]

This median voter theorem has proven to be a very popular result and is often used as the simplest way of endogenizing the political process in economics models. However, it substantially lacks empirical support on two grounds:

- policy platforms of two contending candidates do not necessarily converge, and
- the preferences of the median voter do not seem to determine implemented policies.

The political economic literature has addressed this issues by acknowledging the importance of the ability to commit credibly to policies ex ante and the importance of candidates' policy preferences.

Seminal contributions were made three decades ago by Barro (1973) and Ferejohn (1986). In their framework, candidates' policy preferences are irrelevant to the analysis, however the analysis departs from a world of commitment to political platforms and instead focuses on politicians' performance after the elections have been held. An agency problem between the electorate and the incumbent thus lies at the heart of these models. Rather than focusing on spatial competition, these

[3] A key assumption of this result is single peakedness of preferences. This model has then been extended in the quest of political equilibria that predict convergence to the median outcome with multidimensional policies and to allow for other generalizations, see Grandmont (1978) and Gans and Smart (1996) among others.

studies are germane to the vision of liberal democracy eloquently stated by William Riker in "Populism against Liberalism". Elections are the citizens' tool to discipline politicians and curb opportunistic behavior. In economic terms these models rest on the premise of private information on the incumbent type or uncertainty about the state of the economy (or other elements beyond politicians control which can affect public finance outcomes and the incumbent performance).

Alberto Alesina in 1988 developed a model that analyzed the dynamic inconsistencies arising from policy motivated parties. In his theoretical framework the pressure of the electoral competition induces parties to announce converging platforms. However, after the elections the elected party has an incentive to follow its most preferred policy. Rational voters anticipate this behaviour and, as a consequence, in a one shot game, policy convergence can only happen if parties have no policy preference. Alesina further showed that complete and partial policy convergence in an infinitely repeated game between the electorate and parties depends on specific values of the parties discount rates, the degree of polarization of preferences and the relative popularity of parties.

Another strand of the literature has modeled politicians preferences on the basis of the existence of pure rents that can accrue to the incumbents while in office. The existence of such rents provides incentives to depart from the electoral mandate. More generally, a number of models have imposed differences between the politicians' preferences and the electorate preferences in the modelling of the political processes. The work of Grossman and Helpman (1996) on electoral competition and special interest politics can be ascribed to this approach, together with earlier studies by Lindbeck and Weibull (1987) and Dixit and Londregan (1994). An alternative approach has been developed by the work of Osborne and Slivinsky (1996) and Besley and Coate (1997). Osborne and Slivinsky coined the term "citizen-candidates" to describe this approach. This explicitly introduced in the political economy theory of representative democracies the participation of citizens in the political process

as candidates. Osborne and Slivinsky developed a model of democracy which is essentially the same as that of Besley and Coate, though there are important differences on the number of policy dimensions (being the policy space multidimensional in Besley and Coate) and on the assumptions of voters' sincerity. In the Besley and Coate's citizens-candidates models of representative democracy, politicians are citizens who have chosen to become candidates for public office. The candidates who win implement their preferred policies and cannot credibly commit to do otherwise. Rational voters, anticipating this, vote for candidates on the basis of their policy preferences (and if the candidates are heterogenous in terms of competence also on the basis of candidates abilities).

In fact, the theoretical analysis provided in chapter two makes use of the citizen candidate framework. However, the chapter does not analyze the entry stage of citizens as candidates; instead, it focuses on the party's choice of candidates for given polity preferences in multidimensional settings.

In our fourth chapter, we investigate the identity of the elected politicians and argue that changing institutions can affect the political career self selection mechanisms. The work in this thesis is related to the very recent literature that scrutinizes the impact of politicians' wages on incumbents' performance and studies the type and quality of elected representatives. These models develop an analysis of moral hazard and selection effects affecting the pool of possible candidates in the presence of politicians heterogeneity. In the political science literature, scholars have analyzed issues such as the impact of legislative professionalization on legislative diversity (Squires 1992) or the profile of members of the US congress and their political affiliation (Fiorina 1994, 1997 and 1999)). A basic argument underlining the conclusions of Fiorina's studies is that richer people with good remunerative career prospects outside the government are reluctant to leave their posts to compete in elections because of a higher opportunity cost.

Recent economists' investigations have focused on related issues by analyzing

the relationship between wages and candidate quality. Poutvarra and Takalo (2003) show that the value of holding office has a non monotonic relationship with candidate quality. Similarly, Caselli and Morelli (2004) find that increasing the reward to hold political offices provides a tool to balance the perverse incentives (of the least capable citizens to self select themselves into the political career in order to extract rents) and to increase the quality of the political class. Recent work by Besley (2003) combines moral hazard and adverse selection in analyzing the effect of paying politicians more on performance. The analysis is developed in the presence of heterogeneity in the degree of congruence between politicians preferences and voter preferences. Besley, in examining the role of wages on individuals' decisions to participate in political life, finds that paying higher wages improves the pool of politicians thus ensuring that there are more good politicians[4].

Instead of looking at politicians' wages we consider constitutional engineering as an alternative mechanism to affect individuals' political career choices and, as a consequence, the characteristics of the pool of politicians elected. Our analysis suggests that the introduction of the direct election of the head of the executive altered the elected politicians' value to be in office in the reformed executive power. This is confirmed from our empirical analysis which shows that the institutional change acted as a catalyst to attract a large number of high outside option/opportunity cost citizens.

In the discussion so far, the role of institutions has been in the background, however, as the title itself suggest, institutions are crucial in the analysis we developed, and more importantly institutions are crucial in the functioning of representative democracies and the policy formation process. While the efficient functioning of a democracy relies on more elements than the constitutional rules that dictate the type of electoral procedures in place and the structure of the legislature, this thesis and

[4]This holds under some conditions which are discussed in chapter four. More generally, this literature is presented in more details in the same chapter.

this selective review focuses on these two constitutional features. Myerson (1995) reviews earlier studies in the collective decision theory literature, which provided normative analysis of institutions, with a particular focus on votes aggregation and representation of different groups of citizens under alternative institutions. In this introduction, we focus on the political economy literature germane to our analysis. This literature has addressed explicitly the fundamental question of how democratic institutions affect policy choices and democratic representation. Recent books by Persson and Tabellini (2000) and Allan Drazen (2000) review this literature extensively. The latter focuses on applications for macroeconomic policy. Macroeconomics provided a fertile ground for the analysis of the role of institutions on policy in the late seventies (Nordhaus (1975), Kydland and Prescott (1997)) and eighties (see for example Barro and Gordon (1983), Alesina (1987), Rogoff and Sibert (1988)). The research analyzed governments career concerns, economic manipulation, political cycles, inflation biases and the role of institutions. The book by Persson and Tabellini provides a review and analysis of what the authors labelled comparative politics. Their works belongs to a strand of the literature that used microeconomic foundations to contrast different political regimes and their impact on policies implemented. Theoretical frameworks have been developed to analyze how the choice of legislature (for example the work by Persson, Roland and Tabellini (2000)) affects fiscal outcomes such as the size of deficits and public spending, or the impact of electoral mechanisms on public good provisions (e.g. Lizzeri and Persico 2001). The importance of institutional differences in explaining policy outcomes has been tested empirically by relying on cross country analysis (see for example Milesi, Ferretti and Rostagno (2001) or Persson and Tabellini (2003)) or exploiting institutional variability within a country (an obvious example is given by the literature based on US data which is reviewed by Besley and Case (2003), but institutional variability ha been exploited elsewhere (for example in India). It is rare that institutions change over time and little time series variability is observed on fundamental constitutional

features such as the type of constitutional regime and the electoral law adopted. The classic drawbacks of relying on cross sectional analysis (even when data are structured in longitudinal form, but there is no time variability) is the problem of simultaneous determination of the observed institutions and other economic and policy-making factors. The problem is particularly acute when the comparisons rely on separate state entities, that may well differ in underlying characteristics that cannot be controlled by exploiting the available data. Though the empirical agenda in political economy has adopted refined econometric techniques to cope with these issues, ideally we would like to analyze the impact of alternative institutions on the composition of legislatures and on policy making in homogenous environments that display variability over time and across polities analyzed.

This thesis contributes to the recently developed political economy literature by analyzing the impact of constitutional design on policy outcomes and government structure. The empirical analysis in each chapter is based on new data from a natural experiment that took place in Italy in 1993 when the direct election of a town mayor was introduced. As mentioned above, such cases of institutional transitions are rarely observed at the national level. However, in this thesis we are able to exploit the institutional change (or "natural experiment") that Italian local governments experienced over time (given the existence of both pre- and post-reform data on electoral results and public finance). In addition to time variability, given the longitudinal structure of our data, the analysis is developed relying on municipal and regional variation within the same country. This homogeneous background is an important feature of the data, and so allows us to analyze data that have been produced using consistent methodologies. Within this data framework, our estimates of the impact of constitutional change on political and fiscal policy outcomes are, therefore, less likely to be biased because of individual unobserved heterogeneity than would be the case if we were to rely on cross country institutional variability. In chapter two, we develop a theoretical application for the citizen candidate model

in order to analyze the impact of this constitutional reform on accountability and government structure. In the same chapter we then investigate the impact of the role of political change in local governments in shaping fiscal expenditure decisions. The third chapter considers how constitutional reform affects the well know phenomenon of political business cycles. The chapter provides an empirical contribution to the literature on the role of incumbents strategic behavior due to career concerns under alternative regimes by examining compositional changes in fiscal revenues and taxation policies. Finally, the fourth chapter contributes to the research area on political class career incentives and to the little developed literature that studies the characteristics of the political class. The chapter analyzes changes in political class composition in terms of occupational and educational characteristics generated by institutional reform.

Before providing a more detailed description of the contribution of each chapter and its findings in the conclusion of this introductory chapter, the next section provides a brief description of the reform that affected Italian local governments, and the background and the main characteristics and functions of town governments in Italy.

Institutional background

In March 1993, the Italian Parliament approved an electoral reform bill that introduced the direct election of mayors.[5] This reform was perceived as an important change in local politics and formed part of a broader reform process that took place in the first half of the nineties, which modified the electoral procedures at the national, regional and local level. The electoral reform bill transformed the regime from one characterized by a parliamentarism to a presidentialism. At the local level, in the old regime the council board was elected with a proportional electoral scheme.

[5]The electoral law referenece is "Legge Elettorale del 25 marzo 1993 n. 81". Elezione diretta del sindaco, del presidente della provincia, del consiglio comunale e del consiglio provinciale."

Each party proposed a list of candidates. In such an environment, the electoral competition focussed exclusively on party lists, often decided at the national level by parties' executive committees. The majority coalition on the board, formed after the elections, appointed the mayor. In between elections (generally held every 5 years), councils' majorities and mayors could and would change quite frequently. For the governments in our sample, we observe that, before the reform, roughly 40% of the incumbent mayors were substitutes of the mayor that was appointed immediately after the elections. In such a contest, identifying the likely executive that would form after the election and the policy choices that would emerge was a hard task[6].

In contrast, the reformed regime is characterized by the direct election of the mayor by plurality (with a run-off for the two most voted candidates in towns of 15000 inhabitants or more when no candidate obtains absolute majority in the first round). The reform established a 4-year term for the mayor and it's government, six years later, the law n. 265, 3-8-1999, increased the length of the legislature to 5 years. A new proviso on term limits was introduced by the 1993 bill. New elected mayors could only serve for two consecutive terms.

In the reformed scenario, parties or coalitions propose a candidate mayor and a list or several lists associated with the candidates. The directly elected mayor appoints the executive board (a novelty introduced by the reform bill). In contrast with the previous regime, directly elected mayors cannot be removed from their office without dissolving the government and incurring in new elections. This proviso was introduced into the constitution to stabilize local public administrations, which often reshuffled majority coalitions and replaced mayors during term. Since the reform implementation, citizens vote separately and simultaneously for mayoral candidates and for a list of potential members of the council board. The lists in most cases

[6]Strom (1990) has constructed an index of "identifiability" based on national institutions. Until the majoritarian reform of national elections, the electoral mechanism at the local and national level were similar. The regime was a parliamentarist one characterized by multipartitism. Interestingly, the Italian system was ranked at the bottom of the distribution.

correspond to a political party and their support for a candidate mayor is declared up front. For the board elections voters can choose to vote for a list that does not support the mayor they voted for (stylized sample ballots can be found in the appendix).

The aim of the reform was twofold. First, the reform would improve accountability - limiting discretion in parties' choices by enhancing citizens ability to see their preferences reflected in the type of candidates proposed. Second, the reform aimed at ensuring the stability of local governments[7]. An analogous institutional change has been introduced in England in May 2002, when for the first time seven councils elected "Executive Mayors", with the similar aim of stimulating local democracy. Italian commentators and political scientists welcomed the reform. Bettin-Lattes and Magnier (1995) emphasize how the reform weakened the importance of parties' executives in candidate selections. Baldini and Legnante 2000 assess the impact of the reform as"revolutionary". Their interpretation stresses the importance of strengthened political competition induced by the reform and the possibility of a split vote by the electorate. The authors conclude that this induced parties to select candidates "with a tighter bond to the electorate". The. the visibility of the candidature of the mayor and the possibility of casting two votes induced a more accurate choice of candidates. After the reform, assigning the role of candidate leader of the executive to a candidate (often a politician) with no links with the local constituency and generally without strong electoral appeal, became a risky political strategy, whereas in the past, the ability to select a mayor by securing the majority of votes of the council members allowed parties to use greater discretion in

[7]For a discussion of the reform in the political science literature see Baldini and Legnante (2000). The authors share the view that the primary target of the reform was to "tighten the link between voters and parties' offers" (my translation, ibidem, paragraph 1.4). They characterize the consequences of the reform as follows: "The split vote option not only gives greater freedom in choice but contributes to the separation of the offer in the two ballots. The option of vote splitting centers the electoral competition on the comparisons of the offers that parties present at the executive and council board level." They also remark that "in the past the object of competition was exclusively the municipal board [...while] the contemporaneous election of the board and the mayor is a revolution," (my translation, ibidem, page: 84).

the choice of the executive leader.

The Italian legislators ruled out the possibility of having a mayor that faces a hostile majority in the legislative board. This was achieved by imposing the rule that the majority of the seats on the board had to be allocated to the lists that declared support for the winning mayor before the elections. This is a crucial feature of the institutional structure, which imposes a limit to the ability of the citizens to exert pressure on the non salient political issues. This issue is examined in more detail in Chapter 1, where we outline a theoretical framework for the analysis of the institutional change.

Institutional reform was implemented gradually to allow for completion of the last legislature under the old rules. As we can see from Table 1, in 1993, one fifth of the elections was held with the new electoral law, the following year 60% of the mayors in the sample had been directly elected. By 1995 only a handful of towns had a government that was elected according to the old system.

To provide a synopsis of how the political situation change during the period 1988-1996 (the time span covered by public finance data), we note that there is a positive correlation (0.4) between the new electoral procedure and the number of left wing local governments appointed, which reflects the increasing number of elected left wing local governments over time. At the national level, where electoral reform was implemented in 1993 in order to introduce majoritarian voting for the assignment of most of the parliaments' seats, the 1994 general election witnessed the victory of the right wing coalition[8]. This election is the chronologically closest election to most of the local elections held with the new electoral scheme. In May 1996 the center left coalition won the general elections, and the political scenario at the national level changed once again in 2001 when the center right coalition won the general elections. In the econometric analysis, where appropriate, we will address the concern that overlapping changes in Italian national politics may explain most

[8]Hence, the 1994 election was the first general election held with the new majoritarian electoral rule.

of the variability in electoral outcomes we observe at the local level.

The basic role of local governments is to provide a large number of services to their communities. While the main ones: education, welfare state provisions, and health care tasks are administered at higher level of government, municipalities are active in providing social services (care takers for the elderly, affordable housing), leisure activities (from cultural exhibitions to sport facilities), registry and urban planning services, help for local businesses and other essential services (waste collection, streetlights, local road systems) and so on. Providing good management of these services has a first order impact on the quality of life in Italian towns. The extent to which local governments are accountable to their jurisdictions is an important component of the democratic process and day-to-day life in the country.

These activities are mainly[9] funded by transfers from higher tiers of government (and in particular by the state[10]). On average only 19 per cent of total revenues is generated by taxes. Most income is generated by national and regional transfers. However, municipalities also charge for some of the services provided and collect revenues (roughly one tenth of a town's income is raised in this way) from other sources (like fines for violations of the highway code). To a limited extent, local government can also levy some taxes, especially on properties. The marginal rate applied is, however, tightly constrained by the law to be within a certain range. Only recently - i.e. in the years not covered by our sample of fiscal data- the freedom to tax has been increased, at the expense of transfers, which have been reduced. Local governments can also borrow to finance projects and run activities. However, this source of income is of a considerably smaller scale than of the previously quoted categories.

The fiscal data used in this thesis covers roughly 120 towns for the period from 1986 until 1996. It includes towns that are head of a province and/or have more than sixty thousands inhabitants. The data has been provided by the Italian na-

[9]The figure is around 40% of the overall revenues.

[10]These transfers are not determined by a formula, as it happens, e.g., in the UK.

tional institute of statistics ISTAT[11]. This database allows us to study the evolution of tax revenues, transfers from higher tiers of government, borrowing behavior and non-tax revenues over the years. In principle, local administrations can also incur deficits. However the data shows that this rarely happened. It also contains information on local governments expenditures and the figures disaggregated according to destination into five categories.

The relative size of the main expenditure categories is described in Table 2 (in shares over total current expenditure)[12]. Average General Administration average expenditure roughly amounts to one fifth of total expenditures. Local Security spending (mainly for local police forces) accounts for just under 5 per cent of total expenditure. Education and culture activity expenditure accounts for 17.7 per cent of total expenditures in the last year of available data. Regarding the other two categories, Social Intervention expenditure accounts for more than a third of overall expenditures, while transport and telecommunication accounts for 8 per cent of total expenditure in the most recent year of available data.

A broad political database provides information for all incumbents in Italian local governments from 1989 to 2001 on: election dates, termination of appointments and politicians' characteristics (such as age, education, profession, gender and so on).

The theme of this thesis is the role of institutions in shaping the incentives and policy decisions of politicians, the structure of governments and the composition of the political class. To conclude this introduction we now summarize the main findings of each of the thesis chapters. In Chapter 1, we study the effects of the transition from a parliamentary to a presidential system on electoral outcomes and fiscal policy expenditures. The chapter focuses on the accountability of policy motivated representatives under alternative institutions. When there are multiple policy issues, we assume that voters try to influence the outcome of the elections so as to

[11] The accounting criteria underlying the ISTAT information are set at the national level and are applied homogeneously in all towns.

[12] On average, these shares exhibit little variation over time, see Table 3bis.

affect the policy choice that matters most to them. Hence, policy outcomes on issues that are not salient for most voters may stray far from the popular will[13]. Allowing citizens to directly elect the head of the executive provides political parties with stronger incentives to generate policy choices that better suit voters' preferences. We provide a theoretical framework designed to capture these ideas. Our model predicts that this institutional change can lead to increased differentiation between the executive and the legislative power policy preferences. As a result of changes of preferences within a government, different policy platforms are implemented and so modify the composition of public spending. Panel data estimation on the change of political outcomes and spending patterns of Italian municipal governments provides supporting evidence that such reform modifies political outcomes and that it makes institutions more accountable. These changes are reflected on empirically observed fiscal policy choices. The proxy used in the analysis to describe political differentiation is an indicator of whether or not the elected mayor is a member of the largest party in the legislative board. Our findings suggest that reform has a significant impact on increasing political differentiation as measured by our proxy and the results on the determination of fiscal expenditure decisions show that increased political differentiation is associated with higher expenditures in General Administration and Social Action. The estimates also suggest a negative relationship between the degree of differentiation and the amount of resources spent in Education and Culture. These three categories are the three largest fields of public expenditure intervention and they amount to 70% of total current expenditure in our sample.

In chapter three we analyze the relationship between democratic institutions and the incidence of political business cycles. Three decades ago the early literature in political economy proposed the first models of political fiscal cycles. In the subsequent literature empirical support of these models was found from cross-sectional

[13] As an example, in an election where foreign policy is the hottest issue in the political arena (e.g. being actively involved in a war or not), candidates could choose unpopular fiscal policy platforms relying on the fact that the verdict of the elections will be determined by their stance on foreign policy.

and longitudinal analysis: fiscal policies display systematic variations in the presence of election. Chapter three contributes to this literature by analyzing the relationship between the intensity/occurrence of political cycles and different constitutions. Using our new panel data on local governments and exploiting the regime shift from the introduction of the direct election of mayors in Italy, the chapter shows that alternative regimes affect the occurrence of fiscal electoral cycles. The empirical evidence shows that once we allow for a differential effect of elections according to the constitutional regime, we observe tax revenues declining (and other policy changes) before elections in the presidential setup. It is worth noting however that these tax cuts are concurrent with a fall in non-tax revenues and transfers from higher tiers of government. Hence the evidence strongly suggests that tax reductions are not compensated by more generous transfers from the national government.[14]

After having discussed in chapters 1 and 2 the link between policy making, accountability and political regimes, the last chapter considers the characteristics of political representatives. In particular, it analyses how constitutional engineering alters the composition of the political class due to the presence of selection effects. Analyzing the large panel provided by the ministry of internal affairs, which contains information on the political class in all Italian towns from 1989 until 2002, we study the impact of constitutional reform on incumbents' selection by investigating changes in composition of the political class due to the introduction of the 1993 reform. The empirical results show that the average educational levels of elected representatives rose (due to a massive increase in the number of graduates), and that there was a change in the occupational mix produced by lager numbers of politicians with high opportunity-cost professions. The identifying hypothesis is that changes accrued primarily to the reformed executive power (due to higher self selection of good quality politicians in the political competition for seats in the executive after

[14]Local governments borrowing increases before elections in the presidential regime. However back of the envelope calculations show that this increased borrowing did not compensate entirely the decrease in taxes and non-tax revenues (and the falling transfers).

the reform). Empirically, we confirmed that the compositional changes were not a common development for both the legislative and the executive power. The visible intake of graduate and professionals (and fall in the number of workers with bureaucratic and administrative functions) occurred in the executive.

TABLE 1
SHARE OF GOVERNMENTS ELECTED WITH THE NEW ELECTORAL MECHANISM

Year	1988-1992	1993	1994	1995	1996
Share of reformed governments	0	.2	.59	.94	.95

Notes. These figures are an elaboration of the electoral data of the Italian Ministry of Internal Affairs.

TABLE 2
DESCRIPTIVE STATISTICS OF PUBLIC FISCAL EXPENDITURE IN SHARES

	MEAN	Std.
General Administration	20.90	5.00
Local Security	4.80	1.40
Education and Culture	18.62	4.25
Social Intervention	35.52	6.20
Transports and Telecommunication	8.22	4.48

Notes: The source of the data on fiscal expenditures is the ISTAT database.

The size of the overall average changes for each the five categories according to the differentiation indicator, amounts respectively to: 0.17, 0.21, 0.83, 0.12, 0.29. The average overall variation induced by the reform in each category amounts respectively to 1.14, 0.12, -1.79, 0.85, 0.15.

Chapter 1

Constitutional Transition and Fiscal Policy

1.1 Introduction

Democratic societies delegate to elected representatives the power to make policy choices on their behalf in various ways. One of the most important features of a constitution rests on the adoption of a parliamentary or a presidential system. The regime choice deeply influences the relationship between the executive and the legislative power. Moreover, only in presidential democracies voters are granted the right to elect directly the head of the executive, which is then directly accountable to the electorate. It is therefore a key issue to understand how these alternative arrangements affect political outcomes and policy making.

In the Federalist papers James Madison argued in favor of the adoption of presidentialism by claiming that this system provides the best protection against the

tyranny of a faction[1]. Madison advocated that the executive and the legislative power had "as little agency as possible in the appointment of the members of the other[s]". The source of the appointment should have been the electorate "through channels having no communication whatever with one another."[2]

In the recent political science debate Shugart and Carey (1992) have identified the potential advantages of presidentialism over parliamentarism in a better provision of accountability and checks and balances. Direct accountability is improved since voters cast their vote directly for an executive that cannot be removed by shifting coalitions in the assembly. Also, voters would be able to identify before the elections the likely alternative governments that could form (after the elections) and make a clear prospective choice.[3]

There exists a rich theoretical literature on the impact of electoral rules and political regimes on fiscal policy outcomes (see Persson and Tabellini (2000) for an extended survey of the literature on the topic). The evidence, however, has been developing only recently and is always based on cross-country comparisons of democracies that have adopted alternative regimes and electoral procedures, since cases of transition from one system to another are rarely observed.

The novelty of the present study relies on the analysis of the transition from a parliamentary to a presidential system, which occurred in Italian local governments during the early nineties. The Italian electoral reform provides us with a natural

[1] Federalist N.10.

[2] Federalist N.51.

[3] The relative merits of presidentialism versus parliamentarism (in the various versions of these systems we observe in the world) have been the object of an intense debate in the political science literature. Among the most relevant contributions, besides Shugart and Carey (1992), we find Lijphart (1999) and Linz (1990).

experiment in that it has introduced the direct election of the mayor in all Italian cities. In contrast to existing estimates that rely on cross country variation to identify the effect of political regimes on fiscal policies, the estimates presented in this chapter are based on regional variation within the same country and are, therefore, less likely to be biased because of individual unobserved heterogeneity. Moreover, we are able to exploit institutional change that the Italian local governments experienced over time, given that we have pre- and post-reform data both on electoral results and public finance.

We develop a theoretical framework to analyze the regime shift and its impact on fiscal policy making, by focusing on the impact of the reform on accountability.

In our choice of modeling, we focus on the main feature identified by Shugart in discussing the relative merits of parliamentary and presidential systems, namely that in a presidential system the process of forming the executive is institutionally distinct form the process of filling the seats in the assembly as both branches are popularly elected. Hence we focus on this ability of casting a vote for the executive and a vote for the council board, and we model the executive and the legislative as a single agent, rather than attempting at modelling politics within the legislative board and taking in account the multiplicity of agents in the two government branches. In this respect, this is the same modelling framework of Alesina and Rosenthal (1996), where the focus is on the political orientation of the president and the congress considered as one.

Our model also explicitly acknowledges that in representative democracies policy issues are bundled together. When a voter has only one vote and issues are bundled,

we expect that this vote would be used to influence the outcome on her most relevant policy dimension. If this is the case, then policy choices on non salient issues are not subject to electoral discipline. The introduction of the direct election of the executive increases the ability of the voters to discipline democratic representatives on an issue that is not salient. This is done by separating, or "unbundling" it, from the salient policy issue. To the extent that on some issues representatives wish to adopt policies that are in contrast with the electorate preferences, this kind of institutional reform increases accountability by narrowing the gap between policies preferred by voters and the ones being actually implemented by the representatives. We suggest a mechanism that links electoral reforms to policy choices through the changes induced in electoral outcomes. Our claim is that the adoption of presidentialism increases the difference in policy preferences between the executive and the legislative branch on non salient issues. The diverging pattern of the two branches on these policy issues generates a different allocation of public resources.

We test the prediction of the model on political differentiation and measure the reform impact on fiscal policies, building the empirical analysis a unique panel database of political data and public finance data from 1988 to 1996 for roughly 120 towns (including all major Italian cities and head of province towns).

Our results support the prediction that the reform fosters differentiation (as specified in more details in the theory section) between the executive, which we identify in the mayor, and the legislative major party. We also find empirical evidence that political changes of this nature is correlated fiscal policy changes. Our findings are robust to a number of alternative specifications. However, once we include in our

specification a set of yearly time dummies, the impact of the reform on political differentiation is not statistically significant.[4]

1.1.1 Basic setup and related literature

In this work we develop a two parties framework with candidates that are policy motivated. Their preferences determine the policy implemented once they are elected, as in Osborne and Slivinsky (1996) and Besley and Coate (1997), given that politicians cannot credibly pre-commit to pursue policies other than their optimal ones. The political platforms in the model are fixed and polarized on a policy space that is bidimensional. Throughout we assume that one issue is salient and that on this issue all the members of each party share the same ideal policy. Preferences of voters and candidates are defined also on a second dimension which is likewise characterized by fixed platforms. As an example, we will think of the salient issue as ideology and the non salient issue as the choice of how many resources should be spent on social care services.

In this framework, if the preferences of the members of a party differ from those of the majority of their voters on the non salient issue, the sanction for presenting candidates that adopt policies unwelcome by the electorate will be negligible given that voters mostly vote according to the dominant policy issue at stake. Hence, the source of non majoritarian outcomes is the fact that the voters who share the majoritarian position on a policy issue choose to vote for a candidate on the basis of other more salient issues. This insight is central to the analysis of direct democracy

[4]The 1995 and 1996 yearly dummies are significant to the 5 per cent level.

by citizens' initiative in Besley and Coate (2000) and to their analysis of direct election versus appointment of regulators in the United States (Besley and Coate (2001)).

We adopt a model which is closely related to the above mentioned papers, in order to study how the introduction of the direct appointment of the head of the executive alters policy bundling. Under presidentialism voters can use an additional vote to discipline parties' candidate selection. This vote and the institutional setup of the local government generates the possibility of disentangling the political offer into separate dimensions; hence, it opens the way to provide the right incentives on more than a single policy issue.

The improvement in accountability stems from the ability of prospective voters to identify the type of candidates that enter the political competition and anticipate that, if elected, these candidates will implement their favored policy. We maintain that in the mayoral competition voters will cast their ballot by focusing on the salient issues and will use the vote for the local parliament to discipline policy making on the non salient issue. The political parties who are responsible for the selection of candidates, vis a vis this mutation in the institutional setup, respond to the enhanced electoral pressure with different choices of candidates. As a result, we predict that there will be frequent differences in preferences on the non salient issues between the executive and the legislative.

There are numerous recent contributions to the political economy literature on constitution design, both from a theoretical and an empirical perspective. In what follows we discuss some of the papers that have closer links with our study.

Alesina and Rosenthal (1996) examine the institutional structure of the United States, which at the federal level features separate elections of the congress and the president. They focus on the interplay of both congress and presidential elections as the determinants of the policies adopted at the national level. As in our model, parties cannot commit to policy choices other than those they prefer and adopt fixed and polarized political platforms.

In their work, however, preferences are unidimensional and moderate voters choose to adopt a split ticket (namely to vote for different parties in the congress and presidential elections) to impose a constraint on left wing and right wing politicians and "hedge" their position. Based on this assumption, the model provides a rationale for the occurrence of divided government, namely that the party that holds the presidency does not have a majority in the legislature. Given recent events in the United States, as well as the case under study here, this may not be the case. The electoral law approved in Italy, due to an explicit proviso introduced to enhance government stability, does not permit a government divided on ideological grounds, namely it is not possible that a right wing mayor faces a majority which is left wing[5]. However, governments can be *divided* on the non ideological issue. Our model predicts that the transition to presidentialism more frequently generates this division on the non salient policy issue because parties will have to respond to electoral pressure.

As in Alesina and Rosenthal, our framework allows for the possibility of split

[5]The actual political configuration in Italy is made of several parties on each side of the political spectrum for each local government. The discussion of the reform can be easily translated in terms of aggregates of parties that share the ideological dimension but differ on others.

ticket choices, but the source of this electoral behavior is a distinct one. Voters try to make their representatives accountable on more than a single policy issue; hence, if the preferred ideological platform is bundled with undesirable policy choices in other issues, the electorate tries to secure a better policy on a second dimension by making use of a second vote which would be cast according to the non ideological issue.

Persson, Roland and Tabellini (1997; 2000) have discussed the different implications on public finance of presidential and parliamentary regimes. Their models focus on the separation of powers and the legislative bargaining process among legislators. They predict that a higher concentration of powers in parliamentary regimes makes it easier for politicians to collude with each other at the voters' expense and generates higher rents and taxes. Other predictions, instead, build on the idea that different regimes have an impact on legislative cohesion, as modeled by Diermeier and Feddersen (1998). In particular, they discuss the constitutional feature of the "vote of confidence" procedure, which implies that if the executive fails to receive support from the parliament, new elections must be held. The vote of confidence strengthens the link between the fate of the two government's powers and the incentives to form a stable coalition that supports the executive. According to the insights on legislative cohesion, the authors predict that in parliamentary regimes we should observe a stable majority of legislators that tends to pursue the joint interest of its voters. This majority directs spending towards broad programs and generates larger governments. Finally, their work predicts that presidential regimes target smaller groups and spend on specific issues producing overall lower levels of

expenditure than parliamentary democracies.

Persson and Tabellini (2002) empirically examine the impact of constitutions of the size of the government. They adopt non parametric matching according to propensity scores. This is done in order to compare the impact of different political regimes across countries that share similar characteristics. By matching observations that are similar with respect to the observables, but differ in the relevant constitutional variables, the authors address the concerns raised by the underlying heterogeneity among different countries. They obtain results that are broadly consistent with their previous analysis, finding a negative relationship between the adoption of a presidential regime and the size of the government. Finally, Persson's (2002) survey on empirical evidence based on cross-country comparison acknowledges as a stylized effect the association of presidential regimes with smaller governments.

Our analysis is based on an alternative approach that focuses on the bundling of policy issues. This approach generates the predictions both on political and fiscal policy outcomes, which we then take to the data. Looking at electoral results, we expect to observe more differentiation after the transition to presidentialism occurs. Also, we predict that differentiation should generate changes in fiscal policy making on different issues. Assuming that institutional changes map into the adoption of different political platforms on the non salient issues, we look for evidence that this alters the composition of expenditure changes .

The empirical tests are based on data on Italian local governments, whose overall size is largely determined by the transfers from higher tiers of government. Given that for the purpose of this chapter analysis we take fiscal revenues as exogenous, our

work is not informative on the impact of the institutional transition on the total size of the government or the overall level of public good provision. We also believe that there are no objective criteria to partition the type of public expenditure we analyze into broad and targeted fiscal policies. Hence, our different set of predictions and results does not allow for direct comparison with the existing empirical literature On the other hand, the originality of this study lies in the idea of complementing the existing political economy literature on the presidentialism-parliamentarism dichotomy with the analysis of a natural experiment on the introduction of presidentialism for a panel of governments.

The remainder of the chapter is organized as follows. The next Section presents the theoretical model. Section 3 and 4 describe, respectively, the data and the empirical test. Finally, Section 5 concludes. The Appendix of the chapter contains the proof of the main propositions, as well as a detailed description of the data and sources used, and stylized diagrams of the actual ballots.

1.2 Theory

We described in the introduction the institutional reform approved in March 1993. As we have seen, a very important detail of the reform bill ruled out the possibility of having a mayor that faces a hostile majority in the legislative board. We address this issue in the this section, where we outline a theoretical framework for the analysis of the institutional change.

In our models of parliamentarism and presidentialism we adopt two basic assumptions. Given two policy issues, we define ideology to be the salient issue. We

also assume that the lists that support a candidate mayor and this candidate in the new regime always share the same ideological position, which we interpret as the broad political affiliation. This is an assumption that is well corroborated by empirical observation. A candidate mayor and her supporting lists differ, however, on some other policy dimension. In what follows, lists and mayors will each be fully characterized by a type which is defined by the preferences over the two issues.

On the salient issue, we assume that here are two fixed ideological platforms $K \in (L, R)$. There are two parties, each of which is composed of members that share the same ideology. On the second issue, similarly, there are only two fixed platforms $m \in \{a, b\}$. This issue can be interpreted as the choice of expenditure on non ideological issues at stake, be it urban design or roads maintenance. Candidates' and citizens' preferences are defined over both issues. It is assumed throughout that politicians are policy motivated and that candidates cannot credibly commit to policies other than their personal policy preferences prior to the election (as, for example, in Alesina, 1988).

The electorate is composed of two kinds of voters as in the approach first suggested by Baron (1994) in his work on electoral competition. *Rational* voters, given candidates types, anticipate the policies each candidate favors and cast their vote accordingly, in order to maximize their utility from the policy that will be implemented. Rational voters are only a fraction μ of the population. Some voters are not rational. These voters choose to cast their vote for a candidate according to non-policy motivations and are labelled as *noise* voters. Their presence produces probabilistic election outcomes. as we exemplify in what follows.

Candidates, lists and voters can be partitioned in groups according to their preferred point on each dimension. The share of voters that prefer L or R is γ^L and γ^R respectively, while the shares of those who prefer a or b is γ_a and γ_b. We will use the notation $-K$ to label the alternative to the preferred point of an individual of type $(K,.)$, and do the same for $-m$ and an individual of type $(.,m)$.

The share of noise voters (overall $1-\mu$) that will vote for a candidate or for a list is given by η, a random variable with support $[0,1]$ and cumulative distribution $H(\eta)$. When both elections are held, draws are separate and uncorrelated (one for each election). Symmetry in noise is assumed, i.e., for any η, $H(\eta) = 1 - H(1-\eta)$. This implies that noise is unbiased with respect to parties. The electoral outcomes depend on the rational voters decisions and η. Let us consider briefly the case of an election where there is a single issue at stake, for example ideology. Defining ξ as the difference between the share of rational voters that prefer L and the share of rational voters that prefer R, the candidate of the left wing party wins if $\mu\xi + (1-\mu)\eta > (1-\mu)(1-\eta)$, i.e. if $\eta > \frac{-\mu\xi}{2(1-\mu)} - \frac{1}{2}$. Hence, the probability associated with this event is $\Psi(\xi)$ where $\Psi(\xi) = 0$ if $\xi \leq \frac{-(1-\mu)}{\mu}$, $\Psi(\xi) = 1$ if $\xi \geq \frac{1-\mu}{\mu}$ and $\Psi(\xi) = 1 - H\left(\frac{-\mu\xi+1-\mu}{2(1-\mu)}\right)$ otherwise. Assuming that $|\gamma^L - \gamma^R| < \frac{1-\mu}{\mu}$, then the probability that L wins is $\Psi(\gamma^L - \gamma^R) \in (0,1)$.

Two scenarios describe the incentives given to parties' choices of candidates (and hence policies) in the two regimes. The first scenario models a parliamentary system. Parties choose some candidate types (we identify lists with types to model the lists put forward in the actual elections) and voters vote for the one they wish to support. The second scenario refers to a system where the head of the executive is directly

elected. In this case each party's political offer to the voters is composed of lists for board of representatives and a candidate to lead the executive. Voters have two votes (which they use simultaneously) to express preference for a list and a candidate. Split-voting is allowed and it is a key ingredient in our model to drive changes in political outcomes.

1.2.1 A model of parliamentarism

The basic notation reflects the fact that preferences are defined over two dimensions and that ideology is the salient issue. Let γ_m^K be the share of voters that favor party K and have m as preferred option with respect to the non salient issue, but would not vote for a party that offers $(-K, m)$. In contrast, let γ_M^K, with the upper case subscript, indicate the share of voters that would vote for the party of ideology K only if the option for the non salient issue is the one they favor (m). These voters are willing to vote for a candidate of the opposite ideology since they place enough value on the other policy dimension. Namely, they would rank lists as follows $l(K,m) > l(-K,m) > l(K,-m) > l(-K,-m)$. Salience is captured by assuming that the share of voters that are ready to "sacrifice" the vote for the preferred party is relatively "small" (more detail in what follows).

Let us define $\omega(K,m)$ as the utility derived from policies of a winning list (K,m). In the analysis we will adopt utility function additive in K and m, say $\omega_1(K)+\omega_2(m)$. $\omega_1(K)$ and $\omega_2(m)$ are non increasing the distance between the proposed platform and the preferred point of the agent. We will define the benefit deriving from having one's bliss platform winning the elections $\Delta_k(K) = \omega_1(K) - \omega_1(-K)$. Similarly for

the other issue $\Delta_m(m) = \omega_2(m) - \omega_2(-m)$.

The strategy of a party is the choice of what kind of list should be presented to the electorate. In each party a majority of voters prefers a to b or vice versa. An equilibrium is a choice of lists that is mutually a best response for each party. Our first result is that in the parliamentary scenario choosing for the electoral competition a type that shares preferences on both issues with the majority of the party is an equilibrium for both parties, provided one issue is salient. The following proposition lays the parametric conditions necessary to ensure that fielding candidates without compromises on ideology is a best response..

Assumption 1 For $k \in (L, R)$, and $m \in (a, b)$,

$$[(1 - \Psi[(\gamma^{K} + \gamma^{-K} - 2(\gamma_{M}^{K} - \gamma_{-M}^{-K})]\Delta(k) > \{[\Psi[(\gamma^{K} + \gamma^{-K} - 2(\gamma_{M}^{K} - \gamma_{-M}^{-K})] - \Psi(\gamma_{-m} - \gamma_{m})\}\Delta(m),$$

and

$$[(1 - \Psi[(\gamma^{K} + \gamma^{-K} - 2(-\gamma_{M}^{-K})]\Delta(k) > \{\Psi[(\gamma^{K} + \gamma^{-K} - 2(\gamma_{-M}^{K} - \gamma_{M}^{-K})] - \Psi(\gamma_{-m} - \gamma_{m})\}\Delta(m).$$

The first part of assumption one is necessary to insure that choosing K is a dominant strategy when the opponent fields $(K, -m)$. The second part, instead, ensures that it is a best response to choose (K, m) instead of $(-K, m)$ when the competing list is $(-K, -m)$. To interpret this assumption, let us recall that parties, like voters, care mostly about the salient issue. Then, it is sufficient that salience is strong enough, with $\Delta(k)$ large enough with respect to $\Delta(m)$ to compensate for the changes in

probability of victory and satisfy the conditions outlined in the previous assumption. In other words, the gap in benefit that is originated by a victory on the salient issue with respect to the non salient one has to be large enough to compensate the shifting of voters to the other party. Assuming salience implies simultaneously that the mobile voters (across ideology) are few and that party members care relatively more about what happens on the salient dimension.

Proposition 1.1 *Under Assumption 1, each party will choose a candidate that shares the ideology platform with the majority of the party itself.*

This proposition simply states that given our assumption on the salience of a policy issue, parties will never compromise on that policy dimension. Next, we identify the conditions under which fielding candidates of the same type as the majority of the party along both dimensions is a dominant strategy.

Assumption 2 *For* $k \in (L, R)$,and $m \in (a, b)$,

$\{\Psi[(\gamma^K - \gamma^{-K} - 2(\gamma^K_M - \gamma^{-K}_{-M})] - \Psi(\gamma^K - \gamma^{-K})\Delta(k) < \Psi[(\gamma^K - \gamma^{-K} - 2(\gamma^K_M - \gamma^{-K}_{-M})]\Delta(m)$ *and*

$\{\Psi(\gamma^K - \gamma^{-K}) - \Psi[(\gamma^K + \gamma^{-K} - 2(\gamma^K_{-M} - \gamma^{-K}_M)]\}\Delta(k) < \Psi[(\gamma^K - \gamma^{-K} - 2(\gamma^K_{-M} - \gamma^{-K}_M)]\Delta(m)$

Once we have restricted the choice of the candidates to those of the same ideology of the party itself, these conditions ensure that it is not worthwhile giving up one's preferred platform in the non salient policy dimension. The trade off involved is between a difference in the probability of winning and the expected value of achieving

the ideal platform in the non salient issue. The difference in probability is due to the difference in size of the groups of voters in each party that are willing to vote for the wrong ideology, provided that the platform in the other issue is their favored. If the size of these two groups is similar, then the left hand term is close to zero and the conditions will always be met. Even if there is some asymmetry in the share of mobile voters in the two parties, imposing salience is equivalent to imposing that the electoral penalty captured by the difference in probabilities will be negligible.

Proposition 1.2 *When assumptions 1 and 2 hold, each party chooses a candidate that has preferences aligned to the majority of the party in both dimensions.*

In this characterization of parliamentarism, the crucial assumption on salience allows us to show how parties simply choose to candidate agents policies that correspond to the bliss point of its majority. Hence, each party "ideological identity" bundled with the party majority preferred outcome is on the non salient issue.

According to the model, the policy implemented on the non salient issue will simply be determined by the type of the winner of the elections. The model, hence, is silent about the choice of the mayor and policy determination. The prediction of the model on policy outcomes is coherent with an interpretation that maintains that the policy choices made in the local government will reflect the preferences of the winning party on the non salient issue, given its dominant position on the board.

Theoretically, Propositions 1 and 2, are simply the outcome of a Nash equilibrium in dominant strategies following from the structure imposed on players' preferences. These assumptions on players' preferences are translating into algebra the idea that

voters' and parties' priority is to insure that the winning government shares their ideology. The historical prevalence of left wing or right wing governments in so many of the Italians regions and towns indicates the importance of ideology for local government elections in Italy. Even when the reform was implemented, mayors that promoted themselves as "independent" and as "civil society" representatives, were clearly associated either with the left or the right wing coalition. There has been no evidence in the political science literature and in the media following these elections suggesting that voters were prepared to vote for a candidate mayor that did not share their broad ideological platform. Voters' mobility has been higher only for a very small part of the electorate, that could be identified as the center. In the large majority of cases, commentators only analyzed some evidence of voter movements within coalitions (i.e. for a given broad ideological platform) between parties in that same coalition. Salience of ideology summarizes these issues in our simplified theoretical framework. We provide further comments on ideology, coalitions and parties below.

1.2.2 A model of presidentialism

In our model of presidentialism each party proposes as mayor a candidate whose characteristics are ideologically aligned with the party members. A decision is also taken with respect to the number of lists (one or two) that support this candidate. The lists share the same ideological platform of the mayor, but differ in the secondary issue.

Voters have two votes to express their preferences. They can vote a candidate

for the mayoral office and separately vote for a list (and these choices are made simultaneously).

We posit that ideology is salient in the competition for the main office. With respect to this election, keeping the same assumptions of the previous section, the electoral incentives in place are basically unchanged. Except for a small group of mobile voters, the vote is cast in favor of the candidate with the preferred ideological platform. Possibly, the case for switching ideological sides in the hope of ensuring the victory of the prevailing option in the other issue could be further weakened by the second vote.

In this setup the preferences of the mayor, who chooses the lists, need to be modeled. The interpretation of the result would not change if similar assumptions were made on the preferences of the majority of the party as the relevant body that picks up lists. We assume that the candidate mayor has preferences on the administrative dimension but also on the number of seats allocated to his party on the board (namely, increasing on the seats share of his party). The assumption made in the previous section on additive utility is maintained (i.e. mayors value the administrative outcome according to ω_2 and according to ω_3 the number of won seats). There are several reasons why this should be the case. We can imagine that having a larger majority on the board is a source of prestige and stability although this is not modeled explicitly. For instance, a large majority could insure from political shocks, like the withdrawal of support by some of the members of the board. Alternatively, another way of interpreting this assumption is related to what may happen after the legislature is completed. The members of the coalition may

be more likely to reappoint her as a candidate to the extent that success in securing seats on the board has been hefty. For these reasons, we believe it is reasonable to acknowledge the interest of the mayor in achieving a large success by carefully selecting the lists. If this is true, then the utility of the mayor is increasing in the votes for the members of his lists on the board elections.[6] Hence, candidates face a trade-off in devising what lists should be presented to the voters. Presenting two lists comes at the cost of increasing the probability of having to agree on the least liked administrative option. However, a second list captures the voters that would be ready to vote for the other party list if the favorite platform is offered in the secondary issue. Allowing voters to choose between both platforms increases the chances of securing more seats on the board.

For given preferences γ_m^K and γ_M^K, the fraction of voters mobile across parties is now *larger* than before, since the main ideological imprint can be secured by the election of the unremovable mayor. Given that voters can vote "separately" for the non salient issue in the list competition, this dimension can be the salient one in this election. The separation of the non salient issue on the board election is a crucial assumption. We maintain that the ideological issue is resolved in the mayoral competition, given that a mayor will not face an adverse majority on the board on the salient issue. This feature allows voters to focus on non ideological issues. The threat to parties generated by this possibility strengthens incentives to present a second list, ensuring that both options are available. In this case we would not

[6] There is another approximation involved in this statement. Votes, which affect the probability of winning, and seats won are not in a one-to-one relationship. However, since the votes proportionally determine seats, this approximation is not too harmful, it keeps the model simple and, more importantly, very easily comparable to the pre-reform scenario.

observe "split voting" because voters would be given the chance to vote a member of their preferred party with the right policy platform on the other issue. We will discuss the interpretation of this model at the end of this section.

In the analysis of the choice of candidates in this scenario let us distinguish two cases.

Case A. Both parties offer two lists. Suppose both parties are fielding two lists. We have to check whether the mayor would profit by withdrawing the least preferred list. Let $\gamma^k_{\bar{m}}(= \gamma^k_m + \gamma^k_M$ in the previous scenario) be the share of voters that prefer (k, m) to anything else, the subscript is now $\bar{m}$. Withdrawing the least liked list implies a loss of $\gamma^K_{\bar{m}}$votes that would shift in favor of the list of opposing party without altering the chances to see the preferred administrative option winning. This would imply that a number of seats would be given to the opponents, which is an undesired outcome for the party. However, now the voters are able to express their preferences separately on both policy dimensions and have voted to secure their favorite ideological platform in the mayoral election.

Case B. The other party offers one list. Suppose that in the left wing party the majority prefers a to b, when would it be the case that the list (L, b) is offered due to the electoral pressure? The interesting case is when the other party offers only what the majority of the party prefers. When the other party fields (R, b), offering two lists dominates offering one, since the total number of voters for b would not change and the number of voters of left wing lists would decrease. The list choice is now determined by the mobility of all the voters that prefer a specific platform

of the secondary issue and are left wing. Given that this set of voters is larger than the set of voters that are prepared to swap ideological side to achieve the desired policy in the non salient issue, electoral incentives are now stronger.

The following condition ensures that the electoral incentives are sufficient to induce a party to field a candidate with minoritarian preferences on the non salient issue.

Assumption 3

$$\{[\Psi(\gamma^K - \gamma^{-K} + 2\gamma_{-m}^{-K})] - \Psi(\gamma^K - \gamma^{-K})]\}\Delta(k) > \{1 - \Psi(\gamma_m - \gamma_{-m})]\}\Delta(m)$$

The gain obtained by presenting a single list is a function of the distribution of preferences on the administrative option, while the loss depends on the preferences within the opposing party for the "withdrawable" option. Presenting both lists allows the party to gain the votes of the share of the other party's electorate that prefers a policy platform on the non salient issue which is not offered by that party. This vote gain coupled with a sufficient interest in securing seats on the board ensures that fielding both platforms in the secondary issue is a best response. We can summarize the discussion of scenario two in a proposition.

Proposition 1.3 *Given the assumptions 1,2,3, for each party choosing to field both platforms in the non salient issue is a weakly dominant strategy.*

A party will always field lists for both platforms for the non salient issue when the opponent party is fielding two lists. When the opponent party fields a single list

the same will happen, given assumption 3. Provided parties care about the share of their seats on the board or given broad enough support for the administrative option which is not favored by the party itself, even when the opponents field a single list, parties increase their probability of winning by offering two options to their electorate.

The previous proposition implies that in most cases, the electorate will have a choice on the administrative dimension. More importantly, with respect to the previous scenario, for given preferences, this will happen more frequently.

Proposition 1-3 can be summarized in the following final proposition:

Proposition 1.4 *Given the distribution of preferences of the electorate,* γ_m^K *and* γ_M^K*, and assumptions 1,2,3, non majoritarian outcomes on the non salient issue are less frequent in the presidential regime .*

When parties preferences are not aligned with the electorate, the comparison of proposition 2 and 3 yields an interesting result. In a parliamentary system it is more likely that the candidates presented in the electoral competition have minority positions in non salient dimensions, keeping the preferences of the electorate fixed.

1.2.3 Discussion

In the parliamentary scenario, provided voters mostly care about the ideological dimension, parties will be able to ignore the electorate preferences with respect to the other issue, due to the fact that *swing* voters do not represent a significative share of the electorate.

In the second scenario, the set of voters that are "mobile" is larger, hence parties incentives are altered and each coalition is more prone to offer its voters both options.

The reform effects in each town a transition from parliamentarism to presidentialism. In order to have a meaningful comparison of the political outcomes in each town, we have to assume that the underlying preferences of the electorate are not changing in the period we analyze.

The model focuses the analysis on the bundling of issues. The institutional change allows the electorate to disentangle the non salient issue from ideology given that they can secure the ideological issue by winning the mayoral election. If parties respond to the change in electoral pressure on the non salient dimension, then we expect that the policy platform which dominates the board election to diverge frequently from the ideal platform of the mayor on this dimension. Since it is on the board election that the secondary policy is unbundled from ideology, while the mayoral competition is centered on the salient issue, if the preferences of a party are not aligned with those of the majority of their voters, the gap between the elite preferences (the member of the party) and the voters preferences will show up in the differences between the legislative board and the executive.

From our discussion it should be clear that the threat of split voting in the two elections induces choices of candidates that better suit one party electorate. Unlike in the Alesina and Rosenthal paper, voters are not trying to hedge their position and achieve moderate policies. Our rational voters face bundles of policies and vote for the bundle that includes the best platform in the salient issue. When the reform is introduced there is room to discipline the party on both components of the bundle

by mean of electoral pressure. In light of this result, we claim that the increased accountability, as long as the party preferences are idiosyncratic with respect to the electorate, generates governments that are divided over the non salient issue.

The impossibility of a fully divided government, as it is the case for the institutions we study, imposes an upper bound on the efficacy of the vote for the board elections as a disciplining tool. This constraint could bias the empirical test by reducing the evidence that differentiation matters.

In the background, there is also an implicit assumption that this differentiation between the two branches will translate into the implementation of different policies with respect to the "homogeneous" governments that form before the reform. This translates in a second prediction. The differentiation brought about by the reform generates changes in policy making.

To take these predictions to the data we have to take in account the features of Italian politics and the nature of the public finance data we dispose of.

The Italian system is characterized by multipartitism. This is not a source of major concern in the mayoral election, since in most cases two candidates dominate the campaign (each backed by a large coalition). Even when the situation is uncertain ultimately the run off is the decisive stage of the electoral race between two candidates. With respect to the board elections, we assume that the parties that back one candidate share with this candidate the broad ideological platform, e.g. if there are multiple right parties they are all supporting the right wing candidate. What distinguishes candidates of different parties is the non salient issue. Hence, if the Socialist and the Communist party are supporting a left wing candidate, we

assume that the Socialist and Communist party have different views on the second policy issue. Our model has imposed a restriction on the number of non salient policies. This has been made to convey our claim in a way that is much simpler than if we were to allow for three or more platforms on the non salient issue. This assumption, translated into the Italian multiparty system, is equivalent to imposing that there are only two parties within each coalition. In many towns, this assumption is not particularly restrictive, as both before and after the reform, many coalitions are clearly dominated by two parties. This is however not always the case, and our modelling is imposing some additional constraints to the empirical analysis. These constraints are equivalent to pooling a number of parties within a coalition in a single one.

The assumption of only two non salient platforms also has an impact on our differentiation analysis. However, the assumption here, does not seem particularly harmful. There is only one large dominant party in each coalition, hence it seems natural to test whether this party is able of securing the post of mayor for one of his members. In the robustness checks section of the empirical analysis we discuss how we might try to capture empirically the effect of multipartitism on the differentiation analysis.

The political data available provides information on the composition of the board, but does not include information on the vote shares of each party. Our proxy for the political differentiation is an indicator of whether or not the mayor elected is a member of the largest party in the legislative board.

In our model there is a unique non salient issue. This is an assumption that

we made to deliver in a simple context the idea of the relevance of bundling and unbundling issues. There is however a multiplicity of issues that may be relevant to citizens and our database actually provides information on fiscal policy with respect to different issues (education, public security, social action and so on).

What is the predictive content of our simple model for a complex world of policy issues? Our intuition is that the differentiation captures citizens dissatisfaction with policy making on some issues. For instance, if there was a general tendency of the incumbents to spend too little money on social actions, e.g. subsidizing care takers, the reform would generate larger expenditure on this field when we observe differentiation. On the other hand, if the choices made with respect to public transport are of subordinate importance with respect to other issues or if these choices match the electorate preferences, the differentiation index should not have any explanatory power with respect to the level of expenditure on transports.

These observations, coupled with the notion that the size of the local government is roughly fixed (more on the topic in the next section), are summarized in the prediction that the allocation of the share of resources in different public finance sectors changes due to the increased differentiation.

Competing explanations of our empirical result arise from considerations on changes in the Italian political structure that occurred in the early nineties in national politics (changing the number and structure of the political parties) and changes in bargaining power within the government. If the reform and our differentiation indicator are correlated with these events, then we would be making incorrect inference. In the empirical section we discuss further these competing arguments

and explore the related evidence.

The work of Persson et al. (1997; 2000) on the effect of the regime adopted on public finance focuses on legislative bargaining and backward looking voters. The authors stress how different electoral competition shapes policy making, but the central mechanism which determines policy choices is shaped by the trade-offs between taxation, the provision of public goods, and the possibility of extracting rents. In their setup the provision of public goods decreases with the introduction of presidentialism because the benefits of fewer voters are internalized. In our model, increased electoral competition on the non salient issues generates policies that suit better the electorate preferences.

Stretching the message of our model a bit we find an analogy to some theoretical results in the literature on bundling. In a recent work, Nalebuff (2000) develops a model on competition and bundles in a duopoly. In our second scenario, offering two lists is like competing against the bundle on one of the two components, namely the list for the board elections. Nalebuff's paper discusses the case of two firms competing against each other using bundles of products or single components. One of the interesting outcomes in his work, in the case of two components, states that when there are only two components in the bundle, it pays to give consumers the components in an uncoordinated fashion instead of bundling them.

1.3 Data

The sample used in this chapter includes the towns that are head of province or have more than sixty thousands inhabitants (from 1988-1996). The political database

comes from the Minister of Internal affairs in Italy[7] and contains information on mayors' identity and the composition of the towns' boards.

As previously discussed, we build a proxy of differentiation (labelled Match) using an indicator variable that takes value 1 when the mayor is affiliated with the largest party on the board. We expect that the mean of this indicator should be lower for the governments elected with the new electoral law and we find statistically significant evidence that this is the case. In Table 1.1, we report the frequency of differentiation disaggregated with respect to the implementation of the reform and the statistical test. We test the null hypothesis of equality versus two alternative maintained hypothesis.

The test strongly rejects equality, consistently with our theory that predicts non trivial changes in the figures after the reform is implemented.

We complement this with fiscal policy data set gathered by the Italian Institute of Statistics (ISTAT). The data on fiscal policy contains information on local governments balance sheets. The accounting criteria are set at the national level homogeneously and are hence common to all towns. The data on public expenditure is disaggregated according to destination into five categories.

The relative size of the main expenditure categories is described in Table 2 (in shares over total current expenditure)[8], while the expenditure trends over time are shown in Table 1.2.. General Administration changes on average from 19.5% share to 21.5% from 1988 to 1996. Local Security spending (mainly for local police forces)

[7] A secondary source of information to complement missing data is the collection of the "Guida alle regioni d'Italia".

[8] On average, these shares exhibit little variation over time, see Table 3bis.

is roughly stable around 4.8%. There is, however, more variation in Education and Culture expenditure, which drops from 21.4% to 17.7%, and Social Intervention which ranges between 34.4% and 36.3% without a monotonic trend. Fiscal expenditure in Transports and Telecommunication finally declines from 9% to 8%.

As basics controls for the socioeconomic characteristics of the towns in the sample we use the share of the population above the age of sixty five, and the local value added[9]. These factors display significant correlation with certain types of public expenditure (both controls are positively correlated with current and total expenditures). Taking a look at the raw data in Table 1.3, we see that richer towns tend to be older (correlation of 0.41) and in these towns the expenditure is higher in Education and Culture and Social Intervention, while it is lower in General Administration and Public Security. We also controlled for the total population, in order to capture a potential effect "size effects" which could arise from heterogeneity among small and big towns.

The model predicts that the differentiation between the executive and the legislative will affect the way in which spending is allocated. In contrast with the existing literature, that deals with aggregate public finance measures as the total size of the government, or the overall size of welfare expenditures, our prediction focuses on the composition of expenditure.

We do not discuss issues related to taxation because there is little freedom to raise revenues by imposing taxes at the local level during our sample period. On average only 19% of total revenues is generated by taxes, while the most substantial

[9]Source: ISTAT Census Data and the Tagliacarne Institute.

streams of income are generated by national and regional transfers. Moreover, local governments where constrained in the choice of the rate of taxation they could apply. This changed in the late nineties, when the property tax was increased and local governments had greater freedom in choosing tax rates. Hence, for the time horizon we analyze, what each administration effectively controls is the share of available resources to devote to different fields.

Simple descriptive statistics, however, display limited fiscal policy changes due to the political differentiation indicator. By comparing administration where the new electoral procedure has already been used with the others where elections were held with the original electoral law, we see that the largest changes occur in general expenditure (1.1%), education and cultural spending (-1.8%) and in social actions (0.9%), which are the largest categories of expenditure.

1.4 Empirical Test

The theoretical model suggests that the link between institutional changes and policy outcome relies on the more diverse political offering after the reform. We will look for empirical evidence that the two predictions of the model are supported using both political data and local public finance data as right hand side variables. First we need to test the hypothesis that the electoral reform changes political outcomes by making the party of the mayor less often aligned with the largest party in the legislative. The econometric test will hence focus on an equation where the dependent variable is the differentiation indicator (Match). We expect the coefficient on the reform dummy in this equation to be negative and significant.

Our second hypothesis is that the fiscal policy changes tend to parallel political changes. The increased differentiation should lead to changes in the allocation of resources. We are going to estimate a system of equations to measure the impact of institutional change on policy making and analyze the determinants of the share of resources employed in each category of expenditure. If one is willing to assume that preferences on non salient issues are evenly distributed across towns, then the prediction is that the coefficient of the differentiation dummy Match should be significant (at least for some categories) in the equations that estimate fiscal policy making. If this were not the case, and preferences on the non salient dimension were idiosyncratic across towns, then no general prediction can be made a priori on the effect of institutional change on policy expenditure.

1.4.1 Changes in electoral outcomes

In this section, we focus on the evidence that the reform is generating political changes. The differentiation variable Match is a binary indicator that takes value one or zero. We choose to estimate it using the linear OLS. This model, however, does not recognize that the dependent variable is constrained to be either one or zero and can generate predictions outside the interval between zero and unity. There are very few cases in which the predicted values lie outside this interval, which is not surprising given that the mean of the dependent variable is not too close to zero or one[10]. The reason why we do not use standard non linear binary choice models like probit or logit models is that we will include the political process in

[10] See Maddala (1983) for this latter consideration.

system of equations that describe fiscal policy making in order to instrument for the endogeneity of the matching indicator in the analysis that will follow[11].

A straightforward way to test the first prediction of the model is to estimate the following equation:

$$M_{it} = \kappa + R_{it}a + \mathbf{Z}_{it}\gamma + c_i^m + d_t^m + \epsilon_{it}^m, \quad (1)$$

where M_{it} is the matching indicator which assumes a value of one if the elected mayor is a member of the largest party in town i and year t. The indicator variable R_{it} is equal to one when the elections are held with the new procedure, $\mathbf{Z}_{it}$ are the socioeconomic controls, c_i^m is a town fixed effect to control for unobserved heterogeneity, d_t^m is a time component in the fixed effect, and ϵ_{it}^m is a non systematic error that reflects unmeasured determinants that vary over towns and time such that $\mathrm{E}(\epsilon_{it}^m | R_{it}, \mathbf{Z}_{it}, c_i^m, d_t^m) = 0$.

The reform indicator has positive variance for all but 11 towns. This implies that we can use fixed effects at the individual town level for this part of the analysis, provided we exclude from the sample the towns where the reform indicator never changes, since for these observations the reform indicator is indistinguishable from the fixed effect component.

According to the theory the estimates of these equations should yield a negative significant coefficient on the reform indicator. We report the results in Table 1.4. The reform dummy coefficient is significant and negative. In the last column we show the

[11] We have, however, estimated separately the political process equation with a probit model and found again a negative and significant coefficient on the reform dummy.

results once time effects are included. The inclusion of common time effects is often advocated to control for macro shocks that may affect all towns simultaneously . The two-way fixed effects estimates in the last column show that the reform coefficient becomes insignificant., we find instead that the time effects dummies for 1995 and 1996 are significant. In our data there is not enough institutional variability to pin down a significant effect of the reform dummy on the matching indicator once we include time effects.

1.4.2 A structural approach on fiscal expenditure estimates

In this section we look for evidence of the impact of political changes on fiscal policy making by assessing how changes in our differentiation proxy affect the allocation of resources to different categories. Informed by our theoretical framework, we estimate a system of equations. The first equation models the political process and the following ones estimate the changes in the share of resources allocated to each category of expenditure. Our prior is that the political changes should be a significant determinant in changes in public finance, hence we expect the coefficient on the matching indicator to be significant in the five expenditure equations.

Around 28% of the observation in our sample come from towns where the matching indicator is constant throughout the period. In order to control for unobserved heterogeneity across different local governments and to keep the focus of the analysis on the role of the political outcomes in determining fiscal policy, we opt for the inclusion of fixed effects at the regional level. If we used fixed effects at the town level, in all towns where the matching indicator is constant over time the effect of

this variable on fiscal expenditures would be indistinguishable from the individual effects.

Italy is composed of 20 regions which are very diverse in political and socioeconomic terms. Interregional disparities in term of macroeconomic factors, such as growth, unemployment, economic development are strong. There is a deep economic gap between the south and the north of the country: the latter being much richer and industrialized. However, also within macro-regions, like the north of the country, there are considerable economic differences that are well captured at the regional level. The demographic characteristics of the population also vary considerably across regions, since the population is younger and fertility rates are much higher in the south of the country. Italian regions are also marked by very different historical features, given that the country was unified only in the second half of the 19th century. This feature is an important determinant of the socioeconomic differences mentioned above, but also of some political regularities. History is frequently invoked, for example, to explain the clear prevalence of left wing parties in the local governments of many regions in the centre of the country. Within regions socioeconomic disparities among towns are much less pronounced. Hence, we believe that controlling at the regional level allows us to suitably control for potential biases due to the heterogeneity of the towns in our sample.

Similarly to equation (1), the political process is modeled as follows:

$$M_{it} = \kappa + R_{it}a + \mathbf{Z}_{it}\mathbf{b} + c_{reg} + \epsilon_{it}^{m} \qquad (2)$$

While for each type of expenditure y, where $y \in \{1,2,3,4,5\}$, we estimate the following equation:

$$E_{yit} = \kappa + M_{it}\beta_i + \mathbf{Z}_{it}\boldsymbol{\xi}_i + c_{reg} + \epsilon^e_{it}, \tag{3}$$

R_{it} is the reform dummy (equal to one once the reform is implemented), $\mathbf{Z}_{it}$ is the set of socioeconomic controls, M_{it} is the matching indicator (equals one when the mayor belongs to the largest party), c_{reg} are the regional fixed effects.

Endogeneity concerns arise from the possible correlation between ϵ^m_{it} with ϵ^e_{it}. If indeed the errors are correlated, estimations that do not deal with this correlation can yield biased estimates due to the endogeneity of M_{it}. This would be the case when some unobserved shock affects both the fiscal choices and the political process. To address the concerns associated to possible correlation in disturbances, we estimate the system using the 3SLS procedure[12].

We have chosen to estimate the whole system at once, instead of following the alternative choice of estimating with 2SLS each expenditure equation (using the political process as a first stage). By so doing, we can control for the possibility that the shock that affects different expenditures could be correlated. Given that the five categories of expenditure we analyze almost exhaust the total revenues available to each local government, we believe the 3SLS approach to be the preferable estimation procedure to be adopted in this case.

[12] We estimate the set of equations by 3SLS as implemented by the package STATA7.

The matching indicator that describes political process is instrumented by the reform variable, which is exogenous.

The system of equations we estimate satisfies the necessary identification condition that the number of excluded predetermined variables from each equation must be at least as great as the number of the included number of endogenous variables less one.[13]

In Table 1.5 we present the results of the 3SLS estimation with fixed effects at the regional level. In the first column we report the coefficients of the political process equation. The reform dummy coefficient is significant (at 5% confidence level) and negative. Its size is basically unchanged if we compare it with the results in Table 1.4. This is reassuring, since we obtain the same results now that we have included fixed effect at the regional level, instead of town effects, to cope with potential unobserved heterogeneity. The coefficient of the matching indicator is significant at the 10% level in General Administration, Education and Culture and Social Action. These three categories are the three largest fields of intervention and they amount to 70% of total current expenditure in our sample. Hence, we find significant evidence that political changes drive fiscal policy changes in the items that arguably matter most to the citizens in Italian towns. The matching indicator has a negative sign in Social Intervention and General Administration. This implies that when we observe more differentiation (Match=0) the expenditure in these categories increases, albeit more in social expenditures than in General Administration. In column four we see, instead, that the coefficient of the matching indicator is positive

[13] See for example Johnston (1991).

and significant, which has to be interpreted as a negative relationship between the degree of differentiation and the amount of resources spent in Education and Culture.

1.4.3 Robustness checks

We have argued that the main generator of changes in fiscal policy is given by the increased differentiation between the two branches of the local governments in Italy. A competing explanation focuses on changes in the relative bargaining power between the executive, the mayor, and the legislative power. Taking in account that after the reform is introduced the mayor cannot be replaced without incurring a new election, this hypothesis seems reasonable. The effect of such a bargaining power reallocation should be picked up by the reform indicator and may be an explanation of what is driving the variability in policy making.

To have some sense of the empirical evidence on this idea we have run our analysis in the subsample where the matching indicator is constant. These administrations can be considered "politically stable" from the point of view of our analysis. However, if what matters is the allocation of bargaining power, the reform indicator should be expected to drive changes in spending. With the caveat of a much reduced sample size (230 observations), we ran SURE estimates for the five expenditure equations controlling for individual heterogeneity, and we found that the reform dummy is nowhere close to becoming significant[14].

We have also controlled for the robustness of these results to the phenomenon of political cycles. The political business cycle argument relies on the intuition

[14]The results are available on request.

that changes in fiscal policy making may occur in an electoral campaign in order to please the electors at the eve of elections. If this was the case, then we would observe changes in expenditures being driven by the distance from the forthcoming elections. This may be a source of systematic bias in our analysis, since reformed governments are on average "younger". The results of the instrumented estimation, in Table 1.6, are robust to the inclusion of political cycle dummies, except for the coefficient in Social Action spending which is now significant at the 12.5% level. We have chosen to include a full set of electoral cycles dummies to control for other factors that have been suggested as a potential determinant of expenditure choices, e.g. the inexperience of newly formed governments. However, the political cycle dummies included in this equation do not seem to be a crucial determinant of the dynamics of expenditure.

The last decade of the past century has been a time of intense political turbulence and institutional reformism in Italy. Due to political scandals and to the fall of the Berlin wall in 1989, the political geography of Italy changed substantially in the beginning of the nineties. The dramatic changes in the eastern European block had a deep impact on the role of the Communist Party in Italian politics. The Communist party, throughout the republican history, was the second largest party in the country. In spite of its size, at the national level, it was systematically excluded from any governmental coalition. The fall of the wall, triggered important changes within the party and had the effect of enfranchising it, deeply affecting the political balance that made Italian politics very stable in spite of the apparent frantic

turnover of governments and parliaments[15]. A number of parties changed name and witnessed, at the national politics level, a substantial fall in vote shares over time. Wholly new parties emerged, first came the Lega Nord (a separatist or federalist, according to different years' manifestos, party based in the north of Italy), later on Mr. Berlusconi created the Forza Italia party. The main left and right wing parties split into a radical and moderate party. Similarly the Democratic Christian party split into a center-left and center-right group.

If the implementation of the reform was simply picking up the effect of having a local election held for the first time facing the new political scenario, then we would be unable to tell whether the political outcomes that we observe are indeed generated by the postulated unbundling mechanism or whether they were a simple consequence of the national political changes.

We could rule out this competing explanation if we assumed that all the reshuffling of political parties' names and shares had little impact on the substantial essence of the political class and their policy platforms at the local level. While this provides no information on the direction of bias, we cannot dismiss this argument out of hand. In order to address it, we look at the general political structure and run some additional robustness tests using alternative specifications.

If we look at the relative share of the biggest parties in our sample, we see that their share of seats remains unaltered before and after the reform. The largest party secures on average 40% of the seats on the board, the second party 20%, the third settles around 14% and the fourth party below 1% in both cases. Indexes of con-

[15] For background information on the topic see Kertzer (1996).

centration like the Herfindahl Index and measures of Entropy exhibit little variation as well. To control for political turbulence we include as a regressor the Herfindahl Index index in our system of equations and we find broadly consistent results, which we present in Table 1.7. We are not surprised to find that the concentration index is highly correlated with the matching indicator. There could be an issue of simultaneity associated with the inclusion of this explanatory variable (due to the fact that the relative share of each party, which determines the index, and the matching indicator could be jointly determined by shocks to the electoral preferences), however we think that it is an interesting result that the magnitude and the significance of the coefficients in the expenditures devoted to General Administration, Education and Social Action remain virtually unchanged.

An alternative specification might have included the number of parties in the council board instead of an index of concentration. The number of parties, a priori, could be assumed to have a negative impact on the matching indicator. Empirically however, the number of parties does not have an impact on the matching indicator, as once we include this variable instead of the concentration index we find it to be insignificant (the coefficient is equal to 0.077 and the associated standard error is 0.0083).

In another attempt to distinguish our hypothesis from the political turbulence one, we run our empirical analysis in a subset of "stable" towns. In Italy there are some regions that are traditionally linked to a political party over time in a very persistent manner. As an example, the region of Bologna is well know as a left wing region, where until the end of the last century regional, provincial and town

governments have been dominated by the left wing party. In the towns of these regions in correspondence with the changes in national politics we note a transition from Communist Party dominated into Party of the Democratic Left (which is the heir of the Communist Party) dominated governments.

It would be difficult to argue that these local governments have been hit by political turbulence and that policy platform in the administration of these towns changed in the early nineties. Similar patterns can be observed in other regions. For example, Sicilian towns changed from single-party governments ruled by the Democratic Christian into local governments where the largest party is by far Forza Italia.

These differences can be partly explained by the diverse history of Italian regions. For our purposes, these features of Italian local politics are useful for the analysis since they allow us to test whether the political and fiscal policy changes are indeed a matter of adjustment to political transition. In fact, if the political turbulence hypothesis is right, we should not observe changes in policies in these very stable environments. Results for this smaller sample are in Table 1.8 (we remain with 306 observations). Here we note that the matching indicator drives significant policy changes as in the large sample in Education and Culture and Social Action. The matching coefficient in General Administration becomes insignificant, but in the last column we note that it is significant and positive for Transports and Communications. The responsiveness of fiscal expenditure to differentiation in three categories reassures us on the role of the differentiation between the executive and the legislative in determining policy choices.

1.5 Conclusion

In this chapter we have argued that the transition from a parliamentary regime to a presidential one has substantial impact on fiscal policy making. We found significant empirical evidence that this is indeed the case. We have developed a multidimensional political economy model in which the institutional differences affect fiscal policy via the changes induced on political outcomes. The model predicts that citizens in a presidentialist regime are able to influence parties and make them more accountable via the unbundling of issues. The institutional change, as we have modeled it, should generate governments that frequently show differences between mayors and the legislative board on non ideological issues. This change is reflected in the policy choice made by the elected representatives who are policy motivated.

Our empirical analysis derives from this theoretical framework. We have tested the hypothesis of wider differentiation between mayors and the leading parties in the local boards. Also, we looked for evidence that political changes (as captured by differentiation) drive fiscal policy changes. The empirical evidence provided supports both predictions. In particular, there is evidence that suggests that the political outcomes affect the expenditure choices in the three largest categories of public intervention, which on average represent 70% of the total expenditures of the local governments included in the sample. Overall, these results are robust to a number of alternative explanations which include changes in bargaining power, political turbulence at the national level and political cycles due to strategic spending in electoral campaigns.

These results have broader implications. The unbundling effect we have described, at the local level, implies a gain in accountability of the incumbents, whenever the preferences of the majority of a party differ from those of its electorate. At the national level, however, we think this gain has to be weighed against other considerations. When it comes to national politics, we also value democratic institutions that compound the preferences of the electorate into moderate positions. This is due to the fact that we want to protect minorities to some extent against the ruling coalition decisions. We believe that in some circumstances the unbundling effect is a potential source of more extreme positions within parties.

1.6 Appendix

1.6.1 Tables

TABLE 1.1
FREQUENCIES OF THE DIFFERENTIATION PROXY WITH RESPECT TO THE IMPLEMENTATION OF THE REFORM.

	Old Regime	Reformed Regime	Total
Differentiation (M=0)	177	136	313
No Differentiation (M=1)	328	150	478
Total	505	286	791
Means	.650	.525	

Test of the equality of the mean of the matching indicator before and after the reform (mean(0) before the reform, mean(1) after the reform)

Ho: mean(0) - mean(1) = diff = 0

Ha: diff >0 t-statistic = 3. P-value > t = 0.0003

Notes: The differentiation indicator takes value 1 if the mayor is affiliated to the largest party in the board. Mayor affiliation and seats composition in the municipal board are taken from the electoral data of the Italian Ministry of Internal Affairs.

TABLE 1.2
SUMMARY STATISTICS OF THE FISCAL EXPENDITURES OVER TIME (IN SHARES)

General Administration Summary statistics				
Year	Mean	SD	Min	Max
1988	19.44224	4.360965	11.27323	35.62266
1990	20.77851	4.857959	10.946	35.63266
1991	20.35407	4.67755	10.7392	34.41671
1992	20.61181	4.988564	9.980082	36.27266
1993	21.33963	5.278681	9.612946	35.33571
1994	21.21124	5.117026	9.905996	37.09801
1995	21.32963	5.029167	10.33081	37.43938
1996	21.49069	5.323648	12.68208	35.79411
Local Security Summary statistics				
Year	Mean	SD	Min	Max
1988	4.47461	1.002745	2.442593	6.641032
1990	4.905971	1.358549	2.527186	9.716436
1991	4.889895	1.35185	2.60466	8.6708
1992	4.806807	1.476292	2.355681	9.985227
1993	4.68237	1.417695	2.246155	9.353454
1994	4.806344	1.505265	2.43879	9.897037
1995	4.858834	1.431625	2.371065	8.94292
1996	4.832848	1.46709	2.30802	8.744858
Education and Culture Summary statistics				
Year	Mean	SD	Min	Max
1988	21.37485	4.082359	14.42347	31.99191
1990	19.33106	4.28348	10.89946	30.22939
1991	19.72163	3.758207	9.982795	30.2482
1992	19.149	3.843583	9.423962	29.58521
1993	17.53591	4.115107	9.46181	28.8592
1994	17.74995	4.318766	8.533065	29.03586
1995	17.56658	4.166924	7.832327	27.10649
1996	17.67671	4.125357	8.579086	28.2791

Notes: Source: ISTAT Database.

TABLE 1.2 (CONTINUED)
SUMMARY STATISTICS OF THE FISCAL EXPENDITURES OVER TIME (IN SHARES)

Social Expenditure Summary statistics				
Year	Mean	SD	Min	Max
1988	34.77325	5.72757	22.88095	46.37748
1990	34.89483	6.071297	22.06063	50.92599
1991	35.47625	5.5137	25.09568	48.72419
1992	35.66672	6.12836	22.25224	50.41642
1993	34.65666	6.680425	16.60313	50.63031
1994	36.28141	6.606506	21.30435	49.83575
1995	35.88587	6.492789	20.08509	54.74463
1996	36.27346	5.999602	21.15232	50.47171
Transport and Communications Summary statistics				
Year	Mean	SD	Min	Max
1988	9.029971	4.424298	3.029858	31.66083
1990	8.077723	3.941793	2.894397	32.77308
1991	8.111071	4.067031	2.950569	32.04795
1992	8.055127	4.173655	2.923625	35.30523
1993	8.088181	4.468707	1.450834	30.86178
1994	8.211238	4.783336	1.221862	33.94757
1995	8.356958	5.337189	1.411084	39.72583
1996	8.085273	4.495973	1.440053	30.30342

Notes: Source: ISTAT Databas

TABLE 1.3
CORRELATIONS OF CONTROLS AND CATEGORIES OF EXPENDITURE

Controls	General Administration	Local Security	Education & Culture	Social Intervention	Transports & Communication
Value Added	-0.378	-0.353	0.393	0.298	-0.031
Demographics	-0.245	-0.296	0.145	0.249	-0.058

Notes: Fiscal expenditures are expressed in shares. Source: ISTAT Database.
Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Demographics is the share of the population in a town that is older than 65 years. This data comes from the 1981 and 1991 Census and the missing information is replaced interpolated figures.

TABLE 1.4
DEPENDENT VARIABLE: DIFFERENTIATION PROXY MATCH=1 LINEAR PROBABILITY MODEL

Explanatory Variables	Coefficients		
Reform	-0.108***	-0.082**	0.062
	(0.035)	(0.038)	(0.065)
Ydu2			0.056
			(0.073)
Ydu3			0.021
			(0.077)
Ydu4			0.065
			(0.077)
Ydu5			-0.043
			(0.078)
Ydu6			-0.100
			(0.086)
Ydu7			-.156
			(0.099)
Ydu8			-.165*
			(0.101)
Demographic		-.014	-.01
		(.009)	(.01)
Population		-.002**	-.002**
		(-.001)	(.001)
Value Added		0.196	-.173
		(0.153)	(.153)
Town F.E.	yes	yes	yes

Notes: standard errors are reported in brackets. 791 Observations. *** Coefficient significant at 1% confidence, ** significant at 5% and * significant at 10%. Ydu- are a set of year dummies, 1988 is excluded, ydu2= 1 in year 1990, ydu3=1 in year 1991 and so on. Value Added is measured at the province level. This data is available on a yearly base and it is provided by the Tagliacarne Institute. Demographics is the share of the population in a town that is older than 65. This data comes from the 1981 and 1991 Census and the missing information is replaced interpolated figures. Population data, measured yearly, is provided by ISTAT.

TABLE 1.5
3SLS ESTIMATES OF THE POLITICAL PROCESS (DEPENDENT VARIABLE MATCH=1 IF MAYOR BELONGS TO BIGGEST PARTY IN THE BOARD) AND FISCAL EXPENDITURES IN SHARES.

	Dependent Variables					
	Match	General Administration	Local Security	Education & Culture	Social Intervention	Transports & Communication
Reform	-.082**					
	(.037)					
Match		-9.78*	.425	11.54*	-11.72*	3.47
		(5.97)	(1.10)	(6.17)	(7.22)	(3.66)
Demographic	-.015	-.177**	.033	-.064	-.066	.213**
	(.009)	(.176)	(.032)	(.182)	(.214)	(.108)
Value Added	-.197	.195	.149	3.24	-3.28	-2.43*
	(.115)	(2.33)	(.431)	(2.41)	(2.82)	(1.42)
Population	-.002	-.058*	-.007**	.014	-.056**	.087***
	(.001)	(.017)	(.003)	(.18)	(.21)	(0.011)
Regional F.E.	yes	yes	yes	yes	yes	yes

Notes: Standard errors are reported in brackets. *** Coefficient significant at 1% confidence, ** significant at 5% and * significant at 10%. Observations: 791. The instrument for the matching process is the reform dummy. The data on fiscal expenditures is expressed in shares. Population is measured yearly. Source: ISTAT Database. The political data come from the Italian Ministry of Internal Affairs database. Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Demographics is the share of the population in a town that is older than 65. This data comes from the 1981 and 1991 Census and the missing information is replaced interpolated figures.

TABLE 1.6

ROBUSTNESS TO POLITICAL CYCLE: 3SLS ESTIMATES OF THE POLITICAL PROCESS (DEPENDENT VARIABLE MATCH=1 IF MAYOR BELONGS TO BIGGEST PARTY IN THE BOARD) AND FISCAL EXPENDITURES IN SHARES.

	Dependent Variables					
	Match	General Administration	Local Security	Education & Culture	Social Intervention	Transports & Communication
Reform	-.100**					
	(.039)					
Match		-9.69*	1.15	11.73**	-8.19	2.89
		(5.177)	(.106)	(5.43)	(5.37)	(3.10)
Antiel1	-.011	-.668	-.389*	-1.74	.819*	-.255
	(.080)	(1.07)	(.220)	(1.12)	(1.11)	(.642)
Antiel2	.092	1.08	-.332	-1.92*	1.599	-.050
	(.076)	(1.05)	(0.227)	(1.16)	(1.14)	(.663)
Antiel3	.058	.34	-.163	-1.44	1.613	-.159
	(.078)	(1.04)	(.214)	(1.093)	(1.08)	(.625)
Antiel4	.091	.91	-.162	-1.16	1.88*	-.420
	(0.79)	(1.08)	(.221)	(1.13)	(1.11)	(.647)
Regional F.E.	yes	yes	yes	yes	yes	yes

Notes: Standard errors are reported in brackets. *** Coefficient significant at 1% confidence, ** significant at 5% and * significant at 10%. Observations: 791. The instrument for the matching indicator is the reform dummy.

The data on fiscal expenditures is expressed in shares. Population is measured yearly. Source: ISTAT Database. The political data comes from the Italian Ministry of Internal Affairs database. Antiel1=1 in the year of new elections, Antiel2=1 one year before elections and so on. Standard controls are included in the regressions as in the previous tables (demographic, value added, population), although we do not report the coefficients. Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Demographics is the share of the population in a town that is older than 65. The data come from the 1981 and 1991 Census and the missing information is replaced interpolated figures.

TABLE 1.7

ROBUSTNESS TO CHANGES IN PARTIES' CONCENTRATION: 3SLS ESTIMATES OF THE POLITICAL PROCESS (DEPENDENT VARIABLE MATCH=1 IF MAYOR BELONGS TO BIGGEST PARTY IN THE BOARD) AND FISCAL EXPENDITURES IN SHARES.

	Dependent Variables					
	Match	General Administration	Local Security	Education & Culture	Social Intervention	Transports & Communication
Reform	.070**					
	(.035)					
Match		-12.77	.025	13.50*	-15.64*	4.83
		(8.07)	(1.25)	(7.89)	(9.73)	(4.61)
Concentration	2.06***	-24.20	-1.69	-29.3	32.66	-8.30
	(.211)	(17.5)	(2.66)	(16.7)	(20.6)	(9.81)
Regional F.E.	yes	yes	yes	yes	yes	yes

Notes: Standard errors are reported in brackets. *** Coefficient significant at 1% confidence, ** significant at 5% and * significant at 10%. Observations: 791. The instrument for the matching indicator is the reform dummy.

The data on fiscal expenditures is expressed in shares. Population is measured yearly. Source: ISTAT Database. The political data comes from the Italian Ministry of Internal Affairs database. Concentration is the Herfindahl index of concentration of parties in the local government board. It has been calculated taking in account the seats share of the five largest parties. Standard controls are included in the regressions as in the previous tables (demographic, value added, population), although we do not report the coefficients. Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Demographics is the share of the population in a town that is older than 65. The data come from the 1981 and 1991 Census and the missing information is replaced interpolated figures.

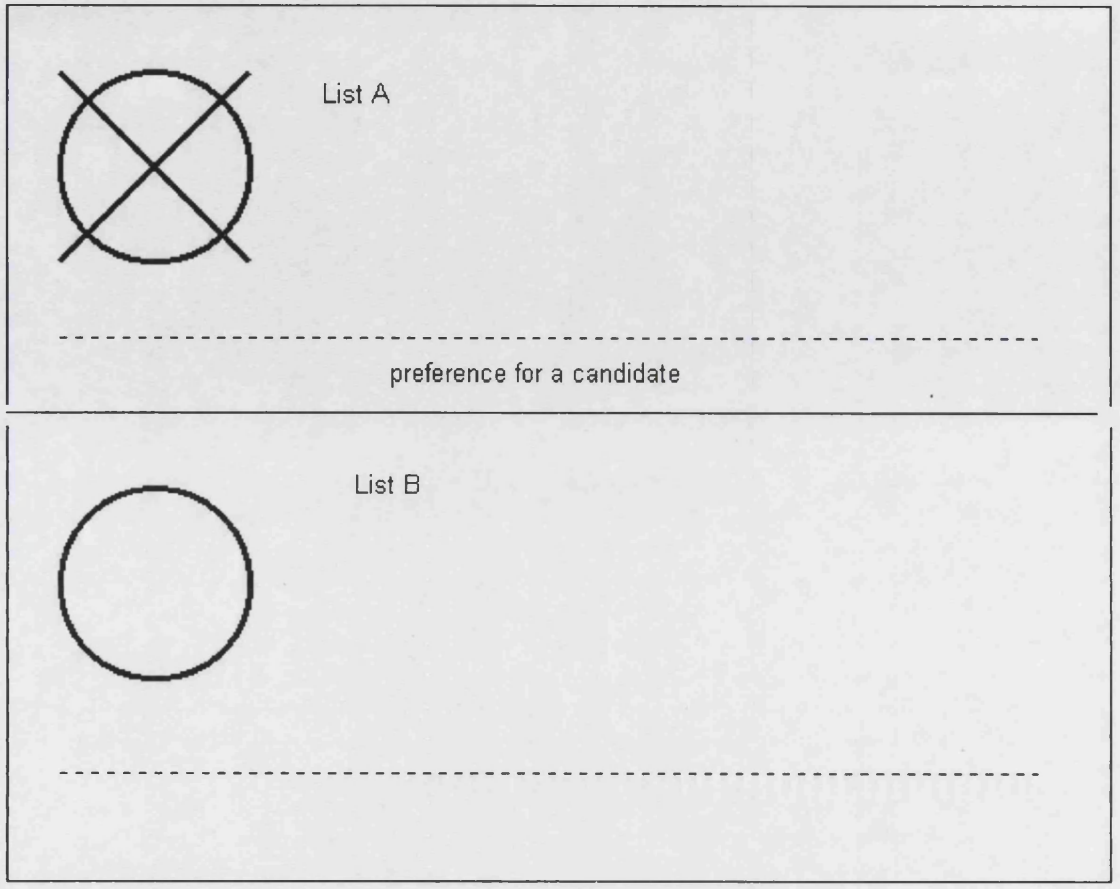
TABLE 1.8
ROBUSTNESS TO POLITICAL TURBULENCE: 3SLS FISCAL EXPENDITURES IN SHARES IN "STABLE" TOWNS.

	Dependent Variables					
	Match	General Administration	Local Security	Education & Culture	Social Intervention	Transports & Communication
Reform	-.123***					
	(.046)					
Match		2.31	.443	10.52**	-11.51*	9.21**
		(3.81)	(.897)	(5.88)	(6.88)	4.61
Regional F.E.		yes	yes	yes	yes	yes

Notes: Standard errors are reported in brackets. *** Coefficient significant at 1% confidence, ** significant at 5% and * significant at 10%. Observations: 306. The instrument for the matching indicator is the reform dummy.
The data on fiscal expenditures is expressed in shares. Population is measured yearly. Source: ISTAT Database. The political data comes from the Italian Ministry of Internal Affairs database. Standard controls are included in the regressions as in the previous tables (demographic, value added, population), although we do not report the coefficients. Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Demographics is the share of the population in a town that is older than 65. The data come from the 1981 and 1991 Census and the missing information is replaced interpolated figures. Political data source: Ministry of Internal Affairs.

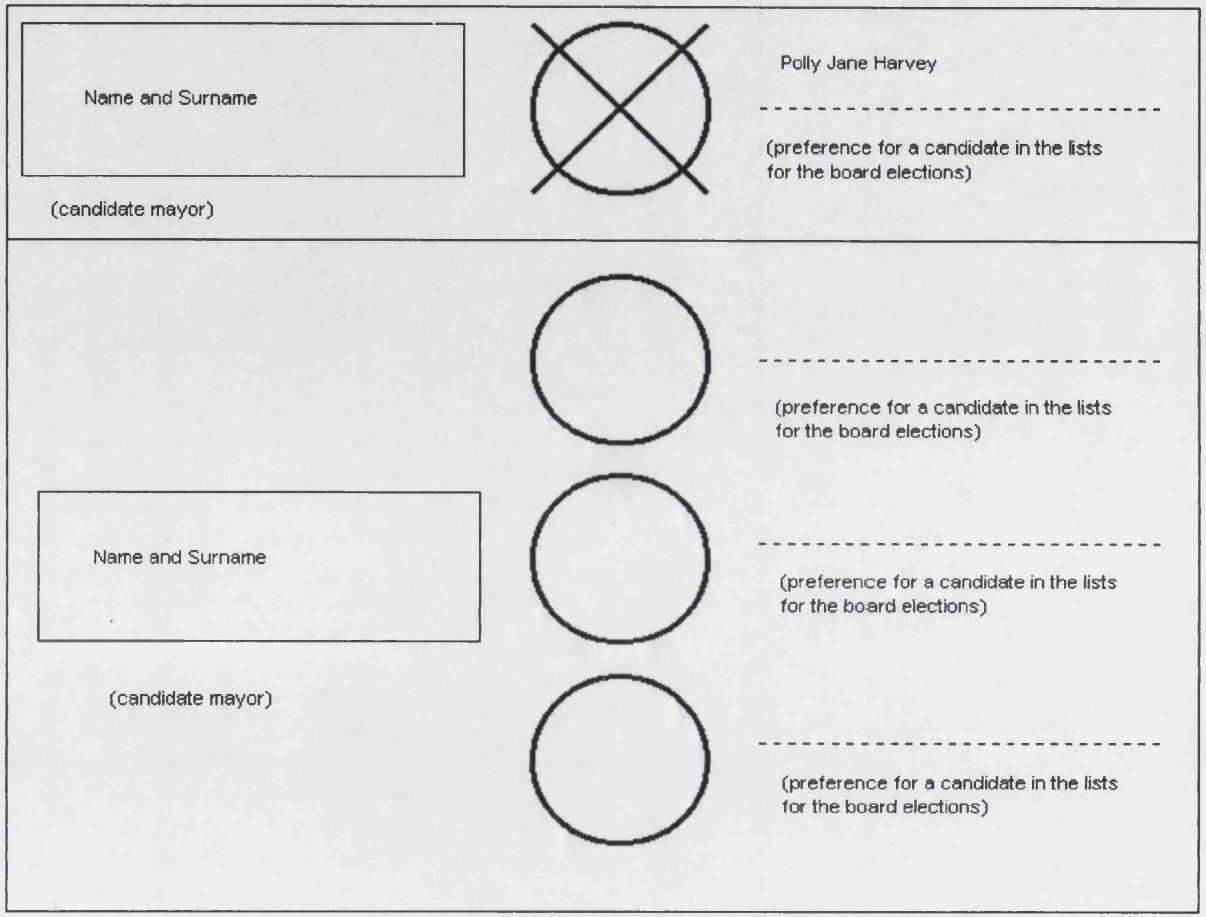
Stylised Ballot Example 1.

An example of a ballot in the municipal elections before the introduction of the reform.



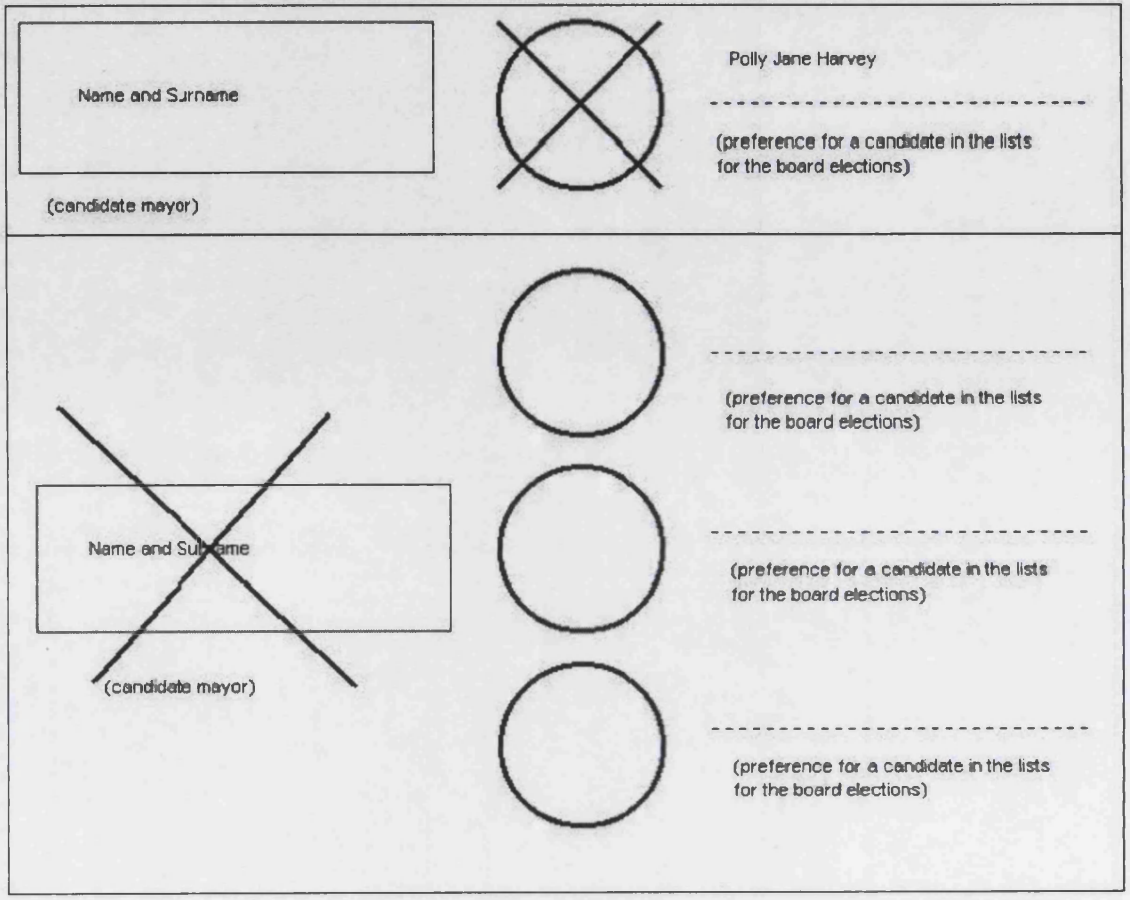
Stylised Ballot Example2.

An English translated version of the diagrams published on the Italian government web site at the times of local elections ("A guide to voting"). Example of a vote for a list supporting a candidate in a list for the council board election (which implies a vote for the associated mayor).



Stylised Ballot Example 3.

An English translated version of the diagrams published on the Italian government web site at the times of local elections ("A guide to voting"). An example of a vote for a list supporting a candidate in a list for the council board election and (split) vote for a candidate mayor which is not associated with the chosen list.



1.6.3 Theory appendix

Proof of propositions

Proposition 1 *Under Assumption 1, party U will choose a candidate that has ideology L and party F will choose a candidate that has ideology R*

It is easy to show that L(K,m) dominates L(-K,-m). We have to check if L(k,m) is a better response than L(-k, m). The two non obvious conditions for this to be true are the following.

When the opponent is fielding (k,-m):

$$[(1 - \Psi[(\gamma^K - \gamma^{-K} - 2(\gamma_M^K - \gamma_{-M}^{-K})]\Delta(k) >$$

$$\{[\Psi[(\gamma^K - \gamma^{-K} - 2(\gamma_M^K - \gamma_{-M}^{-K})] - \Psi(\gamma_{-m} - \gamma_m)\}\Delta(m).$$

This is obtained by comparing the expected payoffs:

$$[\Psi[(\gamma^K - \gamma^{-K} - 2(\gamma_M^K - \gamma_{-M}^{-K})]\omega(k,-m) + [1 - \Psi[(\gamma^K - \gamma^{-K} - 2(\gamma_M^K - \gamma_{-M}^{-K})]\omega(-k,m)$$

and

$$\Psi(\gamma_{-m} - \gamma_m)\omega(k,-m) + [1 - \Psi(\gamma_{-m} - \gamma_m)]\omega(k,m).$$

While the second condition, related to the opponent fielding (-k,m), is

$$[(1 - \Psi[(\gamma^K - \gamma^{-K} - 2(\gamma_{-M}^K - \gamma_M^{-K})]\Delta(k) >$$

$$\{\Psi[(\gamma^K - \gamma^{-K} - 2(\gamma_{-M}^K - \gamma_M^{-K})] - \Psi(\gamma_{-m} - \gamma_m)\}\Delta(m).$$

This is obtained rearranging the difference in expected payoffs

$$\Psi(\gamma_{-m} - \gamma_m)\omega(-k,-m) + [1 - \Psi(\gamma_{-m} - \gamma_m)]\omega(-k,m)$$

and

$$[\Psi[(\gamma^K - \gamma^{-K} - 2(\gamma_{-M}^K - \gamma_M^{-K})]\omega(-k,-m) + [1 - \Psi[(\gamma^K - \gamma^{-K} - 2(\gamma_{-M}^K - \gamma_M^{-K})]\omega(k,m).$$

Then, it is sufficient that salience is strong enough, with $\Delta(k)$ large enough with respect to $\Delta(m)$ to compensate for the changes in probability of victory.

Proof of proposition 2 We now focus on the possible choices (k,m) and (K,m) for each party and the second proposition .

Proposition 2 *When assumption 2 holds, each party chooses a candidate that has preferences aligned to the majority of the party in both dimensions, regardless of the preferences of the electorate.*

When the opponent fields (-k,m) the expected payoff from fielding (k,m) is

$$[\Psi(\gamma^K - \gamma^{-K})]\omega(k,m) + [1 - \Psi(\gamma^K - \gamma^{-K})]\omega(-k,m)$$

which needs to be larger than

$$[\Psi[(\gamma^K - \gamma^{-K} - 2(\gamma^K_M - \gamma^{-K}_{-M})]\omega(k,-m) + \{1 - \Psi[(\gamma^K - \gamma^{-K} - 2(\gamma^K_M - \gamma^{-K}_{-M})]\}\omega(-k,m).$$

Simplifying the expression and setting the difference to be positive we obtain the following expression.

$$\{\Psi[(\gamma^K - \gamma^{-K} - 2(\gamma^K_M - \gamma^{-K}_{-M})] - \Psi(\gamma^K - \gamma^{-K})\Delta(k) < \Psi[(\gamma^K - \gamma^{-K} - 2(\gamma^K_M - \gamma^{-K}_{-M})]\Delta(m).$$

Similarly, when the opponent fields L(-k,-m)

$$\Psi[(\gamma^K - \gamma^{-K} - 2(\gamma^K_{-M} - \gamma^{-K}_M)]\omega(k,m) + \{1 - \Psi[(\gamma^K - \gamma^{-K} - 2(\gamma^K_{-M} - \gamma^{-K}_M)]\}\omega(-k,-m)$$

is the expected payoff from presenting (k,m), while if (k,-m) is chosen we have

$$[\Psi(\gamma^K - \gamma^{-K})]\omega(k,-m) + [1 - \Psi(\gamma^K - \gamma^{-K})]\omega(-k,-m).$$

Rearranging we have

$$\{\Psi(\gamma^K - \gamma^{-K}) - \Psi[(\gamma^K + \gamma^{-K} - 2(\gamma^K_{-M} - \gamma^{-K}_M)]\}\Delta(k) <$$

$$\Psi[(\gamma^K - \gamma^{-K} - 2(\gamma^K_{-M} - \gamma^{-K}_M)]\Delta(m).$$

When difference in probability is negative ($\gamma^K_{-M} < \gamma^{-K}_M$),these conditions are always fulfilled, since the right hand side is not negative. The same holds when the difference between the moving groups is small (because they are similar in size or negligible with respect to the remaining of the electorate).

Proof of proposition 3 *Given the assumptions, for each party choosing to field two lists is a weakly dominant strategy.*

Both parties offer two lists Suppose both parties are fielding two lists. Would the majority/mayor gain by withdrawing the least preferred list? Again, we shall focus on the behavior of rational voters and parties. Withdrawing the least liked list implies a loss of $\gamma^K_{\bar{m}}$votes that would shift in favor of the list of the opposite color without altering the chances to see the preferred administrative option winning.

The other party offers one list Suppose that in party U the majority prefers b to a, when would it be the case that the list (L,a) is offered? The interesting case is when the other party offers only what the majority of the party prefers. In fact, when the other party fields $(-k,-m)$, offering two lists dominates offering one, since $-m$ would have the same votes and there would be less chance to see members of the party elected. The loss and gains entailed are determined by the *whole of the party electorate* which has these preferences, and not by the smaller subset of these

voters that would be able to swap ideological sides even at the cost of seeing the wrong ideology dominating the contest.

Let us now see what is the necessary condition to ensure that the following proposition holds in this case. Assume the party majority has additive utility on the administrative outcome according to ω_2 and according to ω_3 on the number of foreseeable seats (namely, those deriving from rational votes). The choice between fielding (k,m) and (k,-m) or (k,m) alone, when the opponent is choosing to present only $(-k, m)$ entails the following comparison of expected payoffs

$\Psi(\gamma^K - \gamma^{-K} + 2\gamma_{-m}^{-K})\omega_3(k) + [1 - \Psi(\gamma^K - \gamma^{-K} + 2\gamma_{-m}^{-K})]\omega_3(-k) + \Psi(\gamma_m - \gamma_{-m})\omega_2(m) + [1 - \Psi(\gamma_m - \gamma_{-m}]\omega_2(-m) >$

$\Psi(\gamma^K - \gamma^{-K})\omega_3(k) + [1 - \Psi(\gamma^K - \gamma^{-K})]\omega_3(-k) + \omega_2(m).$

Rearranging, the following must hold

$$\{[\Psi(\gamma^K - \gamma^{-K} + 2\gamma_{-m}^{-K})] - \Psi(\gamma^K - \gamma^{-K})]\}\Delta(k) > \{1 - \Psi(\gamma_m - \gamma_{-m})]\}\Delta(m).$$

The gain obtained by presenting a single list is a function of the distribution of preferences on the administrative option, and it is increasing in how little probability is attached to m's victory when both administrative options are on the floor. The loss depends on the preferences within the opponent party for the "withdrawable" option, since all the "$-m$" electorate of the opponent would cast the vote for (k,-m). Again, if the party cares sufficiently about grabbing the seats and given that γ_{-m}^{-K} could be non negligible, the inequality will hold.

1.6.4 Data appendix

The data used in the analysis come from several sources. Data on fiscal expenditure have been provided by *ISTAT* (Italian National Statistics Institute) thanks to the cooperation of Andrea Mancini and Enrica Caprara. This data provides information on expenditures and revenues for 125 main cities. Public expenditure (later transformed by the author in order to have all data measured in real terms and per capita) is available disaggregated by destination (current and capital expenditures are reported separately): General Administration (Amministrazione generale), Education and Culture (Istruzione e cultura), Social Intervention (Azioni e interventi campo sociale), Transports and communications (Trasporti e comunicazioni), Public security (Sicurezza pubblica e difesa). Total Expenditure is also provided (namely the sum of all mentioned items plus residual). The deficit is also reported separately.

Political data (on elected mayors and composition of the local board) of the *Ministry of Internal Affairs Electoral Division* have been kindly provided by Antonella Fortino. We compiled the same panel of political data from several yearly issues (from 1988 to 1996) of the "*Guida delle regioni d' Italia,*" Roma: SISPR. Data on local product are drawn from the *Istituto Tagliacarne* series on provinces PIL (GDP).

Demographic data on the share of population above 65 year is reported in the *ISTAT* Census Report of 1981 and 1991.

The left wing dummy has been built excluding the following list of affiliation from the left wing administrations set. In many cases I have checked on alternative

sources of information, especially for "Liste civiche" and unusual party codes (on the "*Guida delle regioni d' Italia,*" Italian Newspaper Archives and web based political resources).

In the robustness and check section we ran the analysis on a subsample of stable administration. A simple criterion to select these historically stable towns proved to be the choice of towns that are always ruled by left wing or right wing governments (from 1988-1996). We build a dummy indicator for left wing administration which assumed value one if the town was governed by a left wing administration. Stable towns displayed zero variance in this dummy.

List of Parties Classified as not-left-wing (the source of party names is the *Ministry of Internal Affairs Electoral Division, the classification is ours*):

Alleanza Nazionale
Azione Meridionale
CCD
CDL
CDU
Centro-Destra
CENTRO
DC
DC D.
DC-Indipendente
Destra
Forza Italia (FI)
FI-CCD
FI CCD
FI CCD-CDU
FI
FIT-PP
Legaveneta-Nord
LAARGOV
Ladins
LARGOV
Lega Nord
Legalpiemonte
LI VER
Liga Veneta
MSI-DN
Nordvene
P.Centro
Pattdemocratici
Patto Segni
PLD
PLI
Polo
Polo Buon Governo

Polo Liberta'
PRI
Proaltoadige
PRS
Partito Sardo D'azione
PSDI
PSI
PSI
Radicale Indipendente
UDEUR
Unione Di Centro
Union Valdotaine
Veneta Republica

Chapter 2

Political Fiscal Cycles Under Alternative Regimes

2.1 Introduction

In this chapter we address the question of how political business cycles differ across constitutional regimes. Looking at our panel database of Italian local governments we explore how fiscal policy making is manipulated on the eve of elections in parliamentary and presidential regimes.

The idea that policies systematically change close to elections is not a recent one and has found support both in cross-country and regional panel data analysis. In this literature, however, little attention has been paid to the effect of different constitutional arrangements on the presence and intensity of electoral cycles. In our work we show that the presence of electoral fiscal cycles detected by the empirical analysis in the overall sample, once allowing for a differential effect of political cycles across regimes, is actually driven by the governments whose head of the executive is directly elected. Under this form of government strongly significant dynamics are induced on how revenues are collected in the years preceding elections. Taxes

fall, as well as the revenues generated by the provision of collective goods[1], whereas borrowing is increasingly adopted.

The theoretical modeling of political business cycles stems from ideas that have been extensively discussed in the political science literature. It is the core idea in Riker's (1993) book "Populism versus Liberalism" that we cannot assign very ambitious tasks to our democratic institutions. Instead, we should confine our hope into a "minimal democracy" which allows voters to replace bad incumbents by mean of elections. According to this vision of what democratic institutions are meant for, the economic analysis should not hinge on models of spatial choice (and commitment) like in Downs (1957), but concentrate on the role of elections as a way to restrain opportunistic behavior from the politicians. This point of view has been modeled first in the economics literature using political agency theoretical frameworks as in is Barro (1973) and Ferejohn (1986). Models of this flavor often assume that taxes are correlated with greater incompetence of the incumbent or a more opportunistic (rent seeking) behavior of politicians. In these analyses, voters condition their voting on the policies implemented to curb incumbents' misconduct (or to select better incumbents). This voting behavior generates incentives to "impress" voters acting in their interest or in general to appear as a good performer in order to be reappointed.

Rogoff (1990), in an adverse selection framework with private information on incumbents' competence, shows how business cycles are a rational outcome of citizens' desire to make politicians accountable. His model predicts that before elections pol-

[1]For which governments charge a fee.

icy makers prefer to spend more on highly visible government services at the expense of investments.

In the context of principal-agent analysis, Harrington (1993) extends the previously existing literature, to analyze the distortions induced by elections. Extending this kind of theoretical framework to allow for yardstick competition in tax setting, Besley and Case (1995) show that the ability of evaluating the relative performance of incumbents reduces wasteful spending.

Drazen (2000) reviews the empirical evidence of the impact of political cycles on monetary policy in OECD countries. Other evidence on fiscal policy from data on local and national governments suggests that the presence of fiscal cycles is a widespread phenomenon. In their survey and extension of the existing empirical literature on US state level data, Besley and Case (2003) discussing political cycles and accountability argue that the existing "results leave little doubt that the electoral process does hold policy makers to account for the policies chosen during their tenure. This cements the link between economic and political outcomes in a way that is consistent with theories based on political agency." Further evidence on tax cuts before elections is provided by Petterson-Lidbom (2002) in their study on Swedish municipalities. Schuknecht (2000) and Block (2002) are examples of cross-country analysis in developing countries. Enriching the analysis to allow for a differential impact of political fiscal cycles for diverse institutional environments, Gonzalez (2002) looks at the interaction of the occurrence of cycles and the quality of democratic institutions exploiting Mexican data. Finally, Shi and Svensson (2002), instead, use country level panel data to show how the size of the rents at stake and

the share of uninformed voters strengthen the occurrence policy cycles. [2]

The existing political economy literature indicates how the form of government shapes incentives in fiscal policy, changes the extent to which politicians are accountable and the importance of incumbent career concerns. Once acknowledged these conclusions, we believe it is natural to address the question of how the incentives to generate political fiscal cycles differ under alternative regimes.

Persson, Roland and Tabellini (1997, 2000) provide a rationale for the role of the form of government on fiscal policy focusing on legislative bargaining and agenda setting power. Career incentives may be stronger for the head of the executive once he is directly elected rather than appointed by the legislature. One explanation of these stronger incentives relies on the switch from individual to collective accountability (as in Lowry et al, 1998). Voters are in a better position to make the executive and the legislative accountable separately, given that they can punish or reward directly the head of the executive that is no longer appointed by the legislature. Alternatively, career concerns, which are argued to be particularly important in the public sector (see, e.g. Wilson 1989) could be strengthened by the fact that the post of head of the executive becomes more visible and attractive once the direct election is introduced.

Stronger career concerns can be modeled as increased ego-boost rents for the incumbents or as taste for higher authority and hence stronger ability to fulfill one's favored policies or mission[3] if in power (which, arguably, increases for a directly

[2]For extensive literature reviews see Alesina, Roubini and Cohen (1997), Persson and Tabellini (2000) and the afore mentioned Drazen (2000).

[3]On the concept of mission see again Wilson (1989) or a recent work by Besley and Gathak (2003).

elected head of the executive). Lastly, we argued in Chapter 1 that when a multiplicity of policy issues is involved, presidential regimes increase accountability.

The first work that attempts to establish empirically a link between governmental form and electoral procedures and political fiscal cycles is Persson and Tabellini (2002). Using panel data on 60 democracies they look for evidence of electoral cycles on fiscal policy and welfare spending. They find that tax cuts before elections are a universal phenomenon, while fiscal adjustments (high taxes and spending cuts) after the election only take place in presidential democracies. Brender and Drazen (2004) propose an alternative interpretation of the Persson and Tabellini study by arguing that political cycles are very strong in new democracies but not at all significant in the established ones.

We investigate how the form of government impacts on electoral cycles focusing on a panel of Italian towns that have experienced institutional transition from a parliamentary to a presidential regime in the early nineties. By looking at subsequent elections before and after the reform for each town, we identify how electoral cycles impinge on fiscal policies under the two regimes. We use specific policies as left hand side variable and estimate by two-way fixed effects the electoral cycle dynamics on tax and non-tax revenues. Moreover, we control for the size of transfers received from higher tiers of government (which is the largest source of income for Italian municipalities) and look at the borrowing behavior of the incumbents.

The existence of term limits should weaken the impact of political cycles. An incumbent prevented from running as a candidate should have lower incentives to strategically manipulate policies on the eve of an election. Empirically, this is not

a relevant concern in this paper, as term limits were only introduced by the 1993 reform and were not affecting the elections in our sample.

Incumbents are often believed to enjoy and advantage over "new" challenging candidates[4]. If the pre and post reform period differed in the strength of the incumbency advantage, this should be reflected on the relevance of political cycles, as a stronger incumbency should be negatively associated to strategic pre-electoral policy changes. Our priori is that incumbency effects should be stronger in a government where the leader of the executive is directly elected. Other things equal, this should weaken the incentives to engage in pre-electoral strategic policy making in reformed governments compared to parliamentary governments and lower the visibility of political cycles in a presidential regime.

Our analysis of political cycles also provides a unique contribution by exploiting the time variation of the institutional setup in Italian towns. We find empirical support to the conclusion that political cycles differ across regimes not because of the type of *forthcoming* elections, but due to changes in the electoral law that *appointed* the incumbents. This suggests that institutional change impacts on incumbents' incentives via the increased identifiability of policies (and hence accountability) of presidential governments. These effects strengthen the returns to an incumbent from policy changes and prompt stronger business cycles.

In the following section we give a brief account of the institutional reform and the role of local government in Italy. In this section we also describe the data and

[4] A large number of political science empirical analysis have measured the incumbency advantage, see for example Erikson (1971), Collie (1981), Garand and Gross (1984), Jacobson (1987), Payne (1980), Alford and Hibbing (1981), Gelman and King (1990), and Lee (2001).

provide some descriptive statistics. The empirical specifications are described in Section 3. The results are outlaid in section 4. Finally, in Section 5 we discuss briefly the results and conclude.

2.2 Background and data

As we discussed in the introduction, the main role of local governments is to cater a large number of services to their communities. These activities are mainly[5] funded by transfers from higher tiers of government (and in particular by the state). However, municipalities also charge for some of the services provided and collect revenues from other sources (like fines for violations of the highway code). Roughly one tenth of a town income is raised in this way. To a limited extent, local government can also levy some taxes, especially on properties. The marginal rate applied however is tightly constrained within a certain range by the law. Only recently - i.e. in the years not covered by our sample - the freedom to tax has been increased, at the expense of transfers that have been reduced. Local governments can also borrow to finance projects and running activities, however, this source of income is of a smaller scale than the previously quoted categories.

We exploit fiscal data on the composition of revenues for 120 towns from 1986 until 1996. Table 2.1 shows the descriptive statistics of these revenues and Table 2.2 reports the descriptive statistics of our control variables.

From the data on elections (provided by the Ministry of Internal Affairs) we know the calendar of all elections and the type of electoral procedures in place at

[5]The figure is around 40% of the overall revenues.

the time the incumbent was selected. One fifth of the observations correspond to a year immediately preceding elections. The type of incumbent can be classified in three ways, according to the electoral procedure that selected the local government and the electoral procedure that characterized the elections that incumbents will face. In chronological order, 28% of the cases the local government was elected and was about to face new elections under the old constitutional regime. The share of governments in place that were going to be renewed with the first round of reformed electoral procedures amounts to 54%. Finally, the remaining 18% is the share of administrations elected with the new procedure and that was facing the second round of elections in the presidential regime.

For a first crude look at the data,Table 2.3 reports the tests for mean statistical differences in policies between years that precede elections and years that do not. Tax revenues and borrowing display significant difference at the 5% level, namely taxes are lower before elections and borrowing increases.

Our intuitive prior is that the driving mechanism that creates a different role for political cycles under alternative regime is due to the electoral procedure that appoints a government. This interpretation is coherent with the career concern approach and as well as with models that address to what extent policy choices can be attributed to different actors within governments. However, we use empirical specifications that allow to test for the alternative assumption as well. Namely, we investigate the evidence that what matters most for the magnitude and presence of political cycles is the kind of election an incumbent is about to face. In the following section we describe the adopted empirical strategy.

2.3 Empirical strategy

This study exploits data coming from a broadly common institutional setting and variability at the town level and over time to isolate the impact of institutional changes as source of policy differences. The main drawback of the database is the limited number of years covered. However, the richness of the institutional setup allows us testing specifically for alternative hypothesis on the interplay of political institutions with political fiscal cycles.

In all the following specifications we use as left hand variable different sources of revenue or the deficit incurred by the administration. For simplicity, in what follows will refer to left hand variables as policies. However, only taxes, non-tax revenues and borrowings are a direct consequence of policy choices, while the share of transfers depends on decisions taken at the national level. In all specifications we will use fixed effects at the town level and yearly time fixed effects to control for macro shocks that could affect all towns at once. Typically, these time fixed effects are introduced to control for national government policies or macroeconomic conditions that may affect the way local governments are run in given years.

2.3.1 Political cycles

The first specification follows the classical approach in the literature, for a given policy j, at time t, for town i, we estimate the following equation in order analyze the impact (β) of pre-electoral years:

$$P_{jit} = a_{ji} + d_{jt} + \beta_{j0} PREEL + \gamma_j \mathbf{Z}_{it} + e_{jit} \qquad \text{(1. Unconditional on regime)}$$

where a_i is the town fixed effect, d_t is the time component in the fixed effect, $PREEL$ is an indicator variable that takes value one in the years preceding elections and zero otherwise, and $\mathbf{Z}$ is a vector of controls.[6]

If political cycles matter for policy making, then we expect β_{j0} to be significant. The conventional wisdom would also suggest that in the tax revenues equation β_{j0} should be negative and significant, i.e. taxes are cut before elections.

2.3.2 Political cycles under alternative regimes

Adopting the following specification we look for evidence on the main idea of the chapter, namely that the relevance of political fiscal cycles varies across regimes. To do so, we introduce two new indicator variables that capture the occurrence of elections in the following year when the incumbent was elected with the old electoral procedure (PREPARL) and with the reformed one (PREPRES). This allows for a different impact of the election on policy choices and permits to test straightforwardly for the statistical difference of the two coefficients of these indicators and for their significance individually:

[6] We tried a richer specification that included dummies post and pre elections (post election dummies are analogous to dummies that captures the years furthest away from the election as the dummies we included in Chapter 1). We did not find evidence of significant dynamics in post electoral years.

$$P_{jit} = a_{ji} + d_{jt} + \beta_{j1} PREPARL + \beta_{j2} PREPRES + \gamma_j \mathbf{Z}_{it} + e_{jit}$$

(2. Conditioning on regime)

as above, a_i is the town fixed effect, d_t is the time component in the fixed effect, and $\mathbf{Z}$ is a vector of controls.

In order to unbundle the election-year effect from the electoral system effect we include in Equation 3 a reform dummy, R_{it}, that takes value one in town i and year t if the electoral system is presidential. The inclusion of this dummy allows disentangling the tendency for political budget cycles in presidential regimes from different budgetary policy throughout presidential regimes.

$$P_{jit} = a_{ji} + d_{jt} + \beta_{j1} PREPARL + \beta_{j2} PREPRES + \delta_j R_{it} + \gamma_j \mathbf{Z}_{it} + e_{jit}$$

(3. Conditioning on regime)

2.3.3 Testing for competing explanations

The third specification is flexible enough to test for a richer interaction of the institutional setting with the phenomenon of political cycles. We include a third indicator variable (PREINTER) that is equal to one when the incumbent has been appointed with the unreformed procedure and the elections to come are held with the new electoral law.

$$P_{jit} = a_{ji}+d_{jt}+\beta_{j1}PREPARL+\beta_{j2}PREPRES+\beta_{j3}PREINTER+\delta_j R_{it}++\gamma_j \mathbf{Z}_{it}+e_{jit}$$

(4. A "three way" regime)

When the coefficient on this indicator, β_{j3}, is not significant, this suggests that the previous specification was not omitting an important determinant of fiscal policy insofar there was no role for a different behavior of administrations that have been elected in the same way, but face different elections. There are several ways of arguing that in principle one should allow for such differences. One of the most convincing arguments, perhaps, relies on the role of changes in the degree of political competition, which could increase with the direct election of the head of the executive. The new procedure could attract better candidates and generate the incentives for the incumbents to act more opportunistically to impress their constituency in order to win the elections again.

Political Affiliation

As a robustness check, we have estimated Equation 3 including a political dummy that equals one if the government is left wing. Party affiliation may correlate with the electoral system dummy, and at the same time have explanatory power for the types of fiscal policies pursued.

2.4 Results

The results of the estimation of equation one are presented in Table 2.4. The coefficient of the electoral dummy for taxes (first column) is negative but insignificant. In the equation for non-tax revenues (second column) the coefficient is negative again and significant with 10% confidence. Transfers are significantly lower (third column) and there is no evidence of changes in borrowing behavior (fourth column). One interpretation of these results could be that prices are reduced for services provided to the community, which explains the fall in non-tax revenues, while there is no evidence that this reduction is compensated by more generous transfers from the national government.

The picture changes dramatically when we adopt the second specification. By looking at Table 2.5 we note how in the tax revenues equation the coefficient is insignificant for the electoral indicator during the old regime, while the coefficient is negative, larger and strongly significant for the election dummy in the reformed regime. The F-test for the equality of the two coefficients is also strongly significant (the F-test statistic is 5.77). This is also the equation that presents the best fit, with an R-square statistic of 79 per cent. A similar picture emerges for the non-tax revenues equation. The coefficient on the electoral dummy in the new regime is negative, much larger than in the specification that aggregates the two regimes and it is significant at the 1 per cent level. The electoral dummy in the previous regime is negative but very insignificant. The difference of the two coefficients is also statistically very significant (F-test statistic of 6.18, significant even at the 1

per cent level of confidence). Looking at the electoral dummy coefficients for the transfers equation, we see that it is negative in both regimes, but only significant in the presidential regime. However, the F-test for the identity of the two coefficients is not significant (the P-value for the F-test statistic is 0.17). From this information we infer the increase in transfers from higher levels of government does not compensate the fall in tax and non-tax revenues.

This evidence, on aggregate, points toward dismissing the hypothesis that regional or national governments subsidize the pre-electoral tax cuts of local governments they may favor.

Interestingly, the coefficient in the borrowing regression is positive in both regimes, but only significant, and much bigger, for the presidential electoral dummy. The coefficients difference is also statistically different from zero (the F- test statistic is 0.037). However, with back of the envelope calculations one can see that the increased borrowing cannot compensate entirely for the decrease in taxes and non-tax revenues (and the falling transfers).

From this set of results, it emerges very clearly that pooling together two different regimes to evaluate the importance of political cycles gave a very biased picture of the empirical evidence. Much stronger dynamics emerge in the richer specification, where the evidence strongly support the conclusion that political cycles bite in the presidential regime, inducing lower taxes and non revenues taxes, coupled with higher borrowing.

Table 2.6 shows the results of the estimation of Equation 3. The reform dummy coefficient is always insignificant and the magnitude and significance of all coefficients

shown in Table 2.6 are maintained.

We estimated the fourth specification to allow for more flexibility in the response to electoral periods both according to the electoral law that selected the incumbent government and the type of elections that are about to be held. As described in the earlier section, we introduce another dummy indicator that assumes value one only when in the parliamentary regime the next elections are to be held after the reform has been introduced. Overall, the results shown in Table 2.7 suggest that our more parsimonious specification was delivering an unbiased picture. Indeed, the size of the coefficients on the presidential electoral dummy remains about the same, and they all remain significant at the same level of confidence. Furthermore, the new electoral dummy should be significant if the behavior of an incumbent government in the parliamentary period changed according to the type of future elections. Instead, the coefficient is clearly insignificant both for tax and non-tax revenues. For these two equations, the F-test statistic on the hypothesis that the difference between the sum of the two coefficients on the parliamentary electoral dummies and the presidential one is null is rejected at the 5 per cent confidence level. Only in the borrowing equation, we note a different role for political cycle in the three groups of pre-electoral years, where only parliamentary governments that are facing elections held before the reform is implemented reduce borrowing before elections[7].

Lastly, Table 2.8 shows that our main results are robust to the inclusion of a left wing dummy (included to control for the effect of political orientation on policy choices and possible correlation between the reform and political orientation

[7]The coefficients on the pre-electoral years dummies for the parliamentary regime are only significant to the 10 per cent level.

of elected governments). The left wing dummy is positively correlated with non tax revenues and transfers. It is very insignificant for tax revenues, and negatively correlated (and significant) with higher borrowing. We also explored a specification that added an interaction of the reform and political dummy, but found it largely insignificant throughout.

2.5 Concluding remarks

The results underline the importance of carefully addressing different institutional setup for accountability. The presence of institutional time variation in the studied environment provides strong evidence that fiscal cycles only appear to have a role under the presidential regime. Moreover, we can use the empirical evidence to tell apart two distinct hypothesis on what influences the opportunistic behavior of incumbents. The question addressed is whether the main determinant of differences in cycles is due to the electoral procedure and institutional setup that appoint a government or the alternative assumption that the differences are due to the election that incumbents are about to face. We believe we have found strong support of the former hypothesis. This outcome is supportive of the existing literature that emphasizes the importance of two factors. First, the role of career concerns, which can be reasonably argued to be stronger in presidential regimes. Second, the enhancement of the accountability mechanism, which is strengthened once policy makers are more easily identifiable due to the separate election of the legislature and the leader of the executive.

2.6 Appendix

2.6.1 Tables

TABLE 2.1
DESCRIPTIVE STATISTICS OF REVENUES AND DEFICIT IN SHARES.

Share of revenues	Mean	Standard Dev.	Observations
Tax revenues	0.20	0.08	791
Non-tax revenues	0.10	0.06	791
Transfers	0.38	0.12	790
Borrowing	0.08	0.09	789
Deficit	0.09	0.16	777

Note: Source ISTAT.

TABLE 2.2
DESCRIPTIVE STATISTICS OF SOCIO ECONOMIC CONTROLS

Variable	Mean	Standard Dev.	Min	Max	Obs.
Population	167304	319117	20933	2791354	791
Age>65	0.166	0.04	0.09	0.24	791
Value added	97.58	25.76	51.39	158.11	791

Notes: Population: number of inhabitants, measured yearly. Source: Ministry of Internal Affairs Database. Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Age>65 is the share of the population in a town that is older than 65. This data comes from the 1981 and 1991 Census and the missing information is replaced interpolated figures.

TABLE 2.3
TWO-SAMPLE MEAN TESTS WITH UNEQUAL VARIANCES

Null Hypothesis mean(PREEL=0) - mean(PREEL=1) = 0

Tax revenues	**Non-tax revenues**
Ha: diff > 0	Ha: diff > 0
t-statistic = 1.76	t-statistic = 1.08
P value = 0.04	P value = 0.14
Transfers	**Borrowing**
Ha: diff > 0	Ha: diff < 0
t-statistic = 1.5646	t-statistic = -3.2032
P value = 0.06	P value = 0.001

Notes: the indicator variable PREEL assumes value for all observation one year earlier than elections. Data on elections are taken from the database of the Ministry of Internal Affairs

TABLE 2.4

AGGREGATE POLITICAL CYCLES: THE IMPACT OF PRE- ELECTORAL YEARS ON CHANGES IN SOURCES OF REVENUES. TWO-WAY FIXED EFFECTS ESTIMATION.

	Dependent Variable			
	Tax Revenue	Non Tax Rev.	Transfers	Borrowing
PREEL	-0.005	-0.004	-0.012	0.008
	[0.004]	[0.002]*	[0.006]*	-1.18
Age>65	0.732	-0.154	-4.126	3.796
	[0.747]	[0.479]	[1.315]***	(2.79)**
Population	0	0	0	0
	[0.000]*	[0.000]	[0.000]**	-0.23
Value added	0	0	-0.001	0
	[0.000]*	[0.000]	[0.000]*	-0.58
Town F.E.	yes	yes	yes	yes
Time F.E.	yes	yes	yes	yes
Observations	791	791	790	789
R-squared	0.79	0.22	0.46	0.13

Notes: standard errors in brackets. * Significant at 10%; ** significant at 5%; *** significant at 1%. PREEL is a dummy variable equal to one in pre-electoral years. Data on elections come from the Italian Ministry of Internal Affairs database. The data on fiscal revenues is expressed in shares. Population is measured yearly. Source: Ministry of Internal Affairs Database. Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Age>65 is the share of the population in a town that is older than 65. This data comes from the 1981 and 1991 Census and the missing information is replaced interpolated figures.

TABLE 2.5

CONDITIONAL POLITICAL CYCLES: THE IMPACT OF PRE- ELECTORAL YEARS UNDER ALTERNATIVE REGIMES ON CHANGES IN SOURCES OF REVENUES. TWO-WAY FIXED EFFECTS ESTIMATION.

	Dependent Variable			
	Tax Revenue	Non Tax Rev.	Transfers	Borrowing
PREPARL	0	-0.001	-0.007	0.001
	[0.004]	[0.003]	[0.007]	[0.007]
PREPRES	-0.023	-0.016	-0.03	0.034
	[0.008]***	[0.005]***	[0.015]**	[0.015]**
Age>65	0.801	-0.108	-4.054	3.698
	[0.745]	[0.477]	[1.315]***	[1.361]***
Population	0.00000	0	0	0
	[0.000]	[0.000]	[0.000]**	[0.000]
Value added	0.000	0	-0.001	0
	[0.000]*	[0.000]	[0.000]*	[0.000]
Town F.E.	yes	yes	yes	yes
Time F.E.	yes	yes	yes	yes
Observations	791	791	790	789
R-squared	0.79	0.23	0.47	0.14
F-test: PREPARL=PREPRES	5.77**	6.18***	1.87	3.7**

Notes: standard errors in brackets. * Significant at 10%; ** significant at 5%; *** significant at 1%. PREPARL is a dummy variable equal to one in pre-electoral years if the incumbent has been elected before the reform. PREPRES is a dummy variable equal to one in pre-electoral years if the incumbent has been elected after the reform. Data on elections come from the Italian Ministry of Internal Affairs database. The data on fiscal revenues is expressed in shares. Population is measured yearly. Source: Ministry of Internal Affairs Database. Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Age>65 is the share of the population in a town that is older than 65. This data comes from the 1981 and 1991 Census and the missing information is replaced interpolated figures. The F-test is on the equality of the coefficients on PREPARL and PREPRES.

TABLE 2.6

CONDITIONAL POLITICAL CYCLES: THE IMPACT OF PRE- ELECTORAL YEARS UNDER ALTERNATIVE REGIMES ON CHANGES IN SOURCES OF REVENUES. TWO-WAY FIXED EFFECTS ESTIMATION AND DIRECT REFORM EFFECT.

	Dependent Variable			
	Tax Revenue	Non Tax Rev.	Transfers	Borrowing
PREPARL	-0.001	-0.001	-0.005	-0.003
	[0.004]	[0.003]	[0.008]	[0.008]
PREPRES	-0.023	-0.016	-0.029	0.033
	[0.008]***	[0.005]***	[0.015]**	[0.015]**
REFORM	-0.001	-0.002	0.008	-0.014
	[0.006]	[0.004]	[0.011]	[0.012]
Age>65	0.802	-0.107	-4.057	3.698
	[0.746]	[0.478]	[1.316]***	[1.360]***
Population	0.000	0.000	-0.000	0.000
	[0.000]	[0.000]	[0.000]**	[0.000]
Value added	-0.000	0.000	-0.001	0.000
	[0.000]*	[0.000]	[0.000]*	[0.000]
Town F.E.	yes	yes	Yes	yes
Time F.E.	yes	yes	Yes	yes
Observations	791	791	790	789
R-squared	0.79	0.23	0.47	0.14
F-test: PREPARL=PREPRES	5.55**	5.74***	2.11	4.28**

Notes: standard errors in brackets. * Significant at 10%; ** significant at 5%; *** significant at 1%. PREPARL is a dummy variable equal to one in pre-electoral years if the incumbent has been elected before the reform. PREPRES is a dummy variable equal to one in pre-electoral years if the incumbent has been elected after the reform. REFORM is a dummy that equals one when the reform has been implemented and the elections are held with the new procedure. Data on elections come from the Italian Ministry of Internal Affairs database. The data on fiscal revenues is expressed in shares. Population is measured yearly. Source: Ministry of Internal Affairs Database. Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Age>65 is the share of the population in a town that is older than 65. This data comes from the 1981 and 1991 Census and the missing information is replaced interpolated figures. The F-test is on the equality of the coefficients on PREPARL and PREPRES.

TABLE 2.7

ROBUSTNESS CHECK: CONDITIONAL POLITICAL CYCLES: THE IMPACT OF PRE- ELECTORAL YEARS -ACCORDING TO THE TYPE OF INCUMBENT AND FUTURE ELECTIONS- ON CHANGES IN SOURCES OF REVENUES. TWO-WAY FIXED EFFECTS ESTIMATION.

	Dependent Variable			
	Tax Revenue	Non Tax Rev.	Transfers	Borrowing
PREPARL	0.012	0.001	0.011	-0.033
	[0.010]	[0.006]	[0.017]	[0.018]*
PREINTER	-0.017	-0.003	-0.020	0.039
	[0.011]	[0.007]	[0.020]	[0.020]*
PREPRES	-0.023	-0.016	-0.029	0.032
	[0.008]***	[0.005]***	[0.015]**	[0.015]**
REFORM	-0.004	-0.002	0.005	-0.008
	[0.007]	[0.004]	[0.012]	[0.012]
Age>65	0.92	-0.093	-3.88	3.362
	0.935	-0.084	-3.900	3.392
Population	[0.750]	[0.481]	[1.325]***	[1.367]**
	0.000	0.000	-0.000	-0.000
Value added	[0.000]*	[0.000]	[0.000]*	[0.000]
	-0.000	0.000	-0.001	0.000
Town F.E.	yes	yes	Yes	yes
Time F.E.	yes	yes	Yes	yes
Observations	791	791	790	789
R-squared	0.79	0.23	0.47	0.14
F test Statistic	3.55**	4.85**	1.30	2.27

Notes: s.e. in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%. PREPARL is a dummy variable equal to one in pre-electoral years if the incumbent has been elected before the reform. PREPRES is a dummy variable equal to one in pre-electoral years if the incumbent has been elected after the reform. PREINTER is a dummy equal to one when the incumbent has been elected before the reform and he is facing elections under the new procedure. REFORM is a dummy that equals one when the reform has been implemented and the elections are held with the new procedure. Data on elections come from the Italian Ministry of Internal Affairs database. The data on fiscal revenues is expressed in shares. Population is measured yearly. Source: Ministry of Internal Affairs Database. Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Age>65 is the share of the population in a town that is older than 65. This data comes from the 1981 and 1991 Census and the missing information is replaced interpolated figures. The F-test null hypothesis is PREPARL + PREINTER = PREPRRES.

TABLE 2.8
CONDITIONAL POLITICAL CYCLES: THE IMPACT OF PRE- ELECTORAL YEARS UNDER ALTERNATIVE REGIMES ON CHANGES IN SOURCES OF REVENUES. TWO-WAY FIXED EFFECTS ESTIMATION AND POLITICAL AFFILIATION EFFECT.

	Dependent Variable			
	Tax Revenue	Non Tax Rev.	Transfers	Borrowing
PREPARL	-0.000	-0.001	-0.003	-0.004
	[0.004]	[0.003]	[0.008]	[0.008]
PREPRES	-0.022	-0.015	-0.025	0.030
	[0.008]***	[0.005]***	[0.015]*	[0.015]**
REFORM	-0.002	-0.003	0.005	-0.013
	[0.006]	[0.004]	[0.011]	[0.012]
LEFT	0.004	0.008	0.024	-0.016
	[0.004]	[0.003]***	[0.007]***	[0.008]**
Age>65	0.819	-0.072	-3.961	3.628
	[0.746]	[0.475]	[1.307]***	[1.357]***
Population	0.000	0.000	-0.000	0.000
	[0.000]	[0.000]	[0.000]**	[0.000]
Value added	-0.000	-0.000	-0.001	0.000
	[0.000]*	[0.000]	[0.000]*	[0.000]
Town F.E.	yes	yes	yes	yes
Time F.E.	yes	yes	yes	yes
Observations	791	791	790	789
R-squared	0.79	0.24	0.47	0.14
F-test: PREPARL=PREPRES	5.35**	5.19**	1.74	3.94*

Notes: standard errors in brackets. * Significant at 10%; ** significant at 5%; *** significant at 1%. PREPARL is a dummy variable equal to one in pre-electoral years if the incumbent has been elected before the reform. PREPRES is a dummy variable equal to one in pre-electoral years if the incumbent has been elected after the reform. REFORM is a dummy that equals one when the reform has been implemented and the elections are held with the new procedure. Data on elections come from the Italian Ministry of Internal Affairs database. The data on fiscal revenues is expressed in shares. Population is measured yearly. Source: Ministry of Internal Affairs Database. Value Added is measured at the province level. The information is available on a yearly base and it is provided by the Tagliacarne Institute. Age>65 is the share of the population in a town that is older than 65. This data comes from the 1981 and 1991 Census and the missing information is replaced interpolated figures. The F-test is on the equality of the coefficients on PREPARL and PREPRES.

Data appendix

Data Appendix

The data used in the analysis come from several sources.

Data on fiscal expenditure have been provided by Andrea Mancini and Enrica Caprara at *ISTAT* (Italian National Statistics Institute). This data provides information on revenues for 125 main cities. The categories of interest for this study are: Tax Revenues, Non-Tax Revenues, Transfers and Borrowing. From this source we also have yearly deficit series for all towns. All data have been transformed into real series and normalized by total revenues, so that all figures used in the study are expressed in shares.

Political data (on elected mayors and composition of the local board) of the *Ministry of Internal Affairs Electoral Division* have been kindly provided by Antonella Fortino.

- PREPARL is a dummy variable equal to one in pre-electoral years if the incumbent has been elected before the reform.
- PREPRES is a dummy variable equal to one in pre-electoral years if the incumbent has been elected after the reform.
- PREINTER is a dummy equal to one when the incumbent has been elected before the reform and he is facing elections under the new procedure.

From this database we also use the variable Population, namely the number of inhabitants in each town every year. Population is measured yearly.

Data on local product are drawn from the *Istituto Tagliacarne* series on provinces Value Added (Valore Aggiunto).Value Added is measured at the province level and is available on a yearly base

Age>65 is the share of the population in a town that is older than 65. This data comes from the 1981 and 1991 Census and the missing information is replaced interpolated figures.

Chapter 3

Representation and Institutional Change

3.1 Introduction

Political economy can be broadly defined as the economists' effort to understand the impact, or the interaction, of politics on economics by mean of formal economic analysis. Modern democracies however display an array of different institutional setups classified by political scientists in a taxonomy according to core constitutional features: the electoral law in place, the structure of the government, the balance of power and so on. By comparing different democracies or, more rarely, by analyzing institutional changes (as in the previous chapters), economists have addressed a number of policy questions: how institutions shape fiscal and monetary policy, how important are constitutions to determine the level of growth, of corruption, of electoral turnout and so on. This chapter focuses on the key question of understanding the impact of changing electoral laws and government structure on the type of politicians elected.

In this study we identify the impact of changing the constitution on the composition of the political class by exploiting the Italian local governments 1993 natural experiment. The reform, described earlier in this thesis, strengthened the role and the prestige of the executive and its leader. We study how the change in composition of the political class, looking at skills and occupational choice, before and after the introduction of the reform compares across the executive and legislative branch of the government. This allows us to rule out the hypothesis that the massive increase in the number of graduate and senior professionals in these governments depends on policies and events that were changing over times other than the transition from a parliamentary to a presidential system. In our empirical estimates we find, indeed, that the intake of politicians with higher education and outside opportunity costs was not a common development for both the legislative and the executive power. It was the reformed local governments' executive that became a catalyst for the change in the municipal political class.

Most of the existing literature maps institutions into policy outcomes, but rarely the question of how institutions may affect the selection of a political class is addressed explicitly. More frequently we find models of how better institutions can curb opportunistic behavior, or allow citizens to recognize in a pool of heterogenous incumbents who were the honest and competent ones. We do, however, observe clear evidence that changes in the identity of policy makers imply changes in policy choices as in Pande (2003) and Chattopadhyay and Duflo (2004). Both papers analyze the impact of changes on the composition of the electoral class due to mandated representation in India and find an effect in policies implemented. Another strand of the

literature, namely the studies on congressional careers such as Fiorina's papers on professionalization or more recently, and following a structural approach, Diermeier et al (2002), focus on the processes of self-selection due to career motivation. In particular, Fiorina analyzed how the profile of members of the US congress changed overtime and the links between professionalism of politics and political affiliation. A basic argument underlines the conclusions of Fiorina's studies, richer people with remunerative career prospects outside the government are reluctant to leave their posts to compete in elections because of a higher opportunity cost. Our findings, which we will discuss in greater detail below, are at odd with this conclusion. We argue that the reform increased the appeal of sitting in the executive of Italian local government and this changed dramatically the composition of the municipal political class by attracting a large number of high outside option/opportunity cost citizens.

Diermeier et al (2002) find that being a congress man increases wages after leaving office. The quality of the career prospect after a political career has a clear impact on the decision to come become candidates. However, if politicians are heterogeneous in term of ability and willingness to serve the voters interest, the final effect of the existence of an effect on post congressional occupations' wages can have a positive or negative impact on voters welfare, depending on the circumstances that link politician types to their post congress rewards.

Issues on the type and quality of elected representatives are analyzed in more depth in the recent literature that focuses on the impact of politicians' wages on their performance (from a pure moral hazard point of view) and on selection effects affecting the pool of possible candidates in the presence of politicians heterogeneity.

In the political science literature, Squire (1992) finds that legislative professionalization led to an increase in legislative diversity. He observed a correlation between professionalization and a larger array of people running for the election and more representation of minorities. Reversing the perspective on the subject, Sollars (1994) studies the determinants of legislative pay. His study provides an insight on the wide diversity across states in the pay of the legislators within the Unites States.

Among recent political economy papers, Coate (1999) finds a relationship between pay and performance as measured in terms of quantity of legislation passed. In his analysis Coate does not find evidence that pay enhances performance in terms of economic growth, as one may expect if higher pays implied that better candidates (in terms of competence or motivation) participated in elections.

Messner and Polborn (2001), focusing on selection issues, provide a mode in which rising wages allows to achieve better performance. This contrast the findings of Poutvarra and Takalo (2003), who show that the value of holding office has non monotonic relationship with candidate quality.

The paper by Caselli and Morelli (2004), suggestively titled *Bad Politicians,* describes the incentives for competent and dishonest individuals to run for elections. One of their main conclusions is that the biggest incentive to seek political office may reside with those least fit (from a citizens welfare perspective) to run in the political arena. However, in their framework, increasing the reward to hold political offices provides a tool to balance perverse incentive and to increase the quality of the political class.

Finally, Besley (2003) combines moral hazard and adverse selection in analyzing

the effect of paying politicians better on performance. Abstracting from ex ante and ex post selection, higher wages reduce the severeness of moral hazard issues in a context where political agents are disciplined by the elections[1]. However, wages have an impact also on the decision to participate to political life and on the ability of the political process to evaluate the incumbents performance. This is analyzed in a model where some politicians have policy preferences aligned to those of the voters (these "congruent" politicians will consequently implement these policies), while some "dissonant" politicians obtain rents from not implementing the voters' preferred policy. The author finds that paying higher wages improves the pool of politicians by ensuring that there are more of the good guys. The intuition relies on the fact that the rents earned by dissonant politicians make political life more appealing than for the other group of politicians. However, the latter group stays longer in office and raising wages balances the effect of private rents. In this framework, a link is then established between wages and politicians characteristics.

In the literature on politics and politicians there is also an noteworthy tradition that appeals to the public motivation theme[2] and contrasts the view of narrowly defined self interest advocated by the Chicago and Virginia schools. If in the context of the previously described analysis we allowed for benevolence (namely that the agents derive direct utility by helping voters) this would increase the number of good politicians in the political class. Indeed, as noted in Besley (2003) if public

[1] Barro (1973) and Ferejohn (1986) made seminal contributions on the role election as disciplining mechanism.

[2] The motivation theme is not just a feature of older analysis of the political and public administration careers. As an example Besley and Gathak (2004) study intrinsically motivated agents, and the interplay of intrinsic motivations (missions) and monetary rewards in career choices.

motivation provided stronger motivation than the rents earned by the *dissonant* politicians deviating from the voters, then we should advocate for amateur politicians and low wages.

Our work departs from the discussion on politicians compensation in terms of wages. We exploit a natural experiment to understand how a change in the type of institutions in which politicians serve affects characteristics of the pool of politicians elected.

Since the reformed institutional asset implies that withholding support to the executive becomes very costly for the legislative board (as it would be followed by the removal of the incumbents and new election must be held to elect a new government for the town), a post in the executive becomes more appealing. In stable governments, that complete the legislature, elected representatives have more chances to implement electoral programme supported by a stable majority (as opposed to the empirical evidence of frequent reshuffling of majorities before the reform).[3] The reform could also have an impact on ego rents, as it increased the political visibility of the mayor, which is directly elected and individually accountable, and its *team* (as it literally translates from a frequently used terminology in Italian "la squadra del sindaco"). Additionally, there could be an improvement also on the political career prospect. After 1993 we observe more and more frequently that some mayors became prime political actors in the national political arena at a later stage.

[3] Of course, the members of the legislative can also benefit from belonging to more stable governments that are able to complete the legislatures. We have argued extensively on this section why the executive incumbents profile should change, the relative impact and exact size of the changes induced by the reform on the political class in the legislative and executive porwer are addressed empirically in the econometric section of the paper.

There are, hence, two major forces that increase the willingness of good politicians to participate in the political life. The institutional change allows policy driven politicians to implement their policies more effectively. The selection issue is a strong driver of changes in the composition of the political class due to changes in the pool of representatives in the executive. After the elections, furthermore, citizens are in a better position to recognize and reward good politicians. Given the individually accountability of the leader of the executive for his (and his team) performance while in office, the political process allows for a better disciplining function of the election.

3.1.1 Empirical implications

We argue that the introduction of the direct election of the head of the executive enhanced the value to be in office in the reformed executive power. Our identifying hypothesis is that the reform impact on education qualification and professional profile of the elected officials affects primarily, if not exclusively, the executive power. This hypothesis is tested exploiting the natural experiment provided by the introduction of the new electoral law.

The ability to make a precise prediction on where we expect to see the impact of the reform allows us to discard the possibility that the increase in quality empirically observed is just a cohort effect or that it is linked to an unobserved evolution of the political class unrelated to the reform in question. Our findings are particularly intriguing because in the absence of higher monetary rewards, we observe that a much larger proportion of "high outside opportunity cost" individuals joins the elected pool. This is consistent with some form of benevolence or public service

motivation of the candidates (who arguably intrinsically value the possibility of implementing their preferred policies) and, on the monitoring side, the enhancement of the ability of the electors of rewarding or punishing according to the performance observed.

The selection of "better" candidates following institutional change, however, is not simply generated by the improvement in the pool of candidates. In the previous discussion we have abstracted from issues that could prevent translating a better pool of candidates in a better pool of incumbents. Such factors could be voters' inability to coordinate their votes to support higher quality candidates or party elites' incentives (contrasting voters' preferences) not to field some candidates types. Empirically, we cannot directly take into account these other factors due to constrained data availability.

Using a unique database of almost 450 thousand elected representatives we test our identifying assumption, namely the prediction that the reform should improve the quality of the executive (leaving the quality of the legislative branch unaltered[4]) with respect to the education achievements of the members of the government and their professional characteristics. These characteristics are used as our empirical proxy to estimate changes in the quality of the political class.

Indeed, the empirical results are quite striking. The transition from parliamentarism to presidentialism led to a massive increase in the number of graduate and

[4]There are reasons to argue that the incumbents sitting in the legislative branch could be of even lower quality (this would be the case if e.g. the stock of high quality politicians was fix) or that the legislative should also improve marginally the quality of its members (this could be the case if there were some spillover effects for the enhanced quality of the government action and an incomplete separability of the relative merits of the two powers within the government). However, in both cases, the prediction would be that the reform should have a much stronger impact on the quality of the executive relative to the legislative power.

senior professionals in the Italian local governments as a result of the changes in politicians qualifications and professional profile in the executive, which was the main target of the Italian electoral reform.

In addition to the analysis on education and professional profiles, we also provide a preliminary analysis of the impact of the reform on women's representation in political life in Italian towns.

If a self-selection effect similar to the selection mechanisms described above applied to women's decision to engage in the political arena, we then would expect to find increased women representation after the reform. If we were to develop the analysis from the claim that active participation in political life has higher costs for Italian women than for Italian men[5], then it would follow that the higher value attached to holding a post in local governments after the reform should offset these higher costs to participation and increase the observed number of women representatives. It is far from obvious, however, that the very low women's representation scores in Italy can be mostly attributable to self-selection issues. Italy consistently ranks at the bottom of European countries ranking in terms of the share of female incumbents (the most recent data published by Eurispes in 2004 show the following shares: nine per cent in the national parliament, fifteen per cent in the towns governments, while if we focus on the executive the numbers are below five per cent in the national, local and regional governments).

This section of the empirical analysis is a preliminary investigation on the matter.

[5]This could be due, for example, to the burden imposed on women by the need of taking care of the offsprings or other members of the family where alternatives (nurseries, baby sitters, carers etc.) are not available or affordable.

The results we obtain show that the reform has increased overall women's political representation in local governments. However, while in larger town women have been increasing their presence in the executive more than in the legislative after the reform, when we include in the sample all the towns with less than five thousands inhabitants, the result is reversed, and the higher increase in women participation takes place in the legislative. Future research will focus on understanding the nature of these empirical regularities and will investigate further the importance of constitutional design and the interplay of constitutions with other socioeconomic factors in regard to political representation and gender issues.

3.2 Data and empirical strategy

Our empirical analysis is based on a very large panel data set on elected representatives in Italian municipal governments. This data provides information on the date and place of election of all incumbents in all Italian towns from 1989 to the end of 2001. Most importantly, the database also includes detailed information on the degree qualification and profession, as well as other demographic information (that includes the date of birth and gender of the elected representatives). With these data we construct an index of educational achievement and a four way occupational classification. The educational index has four categories constructed from the Italian education system: elementary (schooling up to age 10), medium (schooling up to age 13), high school (schooling up to age 18-19) and university (graduate and postgraduate titles). With respect to the politicians' careers outside politics, we

have created a four way taxonomy of professional occupation. The first is made of figures such as directors, CEO, professionals, academics and so on. The second is mainly composed of workers with administrative functions, bureaucrats. A third one is labelled under services, while the last category is a residual one obtained by grouping workers of different sectors. A detailed list of all groups is available in the data appendix.

In 2000 a decree modified the local governments officials' compensation, which did not change during the nineties. The monthly wage of mayors changes according to the size of the town and whether or not it is a head of province or region municipality. The pay of the other members of the executive are a share (that ranges between .15 and .75 according to the town size) of the mayor's compensation. The members of the legislature receive a fix amount of money for each presence in the council board (the so called token). However, the statute of a town can allow for the payment of a monthly wage in lieu of the session tokens. Table 3.21 in this chapter appendix shows how wages vary according to municipal size.

3.2.1 Descriptive statistics

Aggregate political class changes in local governments

The change before and after the reform in educational achievement of the elected is evident from a look at the raw data reported in Tables 3.1-3.3. We show here the change in share of each degree qualification before and after the reform. These percentage changes have been calculated by subtracting the share of a certain degree qualification in the pre-reform sample from the share of that degree qualification in

the post-reform sample. Straightforward comparisons in the number of politicians holding a certain degree are not informative, given the larger number of observations after the reform.

By first looking at the aggregate data (not distinguishing between legislative and executive) in the whole sample, we note small variations of one or two percentage point extra of representatives both in the high school and university degree categories respectively. However, if we focus on the sample of towns with more than 5000 inhabitants changes emerge very clearly: there is a sharp increase in the number of graduates while intermediate levels of education fall. The rationale of looking at different samples according to municipality size is twofold. On one hand, before the reform, elections in towns with less than 5000 inhabitants were characterized by procedures that differed from those applied in larger towns (as the Italian political scientist Gianfranco Pasquino noted smaller towns already applied a majoritarian system). Hence the effect of the reform should be stronger in larger municipalities. On the other hand we argue that the prestige and status associated with holding a post in the executive increases with the size of the municipality.

The 15000 inhabitants threshold is designed to capture some potential heterogeneity across towns due to the details of the 1993 electoral law. As we mentioned in Chapter 1, the new reform established that in municipalities of more than 15000 inhabitants if no candidate secured the majority of votes in the first round, the election would be resolved by runoffs between the two most voted candidates.

Narrowing down progressively the sample by excluding smaller towns this pattern becomes increasingly striking. By focusing the sample of cities with 50000

inhabitants or more we detect a 7% fall in the number of those with a high school title, whereas the number of graduate increases by 15%.

Simple correlations, reported in Table 3.2, of the education measure with the size of the town and age display a positive sign. On aggregate women representative have lower level of education and, as one may expect, education is on average higher in larger towns.

The descriptive statistics on occupation also display visible dynamics. As we observe in Table 3.3, the number senior profiles and professionals (Category 1) expands by a two digit figure while the number of those employed with bureaucratic or administrative functions (Category 2) and in "services" fall sharply[6].

Changes in the legislative and executive branches

Changes in education The descriptive statistics of educational achievement for the legislative branch of the government and the executive are reported in Table 3.4. The figures reported suggest clearly that the increase in the number of graduates is a phenomenon largely driven by changes taking place in the executive (for example the increase is +17% for towns with 15000 inhabitants or more). As we narrow the sample to towns with more than 5000 inhabitants, we observe how the number of graduates actually decreases in the legislative branch. Overall there is consistent evidence across samples of a decrease in the highest and lowest levels of education in the legislature, whereas the number of elected members with a high school title increases. In the executive however, the only category which is (dramatically) scaled

[6] A detailed list of all occupational categories is available in the data appendix. Other categories omitted in these descriptive tables display changes of the order of less than 1%.

up is the graduates' one, a change balanced by a discrete fall in the number of representatives with lower levels of education.

Changes in professional composition When looking at changes in professional composition, paralleling the evidence just described for education, there is clearly a different pattern emerging in the two government branches. We witness a major intake in Category 1 (Professionals) and a sharp fall in Category 2 (Administratives). This change has also been observed in sociological analysis of the impact of the reform on the political class, Bettin-Lattes and Magnier (1995) note in their survey paper that the "area of recruitment, traditionally centered on public bureaucracy, changes with the inrush of new social categories". While the sign of this substitution across categories is the same in the executive and legislative, its magnitude in the executive is, according to different sampling, three or four times the legislature's one (see Table 3.5).

These occupational categories are quite coarse, by looking at changes in details it emerges that the fastest increasing category in the executive is the one of university professors, followed by the number of professional accountants. In larger cities we observe an increase in the number of CEO's and owner-entrepreneurs as well.

3.2.2 The empirical strategy

We are constrained by data availability to focus only on the sample of *elected* representatives. A richer research agenda would have been followed had the information been available for *candidates* as well as elected politicians. Ideally one would include

in the analysis the pool of candidates to observe how the change in electoral institutions alters the characteristics of candidates fielded. We would have then been able to complement this analysis with the study we are implementing here, to disentangle this effect from the final outcome observed, namely the composition in terms of education and skills of the elected. This final outcome is jointly determined by changes in the pool of candidates with certain characteristics and the demand for such candidates (or ability to coordinate) displayed by voters in the elections.

The purpose of the chapter is to identify the impact of institutional change on the type of elected politicians. The identifying assumption is that the change is driven mainly by the effect of the reform on the executive power. We have tested this hypothesis by running a separate set of estimates for the education measure and for occupational indicators. We have also explored the impact of the constitutional changes on women's political participation. To overcome computational constraints, we have followed different specifications for the education regressions. We have also focused on smaller samples to run the empirical analysis for the most cumbersome estimates. In what follows we describe, in separate sections for educational and professional dependent variables, the empirical strategy adopted and the results obtained. Our main results are provided by linear specification in panel fixed effect analysis (town and time effects) and clustered standard errors.

3.3 Empirical evidence on education

The estimates in this section follow two different approaches. First we have investigated outcomes using as dependent variable our four-levels index of education. Then, guided by the first set results obtained, to obtain computationally feasible further estimates including fixed effects even in large samples, we have created an education dummy which takes value one when the elected representative has a university degree and zero otherwise. Using this indicator as dependent variable has allowed us to run logit and probit regressions on panel data with town effects at the town level on the whole sample. In what follows we present and discuss our empirical estimates on the impact of the electoral reforms on educational outcomes.

The results we report for all linear specifications have been estimated by clustering the standard errors at the town level. This has been done in order to take in account potential heteroskedasticity across different towns. While the robust standard errors are larger than the standard errors without clustering, the point estimates of the coefficients are in many cases identical (some differences show in the second and third decimal place) to those estimated without clustering and that the level of significance is generally unaffected. We also find negligible differences in the coefficients estimated in non linear estimations (that do not take account of the panel structure of the dataset) with clustered standard errors. This allows us to suggest that the non clustered estimation (namely the probit and logit panel analysis) we provide as an appendix of this study are also estimating quite efficiently our coefficients of interest.

3.3.1 Results using an educational index

We anticipate and summarize now the core results of this section. By running several different specifications (including ordered logit and ordered probit estimates), we observe that the coefficient on the reform dummy alone is positive and very significant in all regressions. Once we include the interaction term with the executive dummy, we detect a much stronger effect for the executive than the legislative on the increase of education levels. Narrowing down the sample to bigger cities and, the coefficient on the interaction increases dramatically, while the impact of the reform alone is either insignificant or even negative in some specifications that allow for the inclusion of town fixed effects.

The results for the whole sample are presented in Tables 3.6 and 3.7. The first two columns in Table 3.6 show the difference in education between the legislature and the executive before (Column 1) and after the reform (Column 2). We use as a dependent variable the educational index EDU (which takes value 0 for elementary (at school until 10 years), 1 for medium (at school until 13 years), 2 for high school (at school until 18-19 years) and 3 for university (graduate and postgraduate titles). The results are obtained by estimating the following specification for individual j elected in town i at time t with linear fixed effects panel regression:

$$EDU_{jit} = \alpha_i + \beta EXEC_{jit} + \gamma Z_{it} + e_{jit}, \quad (1)$$

where $EXEC_{jit}$ is the executive dummy, Z_{it} is the town population used as control, α_i is a town fixed effect, aimed at capturing heterogeneity in taste for

education or availability of educated people at town level, and e_{jit} is the error component orthogonal to other regressors. The coefficient on the executive dummy is positive, significant a the 1% level, and much larger after the reform. This empirical evidence indicates clearly that, on average, there is a bigger gap in education among government branches after the reform.

We then proceed to estimate the two main equation of interest which include the reform and interaction indicators, namely:

$$EDU_{jit} = \alpha_i + \beta_1 REFORM_{jit} + \beta_2 EXEC_{jit} + \gamma Z_{it} + e_{jit} \quad (2)$$

and

$$EDU_{jit} = \alpha_i + \beta_1 REFORM_{jit} + \beta_2 EXEC_{jit} + \beta_3 INTER_{jit} + \gamma Z_{it} + e_{jit}, \quad (3)$$

where $REFORM$ is an indicator dummy equal to one when the reform has taken place, $INTER$ is the product of the reform and executive dummy, hence only positive and equal to one for a representative elected after the reform and who is part of the executive, $EXEC_{jit}$ is the executive dummy, Z_{it} is the town population, α_i is a town fixed effect, and e_{jit} is the error component orthogonal to other regressors. In equation two, the reform coefficient estimated without the interaction term is positive and significant at the 1% confidence level, however once we introduce the interaction (results in the last column of Table 3.6), its magnitude decreases (from 0.184 to 0.152) and the interaction coefficient, equally significant, is positive (0.149).

This implies that the effect of the reform on education is particularly stronger for the executive.

Interestingly, these results are robust to the inclusion of time effects. Table 3.7 shows the results of the estimation of Equation 3 once yearly time dummies have been included. The magnitude of the interaction coefficient only decreases from 0.149 to 0.145. Table 3.7 only shows the results for all Italian towns. The magnitude of the interaction coefficients increases when we focus on smaller samples by focusing on larger towns and cities.[7]

The dependent variable in the above estimated specifications is a categorical variable. Hence we have estimated equations 2 and 3 with ordered logit and ordered probit estimates. The results, which are shown and commented in appendix of this chapter, confirm the pattern observed in linear specifications and suggest very strongly that in larger towns the reform only increased educational levels in the executive. In the appendix we also show the results obtained in samples where smaller towns have been excluded.

Explaining the determinants of the "town fixed effect" taste for educated politicians

In this section we attempt to shed some light on the determinants of the towns fixed effect taste for highly educated politicians. In the absence of available data at the town level, we have used ISTAT 2001 data on all the Italian Provinces[8]. The data

[7] The results are not shown, but can be provided upon request. The coefficient of the interaction is equal to 0.219 for towns with more than 5000 inhabitants, to 0.308 for towns with more than 15000 inhabitants and to 0.281 in towns with more than 50000 inhabitants.

[8] This information is not available on a yearly basis, hence it cannot be used directly as a control in estimating equations 1-3.

available include information on various characteristics: geography[9], demography, and socioeconomic variables. We report in Table 3.8 the results of the estimation of the town fixed effects on population, share of students in elementary schools relative to total population and share of students in high schools, unemployment, value added, value added arising from financial services, the share of plains on total surface, the share of mountains, the number of houses/flats. We ran a simple OLS regression using as right hand side variable the saved fixed effects from the estimation of equation 3. From this analysis, we find that the size of a province, its economic prosperity and the number of students in high school education relative to total population have a positive impact on the fixed effect taste for highly educated politicians. Other specifications yielded similar results but with an overall lower fitness (as captured by the adjusted R-square).

3.3.2 Results on university education

In the light of this evidence, we have adopted a different strategy to be able to control for fixed effects in the whole sample even when we adopt non linear estimation of the impact of the reform on the compositions in term of education of the elected representatives. In particular, we want to investigate further the joint phenomenon of a substantial increase of number of graduates in the executive is associated with a fall or a negligible effect of the reform on the share of graduates in the legislative.

To do so we use an indicator dummy that takes the value one only for incumbents

[9] Geographical variables are historically correlated in Italy with a different evolution of the local economies and industrial specialization.

with a university degree. In what follows we outlay and discuss our specifications and findings.

We have estimated on the whole panel the following specification using linear probability model with fixed effects at the town level as well as probit and logit analysis, the latter including fixed effects.

$$GRAD_{jit} = a_i + \beta_1 REFORM_{jit} + \beta_2 EXEC_{jit} + \beta_3 INTER_{jit} + \gamma Z_{it} + e_{jit}. \quad (4)$$

For individual j elected in town i at time t, $GRAD$ is an indicator variable that assumes value one for graduate elected representatives, while all other variables are defined as in the previous specifications. In some specifications we also add as an additional control the town total population as a measure of size. In all cases, the estimated coefficient on the reform dummy when included alone is positive and significant, see Tables 3.9.[10] However, when we also include the interaction dummy then the interaction term is much larger than the effect captured by the reform dummy alone and the reform dummy is negative and significant. With reference to significance of the reform coefficient in all specifications we note that the results are more significant now that we account properly for the panel structure of the database. The diverging path between the legislative, which is slightly deteriorating in terms of education, and the executive, where we observe a massive intake of graduates is pictured clearly by the estimates. We show in appendix the results for on university education estimated in the sample of lager towns only.

[10] Tables 3.12 and 3.13 show results estimated with logit and probit estimation.

These results are robust to the inclusion of time effects. Table 3.10 shows the results of the estimation of Equation 4 once yearly time dummies have been included, the coefficients of the executive and interaction dummies remain virtually unchanged, while the reform coefficient is larger, positive and always significant once the yearly time effects have been included in the specification.

Political affiliation

We have performed a preliminary exploration of this issue in a sample of roughly 280000 observations where the classification of governments as right or left wing did not involve an excessive amount of discretion in interpreting the available data on party affiliation. The results show that the inclusion of a political dummy for left wing affiliation does not affect the significance and magnitude of the coefficients estimated without the political dummy. However, findings also show that the political affiliation dummy is negative (this holds across samples of cities of different size). An interaction between the political dummy and the reform dummy is included in an alternative specification. This interaction term is always positive and significant and it offsets completely the negative impact of the political dummy in reformed government. This suggests that the gap in education between elected politicians of different affiliation narrows (or disappears entirely in the overall sample) after the reform is introduced. Table 3.11 presents these results. A richer specification shown in this table also allows for interactions between the executive and the political dummy and a triple interaction between the reform dummy, the executive dummy and the political dummy. The latter interaction term is very significant and

positive for towns of all sizes and in the sample of towns with 5000 inhabitants or more. This finding can be interpreted as evidence that the number of graduates in the executive after the reform is introduced increases particularly for left wing representatives. This is not emerging, however, in the restricted sample of towns with 15000 inhabitants or more.

3.4 Empirical evidence on occupation

In this section we turn to the analysis of the impact of the institutional change on the professional profile of elected representatives. We have estimated a multinomial logit using as a dependent variable our occupation variable $P_k, k\epsilon\{1,2,4\}$, (occupations have been classified as follows Category1:Professionals, Category2:Administratives,a residual Category3, and Category4:Services). Where computationally feasible, for the smaller sample of bigger cities we have also included town fixed effects.

We have, as in the previous specification, included an indicator dummy for the reform, a dummy variable for the executive and an interaction variable of the reform and executive dummies. Hence, we estimate for each occupational category k,

$$P_{kjit} = \beta_{k1} REFORM_{kjit} + \beta_{k2} EXEC_{kjit} + \beta_{k3} INTER_{kjit} + \gamma_k Z_{kit} + e_{kjit}, \quad (5)$$

where j denotes individuals, i towns and t time. Standard errors have been clustered at the town level to account for potential heteroskedasticity.

In Table 3.14 we report the results for the whole sample. In the first three

columns are displayed the results of a simple specification that includes only the reform dummy and controls. The estimated coefficients confirm the positive impact in the number of professional and executives (positive and significant coefficient for Category 1), and the fall in the number of bureaucrats and workers in the services sector, already visible in simple descriptive statistics presented in an earlier section.

Once the executive and the interaction dummies are also included, we see how the impact of the reform on the number of professionals is much bigger in the executive. This effect is captured by the interaction dummy which is very significant and of a much larger magnitude. Furthermore, when we add population as a right hand side variable the coefficient on the reform dummy becomes negative. In the appendix we show results on the sensitiveness of the analysis with respect to the size of the town and town fixed effects. Additional results obtained by estimating the impact of the reform on the share of a certain occupation in the overall sample[11] confirm that the number of professional increased more visibly in the executive than in the legislature (the interaction dummy in the professional equation is positive and significant).

Table 3.15 shows the estimation results once time effects have been included in the analysis. Again, we find evidence that the number of professionals is increasing particularly in the executive of Italian governments. This effect is stronger in larger towns, as documented by the significance and magnitude of the interaction coefficient. The reform impacts positively on the number of professionals only in the overall sample. Once we focus on larger town the reform coefficient is either negative and significant or very insignificant (and positive). The dynamics of change pre and

[11] These results were obtained by linear panel estimation with town fixed effects and robust standard errors.

post reform for other occupations are somewhat more sensitive to the sample and town size.

To assess the robustness of these results we have investigated the importance of political affiliation in this context. It may be that right wing candidates and incumbents are politicians generally associated with a higher status and more remunerative careers (or vice versa, i.e. that left wing politicians on average are associated with better professions). If that was the case, the impact of the reform might capture the fact that more right wing candidates (for the sake of this example) secured a seat after the elections and our analysis of the impact of the electoral change might be affected due to this correlation between political affiliation and professional profile. We have performed a preliminary exploration of this issue in a sample of roughly 280000 observations where the classification of governments as right or left wing did not involve an excessive amount of discretion in interpreting the available data on party affiliation. When a dummy for left wing politicians is included in equation 5 we find that its coefficient is insignificant for the administratives and professionals categories, whereas it is significant to the 5 per cent level and positive (0.048) in the services category when time effects are included. More importantly, perhaps, the significance and magnitude of the coefficients for the reform and executive dummy and their interaction decrease marginally once we include the political dummy. This is also the case when the political dummy is included also as an interaction with the reform dummy. The estimated coefficients for the political dummies are sensitive to the inclusion of the interacted term and to towns and sample size. These results are shown Table 3.16 (no time effects) and Table 3.17 (including time fixed effects).

3.5 Women's representation

This section investigates the evidence on female participation to political life, which in Italy is notoriously very low. We have estimated on the whole panel the following specification using linear probability model with fixed effects.

$$F_{jit} = a_i + \beta_1 REFORM_{jit} + \beta_2 EXEC_{jit} + \beta_3 INTER_{jit} + \gamma Z_{it} + e_{jit}. \quad (4)$$

As in previous specification we have included an interaction term between the reform and the executive dummy. The results presented in Table 3.18 show that in all samples the reform has increased the presence of women in Italian local governments. However, if we take a closer look at the distribution of this larger female participation to political life across the executive and the legislative branches, we see that a different pattern emerges when we focus on a smaller sample by excluding towns with less than 5000 inhabitants. In the entire sample, the increase in women's numbers in the legislature is higher than in the executive. The opposite holds for bigger towns, and the gap widens as we restrict the sample of local governments to bigger towns. This result does not have an obvious interpretation and we are unaware of any discussion on the issue in the sociology of politics and political science literatures. One tentative explanation could rely on the fact in larger towns not fielding female candidates in the executive team is politically more costly than in smaller village. However, the lack of available information on the pool of candidates make this type of conjecture particularly weak and we are not assisted by any type of anecdotal evidence on the topic.

Very preliminary results on the importance of political affiliations indicate a positive correlation between women's representations and a left wing dummy. Once an interaction between political affiliation and the reform is introduced, we observe that the coefficient on the interaction term is much smaller than the coefficient on the direct effect of the political dummy, and only significant to the 10 per cent level once time effects are included (without time effects the coefficient is insignificant). These results are shown in the appendix (Table 3.38).

3.5.1 Robustness checks

We have investigated the possibility that increased participation in political life at the local level could be simply explained by a time trend (even if no such trend emerges in the national political arena). The results obtained by estimating equation four including time fixed effect are almost identical to the estimated coefficients without including time fixed effects, as we can see from Table 3.19, the estimates differ only in the third decimal place in the overall sample. Similarly, though the coefficient on the reform dummy becomes larger, the same pattern emerges in the estimates that focus on the sample of towns with more than 5000 inhabitants.

We have also estimated equation four using panel logit analysis with two-way fixed effects (town and year level). The results shown in Table 3.19, confirm the same pattern in signs and significance. By looking at the last two columns, we find further evidence that a clear strengthening of female presence in the executive emerges as the sample narrows to bigger cities.

3.5.2 Explaining the towns fixed effect on women's participation

As we did previously for the results on education, in this section we attempt at providing an explanation for the town fixed effects on women participation. We ran several specification using as left hand side variable the fixed effects emerging from equation 4 and as regressors information taken from the 2001 ISTAT database on Italian provinces.

Table 3.20 shows the results, overall the regressions display a lower goodness of fit, but the effects are similar to those found in analyzing educational fixed effects. The goodness of fit improves, however, when we focus on larger towns. As for the analysis on education, the province size in terms of population has a positive sign. Value added and the number of students enrolled in high school are also positively correlated with larger numbers of female politicians. Above 5000 inhabitants, the unemployment coefficient becomes negative. The average size of the family variable, that may be expected to be negatively correlated with women's participation to political life a priori (assuming that having a larger family reduces the time available for politics), has a negative and significant coefficient. This evidence is suggestive, however it is maybe worth reminding the data shortcomings. We are using province level data to investigate the outcome of individual decisions and voters preferences at the town level. This preliminary evidence does not assist in interpreting the results discussed in the earlier sections, namely that women participation in smaller town is concentrated in the legislative, while in all municipalities with more than 5000 the large increase in women elected takes place in the executive.

3.6 Conclusions

By looking at the composition of local Italian government in all Italian towns for over a decade we find strong evidence of the impact of institutional change on the characteristics of the political class. A reform that has stabilized local government and increased the appeal of executive posts has generated a strong intake of graduate representatives in governmental ranks. Moreover, the empirical results suggest that political career concern of professionals, professors and CEOs have been balanced by the increased attractiveness of the possibility of leading a town government, and attracted bigger numbers of such professional figures in local governments. Both the professional, and even more clearly, the educational change in politicians profiles are largely attributable to a strong renewal of the political class in local government executives. Women participation to political life has also increased, mainly by electing more women in the executive (for towns with more than 5000 inhabitants).

Constitutional engineering, on the bases of these results, seems an effective way to attract more educated citizens into office, even when their outside career opportunities are high and joining the governments rank would distract the elected representatives attention from a remunerative occupation. This evidence is drawn from local government politics, should arguably carry through a fortiori for national politics (on the basis of the conjecture that a post in the national government is more attractive than a seat in a town government). Our evidence then, contrasts the "Fiorina type wisdom" based on an opportunity cost argument, according to which "professional and proprietors may be reluctant to give up their more secure

and more lucrative primary occupation" (Fiorina, 1999, p.974). A better explanation of our results would be highly assisted by new data on earnings which would allow to test directly the theoretical predictions of some of the models discussed in the introduction.

3.7 Appendix

3.7.1 Tables

TABLE 3.1

CHANGES IN EDUCATION AFTER THE REFORM BY DEGREE QUALIFICATION AND TOWN SIZE

	SAMPLES BY POPULATION				
Education Category	All	Above 5000	Above 15000	Above 50000	Above 100000
Elementary	−1.7%	−0.5%	−1%	No change	No change
Intermediate	−1.1%	−4%	−3%	−5%	−4%
High School	+1%	−4%	−7%	−7%	−7%
University	+2%	7%	+10%	+11%	+11%
Obs. before the reform	160886	64812	25533	7279	3117
Obs. after the reform	283643	113272	48595	14032	5638

Notes: Source Minister of Internal Affairs. These differences have been calculated by subtracting the share of a certain degree qualification in the pre-reform sample from the share of the same degree in the post-reform sample. The education index has four categories, which have been constructed from the Italian education system: elementary (school up to age 10), intermediate (school up to age 13), high school (school up to age 18-19) and university (graduate and postgraduate degrees). Population is the town population, measured yearly.

TABLE 3.2

EDUCATION CORRELATIONS WITH GENDER AND TOWN SIZE

	Simple Correlations With Towns Size And Gender Of Elected Representatives	
	Population	Gender
Education	.091	-.095
Observations	444529	444529

Notes: Source Minister of Internal Affairs. Gender is 1= Female, 0= Male. Population is the town population, measured yearly. The education index has four categories, which have been constructed from the Italian education system: elementary (school up to age 10), intermediate (school up to age 13), high school (school up to age 18-19) and university (graduate and postgraduate degrees). Population is the town population, measured yearly.

TABLE 3.3

CHANGES IN PROFESSION AFTER THE REFORM BY OCCUPATIONAL CATEGORY AND TOWN SIZE

	SAMPLES BY POPULATION				
Occupational Category	All	Above 5000	Above 15000	Above 50000	Above 100000
Professionals	+6%	+10%	+10%	+13%	+13%
Administratives	− 7%	−7%	−7%	−10%	−4%
Not working	+5%	+3%	No change	−3.5%	No change
Services	−4%	−5%	−5%	−3%	−9%
Obs. before the reform	160886	64812	25533	7279	3117
Obs. after the reform	283643	113272	48595	14032	5638

Notes: Source Minister of Internal Affairs. These differences have been calculated by subtracting the share of a certain occupational category in the pre-reform sample from the share of the same occupational group in the post-reform sample. The first occupational category is made of figures

such as directors, CEO, professionals, academics and so on. The second category is mainly composed of workers with administrative functions, bureaucrats. A third category groups non workers, while the last category groups workers in services. Other categories omitted here display changes of the order of less than 1%. Population is the town population, measured yearly.

TABLE 3.4
CHANGES IN EDUCATION – BY GOVERNMENT SECTOR, DEGREE QUALIFICATION AND TOWN SIZE

	SAMPLES BY POPULATION			
Education Category	All		Above 5000	
	Legislative	***Executive***	***Legislative***	***Executive***
Elementary	−8%	−6%	−3%	−3%
Intermediate	+1%	−5%	~	−7%
High School	+ 7%	+3%	+ 5%	−2%
University	0%	+9%	−1%	+13%
Obs. before the reform	125306	35578	46945	17867
Obs. after the reform	222911	60732	85967	27305
Education Category	Above 15000		Above 50000	
	Legislative	***Executive***	***Legislative***	***Executive***
Elementary	−2%	−3%	−1%	−1%
Intermediate	−1%	−8%	~	−6%
High School	+ 5%	−6%	+ 4%	−11%
University	−2%	+17%	−3%	+18%
Obs. before the reform	18874	6659	5276	2003
Obs. after the reform	36991	11604	11071	2961
Education Category	Above 10000			
	Legislative	***Executive***		
Elementary	~	—		
Intermediate	~	−5%		
High School	+ 3%	−9%		
University	−3%	+14%		
Obs. before the reform	2234	883		
Obs. after the reform	4440	1199		

Notes: Source Minister of Internal Affairs. These differences have been calculated by subtracting the share of a certain degree qualification in the pre-reform sample from the share of the same degree in the post-reform sample. The education index has four categories, which have been constructed from the Italian education system: elementary (school up to age 10), intermediate (school up to age 13), high school (school up to age 18-19) and university (graduate and postgraduate degrees). Population is the town population, measured yearly.

TABLE 3.5
CHANGES IN OCCUPATION IN – BY GOVERNMENT SECTOR, OCCUPATIONAL CATEGORY AND TOWN SIZE

	SAMPLES BY POPULATION			
Occupational Category	All		Above 5000	
	Legislative	***Executive***	***Legislative***	***Executive***
Professionals	+3%	+9%	+3%	+12%
Administratives	−4%	−5%	−6%	−9%
Not working	−6%	+5%	+5%	+4%
Services	−1%	−3%	−3%	−4%
Obs. before the reform	125306	35578	46945	17867
Obs. after the reform	222911	60732	85967	27305

	Samples by population			
Occupational Category	Above 15000		Above 50000	
	Legislative	***Executive***	***Legislative***	***Executive***
Professionals	+4%	+16%	+5%	+18%
Administratives	−8%	−14%	−8%	−15%
Not working	+5%	+4%	+4%	+1%
Services	−3%	−4%	−4%	−3%
Obs. before the reform	18874	6659	5276	2003
Obs. after the reform	36991	11604	11071	2961

	Samples by population	
Occupational Category	Above 100000	
	Legislative	***Executive***
Professionals	+4%	+15%
Administratives	−6%	−16%
Not working	+4%	+2%
Services	−4%	−2%
Obs. before the reform	2234	883
Obs. after the reform	4440	1199

Notes: Source Minister of Internal Affairs. These differences have been calculated by subtracting the share of a certain occupational category in the pre-reform sample from the share of the same occupational group in the post-reform sample. The first occupational category is made of figures such as directors, CEO, professionals, academics and so on. The second category is mainly composed of workers with administrative functions, bureaucrats. A third category groups non workers, while the last category groups workers in services. A detailed list of all groups is available in the data appendix. Other categories omitted here display changes of the order of less than 1%. Population is the town population, measured yearly.

TABLE 3.6
THE DETERMINANTSS OF EDUCATION

Dependent variable: education index‡ - Linear panel estimates– Whole sample					
	Samples				
	Before the reform	After the reform	Whole sample	Whole sample	Whole sample
Reform			0.184	0.152	0.152
			[0.003]***	[0.004]***	[0.004]***
Executive	0.09	0.259	0.200	0.104	0.104
	[0.006]***	[0.004]***	[0.003]***	[0.006]***	[0.006]***
Interaction				0.149	0.149
				[0.007]***	[0.007]***
Population					-8.421
					[18.660]
Town fixed effects	Yes	Yes	Yes	Yes	Yes
Time fixed effects	No	No	No	No	No
Observations	160884	283643	444527	444527	444527
Number of Towns	8090	8164	8522	8522	8522

NOTES: ‡ The education index has four categories, which have been constructed from the Italian education system: elementary=1 (school up to age 10), intermediate=2 (school up to age 13), high school =3 (school up to age 18-19) and university=4 (graduate and postgraduate degrees). Estimation method: linear panel estimation. Robust standard errors, clustered at the town level, are reported in brackets.

*** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.7
THE DETERMINANTSS OF EDUCATION

Dependent variable: education index‡ - Linear panel estimates– Whole sample			
		Samples	
	Whole sample	Whole sample	Whole sample
Reform	0.177	0.211	0.167
	[0.008]***	[0.008]***	[0.009]***
Executive		0.202	0.108
		[0.003]***	[0.005]***
Interaction			0.145
			[0.006]***
Town fixed effects	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes
Observations	444527	444527	444527
Number of Towns	8522	8522	8522

NOTES: ‡ The education index has four categories, which have been constructed from the Italian education system: elementary=1 (school up to age 10), intermediate=2 (school up to age 13), high school =3 (school up to age 18-19) and university=4 (graduate and postgraduate degrees). Estimation method: linear panel estimation. Robust standard errors, clustered at the town level, are reported in brackets.

*** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.8
EXPLAINING TOWN FIXED EFFECTS ON THE POLITICIANS' LEVEL OF EDUCATION‡

Samples by population	Whole sample	Above 5000	Above 1500	Above 1500	Above 5000
Population	0.0020	0.0010	0.0010	0.0010	0.0000
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
High school education	1.4500	0.8811	1.8808	2.3372	1.4950
	[0.107]***	[0.111]***	[0.1382]***	[0.1345]***	[0.158]***
Unemployment	-0.0025	-0.0057	-0.0072	-0.0059	-0.0052
	[0.0001]***	[0.0001]***	[0.0002]***	[0.0002]***	[0.0002]***
Value added	0.0110	0.0140	0.0150	0.0150	0.0140
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Plains	-0.0737	-0.0301	-0.0104	-0.0323	-0.0649
	[0.0027]***	[0.0032]***	[0.0045]**	[0.0042]***	[0.0056]***
Mountains	-0.0517	-0.1406	-0.1671	-0.1929	-0.2165
	[0.0046]***	[0.0046]***	[0.006]***	[0.006]***	[0.007]***
Value of exports	-0.0030	-0.0070	-0.0060		
	[0.000]***	[0.000]***	[0.000]***		
Number of houses	-0.0003	-0.0027	-0.0081	-0.0079	-0.0077
	[0.0000]***	[0.0000]***	[0.0001]***	[0.0001]***	[0.0002]***
Financial sector value added	-0.1380	-0.1920	-0.1950	-0.1850	-0.2000
	[0.004]***	[0.004]***	[0.005]***	[0.005]***	[0.006]***
Household size	0.0312	0.0148	0.0577	0.0686	0.0287
	[0.0050]***	[0.0054]***	[0.0069]***	[0.0069]***	[0.0079]***
Observations	256658	93627	35767	35767	22662
R-squared	0.31	0.27	0.34	0.33	0.24

NOTES: ‡Dependent variable: town fixed effect obtained by estimating equation 3. Standard errors are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Estimation method: OLS. See the Data appendix for the construction and sources of the variables. Regressors measured at the province level in 2001. Population is total population in the province. High school education is the share of students in high school. Unemployment is the rate of unemployment in the province. Value added measures value added at the province level. Plains is the share of plains over the total province surface. Mountains is the share of mountains over the total province surface. Financial sector value added is the financial services component in Value Added. Household size measures the average family size in the province.

TABLE 3.9
POLITICIANS' UNIVERSITY EDUCATION

	Dependent variable: university education dummy‡ - Linear panel estimates– – Whole sample			
Reform	0.02	0.021	-0.002	-0.002
	[0.001]***	[0.001]***	[0.002]	[0.001]***
Executive		0.083	0.018	0.018
		[0.002]***	[0.003]***	[0.003]***
Interaction			0.102	0.102
			[0.004]***	[0.004]***
Town population				-25.814
				[9.411]***
Town fixed effects	Yes	Yes	Yes	Yes
Time fixed effects	No	No	No	No
Observations	444529	444529	444529	444529
Number of Towns	8522	8522	8522	8522

NOTES: ‡ The university education dummy equals one when the incumbent is a graduate. Estimation method: linear panel estimation.
Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.10
POLITICIANS' UNIVERSITY EDUCATION

Dependent variable: university education dummy‡ - Linear panel estimates– – Whole sample				
Reform	0.042	0.056	0.026	0.026
	[0.004]***	[0.004]***	[0.004]***	[0.004]***
Executive		0.085	0.020	0.020
		[0.001]***	[0.003]***	[0.003]***
Interaction			0.100	0.100
			[0.003]***	[0.003]***
Town population				-25.814
				[9.411]***
Town fixed effects	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes
Observations	444529	444529	444529	444529
Number of Towns	8522	8522	8522	8522

NOTES: ‡ The university education dummy equals one when the incumbent is a graduate. Estimation method: linear panel estimation.
Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.11
POLITICIANS' UNIVERSITY EDUCATION AND POLITICAL AFFILIATION

	Dependent variable: university education dummy[‡] - Linear panel estimation -									
Reform	-0.007	-0.007	-0.014	-0.012	-0.024	-0.033	-0.029	-0.038	-0.045	-0.043
	[0.002]***	[0.002]***	[0.003]***	[0.003]***	[0.003]***	[0.004]***	[0.004]***	[0.005]***	[0.006]***	[0.007]***
Executive	0.013	0.011	0.011	0.018	-0.001	-0.001	0.006	-0.014	-0.014	-0.007
	[0.003]***	[0.003]***	[0.003]***	[0.004]***	[0.004]	[0.004]	[0.006]	[0.007]*	[0.007]**	[0.010]
Interaction	0.102	0.105	0.105	0.094	0.125	0.125	0.104	0.195	0.195	0.183
	[0.004]***	[0.004]***	[0.004]***	[0.006]***	[0.006]***	[0.006]***	[0.010]***	[0.011]***	[0.011]***	[0.017]***
Left		-0.007	-0.014	-0.011	-0.008	-0.017	-0.013	-0.025	-0.033	-0.029
		[0.002]***	[0.002]***	[0.003]***	[0.003]***	[0.004]***	[0.004]***	[0.004]***	[0.006]***	[0.007]***
Left*Reform			0.014	0.009		0.017	0.010		0.014	0.009
			[0.003]***	[0.004]***		[0.005]***	[0.006]*		[0.008]*	[0.009]
Left*Exec.				-0.014			-0.016			-0.014
				[0.005]***			[0.008]*			[0.014]
Left*Exec*Ref				0.022			0.038			0.022
				[0.008]***			[0.013]***			[0.023]
Town fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	336171	281222	281222	281222	129814	129814	129814	56316	56316	56316
Towns	8450	8325	8325	8325	2259	2259	2259	651	651	651

NOTES: [‡] The university education dummy equals one when the incumbent is a graduate. Estimation method: panel logit estimation. Standard errors are reported in brackets. ***Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables. Left is a dummy that equals one for politicians of the left. Left*Reform , Left*Exec and Left*Exec*Ref are interactions of the above defined variables.

TABLE 3.12
POLITICIANS' UNIVERSITY EDUCATION

	Dependent variable: university education dummy‡ - Panel logit estimation - Whole sample			
Reform	0.124	0.134	-0.011	-0.011
	[0.008]***	[0.008]***	[0.009]	[0.009]***
Executive		0.474	0.111	0.111
		[0.009]***	[0.015]***	[0.015]***
Interaction			0.554	0.554
			[0.018]***	[0.018]***
Town population				-0.013
				[0.010]
Town fixed effects	Yes	Yes	Yes	Yes
Observations	432190	432190	432190	432190
Number of Towns	8155	8155	8155	8155

NOTES: ‡ The university education dummy equals one when the incumbent is a graduate. Estimation method: panel logit estimation. Standard errors are reported in brackets. ***Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.13
POLITICIANS' UNIVERSITY EDUCATION

Dependent variable: university education dummy‡ - Panel probit estimation - Whole sample				
Reform	0.074	0.076	-0.001	-0.001
	[0.005]***	[0.005]***	[0.005]	[0.005]
Executive		0.288	0.085	0.086
		[0.005]***	[0.009]***	[0.009]***
Interaction			0.312	0.311
			[0.011]***	[0.011]***
Town population				0
				[0.000]***
Observations	444529	444529	444529	444527
Number of Towns	8522	8522	8522	8522

NOTES: ‡ The university education dummy equals one when the incumbent is a graduate. Estimation method: panel probit estimation.
Standard errors are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.14
CHANGES IN OCCUPATIONS – ALL TOWNS

Multinomial logit analysis on occupational categories – Whole sample

	Dependent Variables‡											
	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services
Reform	0.076	-0.216	-0.565	-0.080	-0.212	-0.565	0.022	-0.216	-0.509	-0.009	-0.238	-0.526
	[0.010]***	[0.010]***	[0.022]***	[0.010]***	[0.010]***	[0.022]***	[0.009]**	[0.009]***	[0.016]***	[0.009]	[0.009]***	[0.016]***
Interaction							0.249	0.040	-0.292	0.353	0.118	-0.228
							[0.021]***	[0.021]**	[0.039]***	[0.021]***	[0.020]***	[0.039]***
Executive				0.635	0.527	0.156	0.469	0.499	0.285	0.338	0.399	0.203
				[0.010]***	[0.010]***	[0.021]***	[0.017]***	[0.016]***	[0.028]***	[0.017]***	[0.016]***	[0.028]***
Town Pop										0.424	0.311	0.253
										[0.006]***	[0.005]***	[0.010]***
Time fixed effects	No	No	No	No	No	No	No	No	No	No	No	No
Obs.	442187	442187	442187	442187	442187	442187	442187	442187	442187	442187	442187	442187

NOTES: ‡ Dependent variable: Cat 1 = professionals, Cat 2 = administrative, Cat 3 [omitted] = other sectors, Cat 4 = services. Estimation method: multinomial logit. Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.15
CHANGES IN OCCUPATIONS – ALL TOWNS

Multinomial logit analysis on occupational categories – Various samples

	Dependent Variables‡								
	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services
Reform	0.102	-0.044	-0.026	-0.018	-0.331	-0.025	0.103	-0.237	-0.295
	[0.029]***	[0.029]	[0.062]	[0.010]***	[0.075]***	[0.138]*	[0.124]	[0.139]*	[0.264]
Interaction	0.354	0.083	-0.325	0.540	0.091	-0.001	0.677	0.152	-0.449
	[0.021]***	[0.020]***	[0.040]***	[0.056]***	[0.057]	[0.100]	[0.119]***	[0.124]	[0.210]**
Executive	0.340	0.433	0.297	0.296	0.492	0.290	0.332	0.568	0.354
	[0.017]***	[0.016]***	[0.029]***	[0.044]***	[0.044]***	[0.073]***	[0.093]***	[0.093]***	[0.158]**
Town Pop	0.421	0.311	0.252	0.323	0.315	0.257	0.174	0.227	0.302
	[0.006]***	[0.005]***	[0.009]***	[0.283]***	[0.025]***	[0.046]***	[0.043]***	[0.046]***	[0.079]***
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	***442187***	***442187***	***442187***	***73561***	***73561***	***73561***	***21133***	***21133***	***21133***

NOTES: ‡ Dependent variable: Cat 1 = professionals, Cat 2 = administrative, Cat 3 [omitted] = other sectors, Cat 4 = services. Estimation method: multinomial logit. Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.16
CHANGES IN OCCUPATIONS AND POLITICAL AFFILIATION

	Multinomial logit analysis on occupational categories – Various samples											
	Whole sample						*Above 5000 inhabitants.*					
	Dependent Variables‡			*Dependent Variables*‡			*Dependent Variables*‡			*Dependent Variables*‡		
	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services
Reform	0.061	-0.25	-0.516	0.085	-0.258	-0.432	-0.239	-0.595	-0.913	-0.253	-0.662	-0.786
	[0.016]***	[0.016]***	[0.028]***	[0.021]***	[0.020]***	[0.035]***	[0.032]***	[0.033]***	[0.065]***	[0.042]***	[0.042]***	[0.081]***
Interaction	0.272	0.119	-0.332	0.273	0.118	-0.326	0.561	0.267	-0.026	0.561	0.265	-0.016
	[0.031]***	[0.031]***	[0.054]***	[0.031]***	[0.031]***	[0.054]***	[0.077]***	[0.082]***	[0.146]	[0.077]***	[0.082]***	[0.147]
Executive	0.43	0.471	0.264	0.43	0.471	0.264	0.274	0.442	0.182	0.274	0.439	0.186
	[0.019]***	[0.018]***	[0.030]***	[0.019]***	[0.018]***	[0.030]***	[0.045]***	[0.045]***	[0.072]**	[0.045]***	[0.045]***	[0.072]**
Town Pop	0	0	0	0	0	0	0	0	0	0	0	0
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Left	0.013	-0.015	0.036	0.04	-0.021	0.104	-0.091	-0.068	-0.003	-0.109	-0.138	0.09
	[0.013]	[0.013]	[0.021]*	[0.018]**	[0.017]	[0.027]***	[0.031]***	[0.030]**	[0.048]	[0.040]***	[0.041]***	[0.065]
Left*Reform				-0.05	0.017	-0.168				0.026	0.127	-0.237
				[0.023]**	[0.022]	[0.040]***				[0.051]	[0.051]**	[0.089]***
Time f.e.	No	No	No	No	No	No	No	No	No	No	No	No
Obs	280014	280014		280014	280014	280014	56006	56006	56006	56006	56006	56006

NOTES: ‡ Dependent variable: Cat 1 = professionals, Cat 2 = administrative, Cat 3 [omitted] = other sectors, Cat 4 = services. Estimation method: multinomial logit. Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables. Left is a dummy that equals one for politicians of the left. Left*Reform is an interaction of the above defined variables.

TABLE 3.17
CHANGES IN OCCUPATIONS AND POLITICAL AFFILIATION

	Multinomial logit analysis on occupational categories – Various samples											
	Whole sample						*Above 5000 inhabitants.*					
	Dependent Variables‡			*Dependent Variables*‡			*Dependent Variables*‡			*Dependent Variables*‡		
	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services
Reform	0.219	0.024	0.116	0.238	0.018	0.2	-0.138	-0.394	-0.133	-0.152	-0.456	0.002
	[0.039]***	[0.036]	[0.068]*	[0.041]***	[0.038]	[0.071]***	[0.082]*	[0.083]***	[0.153]	[0.086]*	[0.086]***	[0.157]
Interaction	0.27	0.083	-0.434	0.271	0.082	-0.428	0.56	0.224	-0.132	0.56	0.222	-0.123
	[0.031]***	[0.031]***	[0.055]***	[0.031]***	[0.031]***	[0.055]***	[0.077]***	[0.082]***	[0.147]	[0.077]***	[0.082]***	[0.148]
Executive	0.435	0.506	0.36	0.435	0.506	0.361	0.28	0.48	0.281	0.279	0.476	0.287
	[0.019]***	[0.018]***	[0.031]***	[0.019]***	[0.018]***	[0.031]***	[0.045]***	[0.045]***	[0.075]***	[0.045]***	[0.045]***	[0.075]***
Town Pop	0	0	0	0	0	0	0	0	0	0	0	0
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Left	0.017	-0.008	0.049	0.041	-0.013	0.126	-0.092	-0.062	0.017	-0.109	-0.129	0.125
	[0.013]	[0.013]	[0.021]**	[0.018]**	[0.017]	[0.027]***	[0.031]***	[0.030]**	[0.048]	[0.041]***	[0.041]***	[0.065]*
Left*Reform				-0.044	0.013	-0.191				0.026	0.122	-0.269
				[0.023]*	[0.022]	[0.041]***				[0.051]	[0.052]**	[0.089]***
Time f.e.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs	280014	280014	280014	280014	280014	280014	56006	56006	56006	56006	56006	56006

NOTES: ‡ Dependent variable: Cat 1 = professionals, Cat 2 = administrative, Cat 3 [omitted] = other sectors, Cat 4 = services. Estimation method: multinomial logit. Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables. Left is a dummy that equals one for politicians of the left. Left*Reform is an interaction of the above defined variables.

TABLE 3.18
WOMEN'S REPRESENTATION‡

	Samples by population											
	Whole sample			Above 5000 inhabitants			Above 15000 inhabitants			Above 50000 inhabitants.		
Reform	0.08	0.079	0.085	0.055	0.055	0.049	0.042	0.042	0.031	0.024	0.025	0.012
	[0.001]***	[0.001]***	[0.001]***	[0.002]***	[0.002]***	[0.002]***	[0.002]***	[0.002]***	[0.003]***	[0.005]***	[0.005]***	[0.005]**
Executive		-0.028	-0.011		-0.004	-0.018		0.011	-0.017		0.016	-0.015
		[0.001]***	[0.002]***		[0.002]**	[0.003]***		[0.003]***	[0.004]***		[0.005]***	[0.008]*
Interaction			-0.027			0.022			0.043			0.049
			[0.003]***			[0.004]***			[0.006]***			[0.010]***
Population		0.001	0.001	0.001	0.001	0.001	0	0	0	0	0	0
		[0.001]	[0.001]	[0.001]	[0.001]	[0.001]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Towns effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N. of towns	8522	8522	8522	2263	2263	2263	652	652	652	139	139	139
Observations	444527	444527	444527	178084	178084	178084	74128	74128	74128	21311	21311	21311

NOTES: ‡The dependent variable is a dummy =1 for women and =0 for men. Estimation method: linear panel estimation. Standard errors are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns, and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables. Population is the town population, measured yearly.

TABLE 3.19
WOMEN'S REPRESENTATION‡

	Linear panel estimation		*Logit panel estimation*			
	Whole sample	*Above 5000 inhabitants.*	*Whole sample*	*Above 5000 inhabitants.*	*Above 15000 inhabitants*	*Above 50000 inhabitants.*
Reform	0.087	0.059	0.785	0.565	0.353	0.133
	[0.004]***	[0.005]***	[0.033]***	[0.049]***	[0.077]***	[0.136]
Executive	-0.012	-0.019	-0.221	-0.328	-0.335	-0.264
	[0.002]***	[0.003]***	[0.024]***	[0.036]***	[0.059]***	[0.100]***
Interaction	-0.026	0.024	-0.072	0.375	0.578	0.606
	[0.003]***	[0.004]***	[0.027]***	[0.041]***	[0.067]***	[0.117]***
Towns effects	Yes	Yes	Yes	Yes	Yes	Yes
Time effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	444527	178084	439600	177283	73921	21311
N. of towns	8522	2263	8367	2248	649	139

NOTES: ‡The dependent variable is a dummy =1 for women and =0 for men. Estimation method: linear panel estimation in columns 2-3 and logit estimation in columns 4-7. Standard errors are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns, and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables. Population is the town population, measured yearly.

TABLE 3.20

EXPLAINING TOWN FIXED EFFECTS ON WOMEN'S REPRESENTATION‡

	Samples by population					
	Whole sample	Above 5000	Above 1500	Above 1500	Above 50000	Above
Population	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
High school education	1.268	1.754	1.9963	2.009	1.782	1.907
	[0.023]***	[0.031]***	[0.043]***	[0.042]***	[0.051]***	[0.061]***
Unemployment	0.0000	-0.0003	-0.0004	-0.0003	0.0000	-0.0004
	[0.000]	[0.000]***	[0.000]***	[0.000]***	[0.000]	[0.000]***
Value added	0.006	0.006	0.005	0.0050	0.005	0.005
	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***	[0.000]***
Plains	0.0169	0.0240	0.0302	0.0297	0.0313	0.0321
	[0.001]***	[0.001]***	[0.001]***	[0.001]***	[0.002]***	[0.002]***
Mountains	-0.020	-0.038	-0.019	-0.020	-0.012	-0.007
	[0.001]***	[0.001]***	[0.002]***	[0.002]***	[0.002]***	[0.003]***
Value of exports	-0.0010	-0.0010	0.0000			
	[0.000]***	[0.000]***	[0.000]			
Number of houses	-0.013	-0.251	-0.449	-0.446	0.854	0.853
	[0.000]***	[0.007]***	[0.031]***	[0.031]***	[0.070]***	[0.095]***
Financial sector value added	-0.0980	-0.0950	-0.0830	-0.0830	-0.0920	-0.0960
	[0.001]***	[0.001]***	[0.002]***	[0.001]***	[0.002]***	[0.002]***
Household size	-0.076	-0.067	-0.060	-0.060	-0.070	-0.073
	[0.001]***	[0.002]***	[0.002]***	[0.002]***	[0.003]***	[0.003]***
Observations	256658	93627	35767	35767	22662	16164
R-squared	0.07	0.11	0.14	0.14	0.19	0.20

NOTES: ‡Dependent variable: town fixed effect obtained by estimating equation 4 (impact of the reform on women participation to political life). Method of estimation: OLS. Standard errors are reported in parentheses. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns, unless otherwise specified. The regressors are measured at the province level in 2001. Population is total population in the province. High school education is the share of students in high school relative to total province population. Unemployment is the rate of unemployment in the province. Value added measures value added at the province level. Plains is the share of plains over the total province surface. Mountains is the share of mountains over the total province surface. Financial sector value added is the financial services component in Value Added. Household size measures the average family size in the province.

TABLE 3.21
POLITICIANS' WAGES AND SESSION TOKENS

	Executive			Legislature
	Mayor	Vice Mayor	Executive	Session Token
Town Size (inhabitants)	(€)	(€)	(€)	(€)
up to1000	1290	194	129	17
1001-3000	1445	289	217	18
3001-5000	2168	434	325	18
5001-10000	2787	1394	1254	18
10001-30000	3097	1703	1394	22
30001-50000	3458	1902	1556	36
50001-100000	4130	3097	2478	36
100001-250000	5007	3755	3004	36
250001-500000	5781	4336	3758	59
more than 500000	7795	5846	5066	103

Wages and tokens as of dl. N.119, 4-4-2000. Extra bonuses are paid in metropolitan areas (Turin, Milan, Venice, Genoa, Bologna, Florence, Roma, Bari, and Naples) and in towns that are head of a province or region.

3.7.3 Additional results: educational index

Non linear specifications and sensitiveness analysis with respect to towns population

Our dependent variable, the educational index, is a categorical variable, hence we have proceeded to estimate the same specifications (equations 2 and 3), without fixed effects using the ordered logit and ordered probit estimates. Table 3.22 reports the estimated coefficients. The pattern is paralleling clearly the linear estimations, the effect of the reform is significant and positive, but much stronger for the executive.

Table 3.23 shows the linear estimates of equations 1-3 in the sample of towns which have 15000 inhabitants or more. Once the interaction is included, the reform coefficient is insignificantly different from zero, while the interaction is positive, very significant and bigger than in the whole sample (0.309).

The results from estimating equations 2-3 non linearly by ordered logit and probit methodology (Table 3.24) show that the reform coefficient is insignificant and small. The interaction coefficient roughly increases by 30 per cent with respect to the whole sample suggesting that the effect is stronger once we exclude from the sample very small towns. We have also run ordered logit estimates with town fixed effects in this sample and obtained a reform coefficient, reported in Table 3.14, which is insignificantly different from zero. Similarly, for ordered probit estimates with town random effects, the reform coefficient remains insignificant, while the interaction is again strongly significant and positive. In contrast to the results obtained for the whole sample, there is no increase in education due to the reform in the legislative branch. One explanation of this set of results could be that in bigger towns the level of education in the political class was higher than in smaller towns, hence the reform has had no visible impact on this government branch. The executive instead, once made more powerful by the new rules, has been the only pole of attraction for the new intake of representatives with higher education. We present in table 3.25 some non linear estimates with fixed effects.

The results for the smaller sample of 50000 inhabitants or more are presented in Tables 3.26-3.28. For brevity we comment the outcomes of ordered logit analysis with fixed effects only. The reform coefficient is negative and positive once the interaction term is included. This suggest that for larger towns, there is actually a positive and stronger "boost" in education for the executive while the legislature is actually worsening the educational score. One interpretation of these result is that the differential impact of the reform is particularly visible in larger towns because of the higher status attached being in office. For these posts, there is more fierce competition to gain a more influential seat in the executive, and this is resulting in a strong increase in the profile of elected representatives in these governments. In part this increased education in the executive could be generated by a flow of educated politicians from the legislative to the more appealing (after the reform) executive seats.

3.7.4 Additional results: university education

In estimating the effect of the reform on representatives' university education, even stronger results emerge from the estimates drown from smaller samples of larger towns. The results are shown in tables 3.29-3.34. The pattern in terms of signs and significance is the same as in the whole sample, however the magnitude of the coefficients is much larger, in particular for the interaction term. Again we note the reform has a positive impact on the executive educational levels and a negative impact on the legislature ones, as our identifying assumption maintains.

3.7.5 Additional results: occupation

In this section we discuss the results obtained from the sensitiveness analysis with respect to towns population and town fixed effects.

In Table 3.35 and 3.36, narrowing down the sample first to towns with more than 15000 inhabitants and then more than 50000, we confirm the results of the whole sample.

The reform dummy alone is negative and significant for all the three categories, however once including the interaction we see a departing path for the executive and legislative after the reform. In Table 3.35, for Category 1, there is a substantial increase in the executive and a fall in the legislative. The number of administratives falls in the legislature and remains virtually unchanged in the executive. For the last category there is a decrease in both government's branches.

In Table 3.36 the estimates show the same effect on Category 1, namely we note indeed a sharp increase of professionals in the executive and a fall elsewhere.

We can summarize this evidence by arguing on the basis of strongly significant estimates that the intake of directors, university professors, professionals and senior executives is a feature extremely evident in the executive branch of the government. Moreover, focusing on towns with 15000 inhabitants and more, we see how there is less and less of such figures elected in the legislative board, marking a clear differentiation in terms of professional composition of the two governmental powers.

In order to control for unobserved heterogeneity of Italian cities, we have included fixed effects at the town level, a_i, and estimated the following specification in the sample of bigger cities (above 50000):

$$P_{kjit} = a_i + \beta_{k1} REFORM + \beta_{k2} EXEC + \beta_{k3} INTER + \gamma_k Z_{it} + e_{kjit} \quad (6)$$

As in the previous specification, the reform coefficients are all negative (see Table 3.37) when the interaction is not included. However, the interaction term is strongly significant, much larger and of opposite sign for the first category. Which confirms the trends observed in previous specifications. Similarly for the results in the other professional categories, the path observed in the estimates is analogous to the result without fixed effects. Again, these results provide supportive evidence that the post reform self selection of better politicians is more powerful in bigger cities.

3.7.6 Additional results tables

TABLE 3.22
THE DETERMINANTSS OF EDUCATION –ORDERED PROBIT ANALYSIS

Dependent variable: education index‡ - Non linear estimation– Whole sample						
	Ordered logit estimates			Ordered probit estimates		
Reform	0.359	0.367	0.297	0.221	0.225	0.183
	[0.007]***	[0.007]***	[0.008]***	[0.004]***	[0.004]***	[0.005]***
Interaction			0.321			0.195
			[0.006]***			[0.009]***
Executive		0.472	0.267		0.273	0.151
		[0.008]***	[0.013]***		[0.005]***	[0.007]***
Population	0.413	0.406	0.407	0.242	0.238	0.239
	[0.005]***	[0.005]***	[0.005]***	[0.003]***	[0.003]***	[0.003]***
Observations	444527	444527	444527	444527	444527	444527

NOTES: ‡The education index has four categories, which have been constructed from the Italian education system: elementary=1 (school up to age 10), intermediate=2 (school up to age 13), high school =3 (school up to age 18-19) and university=4 (graduate and postgraduate degrees). Estimation method: ordered logit in columns 2-4 and ordered probit in columns 5-7. Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.23
THE DETERMINANTS OF POLITICIANS' EDUCATION – TOWNS WITH MORE THAN 15000 INHABITANTS

Dependent variable: education index‡ - Linear panel estimates– towns of 15000 inhabitants or more				
Reform	0.089	0.095	0.016	0.016
	[0.008]***	[0.008]***	[0.009]***	[0.009]***
Executive		0.241	0.042	0.042
		[0.007]***	[0.013]***	[0.013]
Interaction			0.309	0.309
			[0.016]***	[0.014]***
Population				-0.003
				[3.1*10^5]
Town fixed effects	Yes	Yes	Yes	Yes
Observations	74128	74128	74128	74128
Number of Towns	652	652	652	652

NOTES: ‡ The education index has four categories, which have been constructed from the Italian education system: elementary=1 (school up to age 10), intermediate=2 (school up to age 13), high school =3 (school up to age 18-19) and university=4 (graduate and postgraduate degrees). Estimation method: linear panel estimation.
Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 15000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.24
THE DETERMINANTS OF POLITICIANS' EDUCATION – TOWNS WITH MORE THAN 15000 INHABITANTS

Dependent variable: education index‡ - Non linear estimation –Towns of 15000 inhabitants or more							
	Ordered logit estimates				Ordered probit estimates		
Reform	0.17	0.187	0.011	0.001	0.118	0.131	0.018
	[0.021]***	[0.021]***	[0.023]	[0.022]	[0.011]***	[0.011]***	[0.013]
Executive		0.585	0.134	0.117		0.372	0.081
		[0.019]***	[0.032]***	[0.032]***		[0.011]***	[0.019]***
Interaction			0.709	0.777			0.467
			[0.041]***	[0.041]***			[0.024]***
Population				0.357	0.212	0.212	0.217
				[0.007]***	[0.015]***	[0.015]***	[0.015]***
Observations	74128	74128	74128	74128	74128	74128	74128

NOTES: ‡ The education index has four categories, which have been constructed from the Italian education system: elementary=1 (school up to age 10), intermediate=2 (school up to age 13), high school =3 (school up to age 18-19) and university=4 (graduate and postgraduate degrees). Estimation method: ordered logit in columns 2-5 and ordered probit in columns 6-8. Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 15000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.25
THE DETERMINANTS OF POLITICIANS' EDUCATION – TOWNS WITH MORE THAN 15000 INHABITANTS

Dependent variable: education index‡ - Non linear estimation –Towns of 15000 inhabitants or more				
	Ordered logit estimates with individual Town fixed effects			Ordered probit estimates with random Town fixed effects
Reform	0.181	-0.198	-0.013	0.011
	[0.015]***	[0.015]	[0.0175]	[0.010]
Executive		0.617	0.071	0.056
		[0.017]***	[0.028]***	[0.016]***
Interaction			0.856	0.503
			[0.035]***	[0.020]***
Population	0.00	0.00	0.00	0
	[0.000]	[0.000]	[0.000]	[0.000]***
Town fixed effects	Yes	Yes	Yes	Yes
Observations	74128	74128	74128	74128

NOTES: ‡ The education index has four categories, which have been constructed from the Italian education system: elementary=1 (school up to age 10), intermediate=2 (school up to age 13), high school =3 (school up to age 18-19) and university=4 (graduate and postgraduate degrees). Estimation method: ordered logit in columns 2-4 and ordered probit in columns 5. Standard errors are reporter in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 15000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.26
THE DETERMINANTS OF POLITICIANS' EDUCATION – TOWNS WITH MORE THAN 50000 INHABITANTS

Dependent variable: education index‡ - Linear panel estimates– towns of 50000 inhabitants or more				
	Samples			
	Before the reform	After the reform	Whole sample	Whole sample
Reform			0.062	-0.009
			[0.014]***	[0.016]
Executive	0.038	0.318	0.211	0.036
	[0.023]*	[0.016]***	[0.012]***	[0.022]**
Interaction				0.282
				[0.028]***
Town fixed effects	Yes	Yes	Yes	Yes
Observations	7279	14032	21311	21311
Number of Towns	135	136	139	139

NOTES: ‡ The education index has four categories, which have been constructed from the Italian education system: elementary=1 (school up to age 10), intermediate=2 (school up to age 13), high school =3 (school up to age 18-19) and university=4 (graduate and postgraduate degrees). Estimation method: linear panel estimation.
Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 50000 inhabitants and the span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.27
THE DETERMINANTS OF POLITICIANS' EDUCATION – TOWNS WITH MORE THAN 50000 INHABITANTS

Dependent variable: education index‡ - Non linear estimation –Towns of 50000 inhabitants or more						
	Ordered logit estimates			Ordered probit estimates		
Reform		0.140	-0.062		0.101	-0.018
		[0.041]***	[0.044]		[0.024]***	[0.026]
Executive	0.573	0.585	0.074	0.352	0.363	0.063
	[0.037]***	[0.037]***	[0.061]	[0.022]***	[0.022]***	[0.037]*
Interaction			0.857			0.509
			[0.083]***			[0.049]***
Town population	0.203	0.206	0.208	0.131	0.132	0.133
	[0.036]***	[0.037]***	[0.037]***	[0.021]***	[0.022]***	[0.022]***
Observations	21311	21311	21311	21311	21311	21311

NOTES: ‡ The education index has four categories, which have been constructed from the Italian education system: elementary=1 (school up to age 10), intermediate=2 (school up to age 13), high school =3 (school up to age 18-19) and university=4 (graduate and postgraduate degrees). Estimation method: ordered logit in columns 2-4 and ordered probit in columns 5-7. Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 50000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.28
THE DETERMINANTS OF POLITICIANS' EDUCATION – TOWNS WITH MORE THAN 50000 INHABITANTS

Dependent variable: education index‡ - Non linear estimation –Towns of 50000 inhabitants or more					
	Ordered logit estimates with individual Town fixed effects			Ordered probit estimates with random Town fixed effects	
Reform	-0.069	-0.069	0.07	0.1	-0.025
	[0.033]***	[0.033]**	[0.017]***	[0.017]***	[0.020]
Executive	0.06	0.06		0.367	0.053
	[0.052]	[0.052]		[0.020]***	[0.030]***
Interaction	0.908	0.908			0.533
	[0.068]***	[0.068]***			[0.040]***
Town population		0.000			
		[0.000]			
Town fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	21311	21311	21311	21311	21311

NOTES: ‡ The education index has four categories, which have been constructed from the Italian education system: elementary=1 (school up to age 10), intermediate=2 (school up to age 13), high school =3 (school up to age 18-19) and university=4 (graduate and postgraduate degrees). Estimation method: ordered logit in columns 2-3 and ordered probit in columns 4-6. Standard errors are reporter in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 50000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.29
POLITICIANS' UNIVERSITY EDUCATION
TOWNS WITH MORE THAN 15000 INHABITANTS

Dependent variable: university education dummy‡ Linear panel - Towns of 15000 inhabitants or more				
Reform	0.021	0.024	-0.029	-0.029
	[0.004]***	[0.004]***	[0.004]***	[0.005]***
Executive		0.134	-0.002	-0.002
		[0.005]***	[0.009]	[0.008]
Interaction			0.21	0.21
			[0.010]***	[0.010]***
Town population				0.001
				[3.28*10^4]
Town fixed effects	Yes	Yes	Yes	Yes
Observations	74128	74128	74128	74128
Number of Towns	652	652	652	652

NOTES: ‡ The university education dummy is equals one when the incumbent is a graduate. Estimation method: linear panel estimation.
Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 15000 and the span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.30
POLITICIANS' UNIVERSITY EDUCATION
TOWNS WITH MORE THAN 15000 INHABITANTS

Dependent variable: university education dummy‡ - Panel logit estimation - Towns of 15000 inhabitants or more			
Reform	0.094	0.109	-0.132
	[0.017]***	[0.017]***	[0.019]***
Executive		0.577	-0.01
		[0.018]***	[0.030]
Interaction			0.91
			[0.038]***
Town fixed effects	Yes	Yes	Yes
Observations	74126	74126	74126
Number of Towns	651	651	651

NOTES: ‡ The university education dummy is equals one when the incumbent is a graduate. Estimation method: panel logit estimation. Standard errors are reporter in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 15000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.31
POLITICIANS' UNIVERSITY EDUCATION
TOWNS WITH MORE THAN 15000 INHABITANTS

Dependent variable: university education dummy‡ - Panel probit estimation - Towns of 15000 inhabitants or more				
Reform	0.057	0.065	-0.079	-0.079
	[0.010]***	[0.010]***	[0.012]***	[0.012]***
Executive		0.357	0	0
		[0.011]***	[0.019]	[0.019]
Interaction			0.553	0.553
			[0.023]***	[0.023]***
Town population				0
				[0.000]***
Observations	74128	74128	74128	74128
Number of Towns	652	652	652	652

NOTES: ‡ The university education dummy is equals one when the incumbent is a graduate. Estimation method: panel probit estimation. Standard errors are reporter in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 15000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.32
POLITICIANS' UNIVERSITY EDUCATION
IN TOWNS WITH MORE THAN 50000 INHABITANTS

Dependent variable: university education dummy‡ Linear panel estimation - towns of 50000 inhabitants or more				
Reform	0.016	0.025	-0.028	-0.029
	[0.007]**	[0.007]***	[0.008]***	[0.008]***
Executive		0.136	0.005	0.005
		[0.008]***	[0.013]	[0.013]
Interaction			0.211	0.211
			[0.016]***	[0.016]***
Town population				0
				[0.000]
Town fixed effects	Yes	Yes	Yes	Town fixed effects
Observations	21311	21311	21311	21311
Number of Towns	139	139	139	139

NOTES: ‡ The university education dummy is equals one when the incumbent is a graduate. Estimation method: linear panel estimation.
Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 50000 inhabitants and the span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.33
POLITICIANS' UNIVERSITY EDUCATION
TOWNS WITH MORE THAN 50000 INHABITANTS

Dependent variable: university education dummy‡ Panel logit estimation- towns of 50000 inhabitants or more			
Reform	0.066	0.105	-0.117
	[0.030]**	[0.031]***	[0.035]***
Executive		0.57	0.02
		[0.034]***	[0.054]
Interaction			0.91
			[0.070]***
Town fixed effects	Yes	Yes	Yes
Observations	21311	21311	21311
Number of Towns	139	139	139

NOTES: ‡ The university education dummy is equals one when the incumbent is a graduate. Estimation method: panel logit estimation. Standard errors are reporter in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 50000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.34
POLITICIANS' UNIVERSITY EDUCATION
TOWNS WITH MORE THAN 50000 INHABITANTS

Dependent variable: university education dummy‡ Panel probit estimation - towns of 50000 inhabitants or more

Reform	0.04	0.065	-0.073	-0.074
	[0.019]**	[0.019]***	[0.022]***	[0.022]***
Executive		0.354	0.014	0.013
		[0.021]***	[0.034]	[0.034]
Interaction			0.560	0.561
			[0.043]***	[0.043]***
Town population				0
				[0.000]***
Observations	21311	21311	21311	21311
Number of Towns	139	139	139	139

NOTES: ‡ The university education dummy is equals one when the incumbent is a graduate. Estimation method: panel probit estimation. Standard errors are reporter in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 50000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.35
CHANGES IN OCCUPATIONS – TOWNS WITH MORE THAN 15000 INHABITANTS

Multinomial logit analysis on occupational categories – towns of 15000 inhabitants or more												
	Dependent Variables‡											
	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services
Reform	-0.084	-0.551	-0.91	-0.071	-0.541	-0.905	-0.185	-0.543	-0.911	-0.203	-0.561	-0.926
	[0.028]***	[0.027]***	[0.062]***	[0.029]***	[0.027]***	[0.062]***	[0.031]***	[0.030]***	[0.064]***	[0.031]***	[0.031]***	[0.063]***
Interaction							0.491	0.084	0.063	0.541	0.132	0.103
							[0.056]***	[0.057]	[0.098]	[0.056]***	[0.057]**	[0.099]
Executive				0.648	0.538	0.276	0.308	0.464	0.198	0.295	0.452	0.187
				[0.026]***	[0.029]***	[0.052]***	[0.044]***	[0.044]***	[0.071]***	[0.044]***	[0.044]***	[0.071]***
Town Pop.										0.324	0.316	0.259
										[0.027]***	[0.025]***	[0.047]***
Obs.	73561	73561	73561	73561	73561	73561	73561	73561	73561	73561	73561	73561

NOTES: ‡ Dependent variable: Cat 1 = professionals, Cat 2 = administrative, Cat 3 [omitted] = other sectors, Cat 4 = services. Estimation method: multinomial logit. Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 15000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.36
CHANGES IN OCCUPATIONS – TOWNS WITH MORE THAN 50000 INHABITANTS

	Multinomial logit analysis on occupational categories – towns of 50000 inhabitants or more											
	Dependent Variables‡											
	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services
Reform	-0.13	-0.598	-0.962	-0.088	-0.563	-0.933	-0.229	-0.577	-1.037	-0.222	-0.568	-1.024
	[0.055]***	[0.054]***	[0.128]***	[0.056]***	[0.055]***	[0.095]***	[0.060]***	[0.060]***	[0.133]***	[0.059]***	[0.060]***	[0.130]***
Interaction							0.679	0.203	0.569	0.682	0.207	0.574
							[0.118]***	[0.122]*	[0.202]***	[0.119]***	[0.122]*	[0.202]***
Executive				0.772	0.671	0.567	0.324	0.519	0.229	0.323	0.518	0.228
				[0.049]***	[0.054]***	[0.095]***	[0.093]***	[0.092]***	[0.150]	[0.093]***	[0.092]***	[0.150]
Town Pop.										0.177	0.226	0.313
										[0.043]***	[0.046]***	[0.078]***
Obs.	21133	21133	21133	21133	21133	21133	21133	21133	21133	21133	21133	21133

NOTES: ‡ Dependent variable: Cat 1 = professionals, Cat 2 = administrative, Cat 3 [omitted] = other sectors, Cat 4 = services. Estimation method: multinomial logit. Robust standard errors, clustered at the town level, are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the log of town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 50000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.37
CHANGES IN OCCUPATIONS – TOWNS WITH MORE THAN 50000 INHABITANTS

Multinomial logit analysis on occupational categories – towns of 50000 inhabitants or more												
	Dependent Variables‡											
	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services	Prof.	Admin.	Services
Reform	-0.143	-0.638	-0.932	-0.102	-0.604	-0.902	-0.26	-0.626	-0.994	-0.26	-0.626	-0.994
	[0.045]***	[0.046]***	[0.075]***	[0.046]***	[0.046]***	[0.075]***	[0.051]***	[0.051]***	[0.085]***	[0.051]***	[0.051]***	[0.085]***
Interaction							0.753	0.246	0.525	0.753	0.246	0.525
							[0.113]***	[0.114]**	[0.179]***	[0.113]***	[0.114]**	[0.179]***
Executive				0.763	0.656	0.598	0.266	0.475	0.270	0.266	0.475	0.270
				[0.054]***	[0.056]***	[0.089]**	[0.090]***	[0.088]***	[0.130]**	[0.090]***	[0.088]***	[0.130]**
Town Pop.										0	0	0
										[0.000]	[0.000]**	[0.000]***
Town fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs.	21133	21133	21133	21133	21133	21133	21133	21133	21133	21133	21133	21133

NOTES: ‡ Dependent variable: Cat 1 = professionals, Cat 2 = administrative, Cat 3 [omitted] = other sectors, Cat 4 = services. Estimation method: multinomial logit. Standard errors are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. Population is the town population, measured yearly. See the Data appendix for the construction and sources of the variables. The data are for all Italian towns with more than 50000 inhabitants and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables.

TABLE 3.38
WOMEN'S REPRESENTATION AND POLITICAL AFFILIATION

	All Towns					
Reform	0.078	0.076	0.078	0.076	0.074	0.075
	[0.001]***	[0.002]***	[0.002]***	[0.004]***	[0.004]***	[0.004]***
Interaction	-0.044	-0.045	-0.051	-0.043	-0.043	-0.049
	[0.003]***	[0.003]***	[0.005]***	[0.003]***	[0.003]***	[0.005]***
Executive	-0.011	-0.011	-0.007	-0.011	-0.011	-0.008
	[0.002]***	[0.002]***	[0.003]**	[0.002]***	[0.002]***	[0.003]***
Population	0.001	0.001	0.001	0.001	0.001	0.001
	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]	[0.002]
Left	0.023	0.021	0.023	0.023	0.021	0.023
	[0.001]***	[0.002]***	[0.002]***	[0.001]***	[0.002]***	[0.002]***
Left*Reform		0.004	0.001		0.005	0.002
		[0.003]	[0.003]		[0.003]*	[0.003]
Left*Exec			-0.008			-0.008
			[0.004]*			[0.004]*
Left*Reform*Exec			0.013			0.013
			[0.006]**			[0.006]**
Towns effects	Yes	Yes	Yes	Yes	Yes	Yes
Time f.e.	No	No	No	Yes	Yes	Yes
Observations	281221	281221	281221	281221	281221	281221

NOTES: ‡The dependent variable is a dummy =1 for women and =0 for men. Estimation method: linear panel estimation. Standard errors are reported in brackets. *** Coefficients significant at the 1% level, ** significant at 5%, * significant at 1%. See the Data appendix for the construction and sources of the variables. Data are for all Italian towns, and the time span covered is from 1989-2002. Reform is a dummy that captures all politicians elected with the new electoral law, Executive is a dummy that takes value one if the politicians is part of the executive, Interaction is a dummy that captures the interaction between the reform and executive variables. Population is the town population, measured yearly. Left is a dummy that equals one for politicians of the left. Left*Reform , Left*Exec and Left*Exec*Ref are interactions of the above defined variables.

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