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**CENTRAL TARGETS AND LOCAL AGENDAS:**

**MISSING LISBON 2010**

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## **Central Targets and Local Agendas: Missing Lisbon 2010**

### **Abstract**

In a decentralized setting, are policy targets imposed by the central government on local elected officials effective? And when? We address these questions in Italy, where the central government has set a target for childcare coverage at the municipal level for Southern regions since 2007. We first implement a difference-in-differences estimator where the municipalities already complying with the target comprise the control group. We then implement a triple-difference estimator with the additional control group of municipalities in the bordering Central regions. Our results show that elected officials comply with the target mainly when it is coherent with voters' preferences (as measured by the characteristics of the resident female population) and in reaction to political incentives (as measured by partisan alignment among levels of government).

**JEL Classification:** H42, H72, H75, H77.

**Keywords:** Central targets, Political Incentives, Local Politicians, Difference-in- Difference-in-Difference

# 1 Introduction

Setting central targets on the supply of local public goods is in contrast with the enhancement of allocative efficiency, which the most traditional theory on fiscal federalism relates to decentralization (Oates 1972; Buchanan and Brennan, 1980). The rationales for quantitative targets mainly rely on concerns of redistribution and on the idea that for specific goods a supply-induced demand mechanism is in place. Alternatively, the existence of federal standard/target can be a tool to mitigate the discretionary power of the local agenda setters. In this case, the setting of a target by the central government is supposed to act as a disciplinary mechanism on local politicians (Crémer and Palfrey, 2002).

We investigate empirically the limits of central targets in a decentralized institutional setting using the case study of Italy. After providing an intuitive conceptual framework to tackle the main determinants of the local decision-making process, we empirically analyze the role that local preferences, proxied with population characteristics (i.e. resident women characteristics) and institutional elements (e.g., central government incentives and political concerns) play in explaining the supply variations of targeted local services. We exploit the introduction of a target policy on a set of services adopted in Italy starting 2007 and addressed to municipalities in Southern regions to detect the response of local administrations to quantitative targets. We use a unique dataset at the municipal level and focus on a target set on childcare within the so-called National Strategic Framework (NFS), a performance-based mechanism related to quantitative targets for 2007-2013.<sup>1</sup> The NFS can be considered the consequence of the stress that, since 2000, the European Union has put on national social policies impacting households, setting specific guidelines and policy goals during the Lisbon 2000 summit.

The NFS aims, among other things, to bring the level of childcare coverage of the potential user population (i.e., younger than 3 years) to at least 12% by 2013.<sup>2</sup> Using Southern municipalities above this threshold and the neighboring central municipalities as the control group we assess the policy through a quasi-experimental approach on the period 2000-2009. First, we test the impact of the targeting policy implemented on Southern municipalities using a Difference-in-Differences (DD) approach on the Southern observation samples. As part of this first step, we introduce another control group, municipalities in Central bordering regions (i.e., Lazio and Marche), using a Difference-in-Difference-in-Differences (DDD) approach.

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<sup>1</sup>Hereafter, when we refer to childcare we mean services for children younger than 3 years and not preschool childcare, unless differently specified.

<sup>2</sup>Among the targets promoted by the Lisbon meeting was the increase in participation of women in the labor market through the development of proper work and family reconciliation tools. To this purpose, it was established that a member state had to provide childcare services for at least the 33% of the residents younger than 3 years by 2010. However, many countries have not fulfilled the European target. According to the OECD (2011), in 2008, only 12 European countries reported an enrollment rate greater than the 33% target of children under 3 (defined as public crèches as well as any other formal certified arrangement such as day care centers, professional certified child-minders, private crèches). According to this broad definition of coverage, the countries presenting childcare policies consistent with the Lisbon target were France, Belgium, Spain, Iceland, Norway, the United Kingdom, Denmark, Sweden, Luxembourg, Portugal, Slovenia, and the Netherlands.

This test is meaningful even though the deadline for accomplishing the target is 2013, since the governments involved knew back in 2007 that they would have received a premium in 2009 based on an intermediate check run of the first years of the policy implementation.

Once we explain the different levels of public childcare coverage (*Coverage*)—defined as the number of slots managed by the municipalities out of the total number of resident children aged under 3 years— as a function of observable heterogeneity among municipalities, we check for further drivers of the policy related to both political economy elements as well as local residents characteristics. Our empirical findings point out that the response of local governments to the target introduction is very poor. On the contrary, local preferences, as proxied by the quota of women either employed or looking for employment and the quota of graduated women, explain a good part of across-municipality heterogeneities in childcare coverage. Political economy elements, as the alignment among different levels of government, or the level of political competition also play a crucial role in explain differences in service supply. Financial elements, as the level of transfers or the costs associated to the service, play the lion’s share in explaining the actual coverage of the service. Our results are consistent with the mechanisms investigated by the empirical literature on setting local policies when they face a national goal, as that related to the UK case study of the Comprehensive Performance Assessment (CPA) program (Lockwood and Porcelli, 2011, Revelli 2010 and 2006).<sup>3</sup>

The paper is organized as follows. Section 2 presents a conceptual framework to summarize the main determinants of the politicians’ decision-making process at the local level. Section 3 provides the main institutional background on the provision and funding of childcare in Italy and the description of the target-related policy, while section 4 accounts for the econometric specification we use on the data described in section 5, where we also present the results. Section 6 concludes.

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<sup>3</sup>In this strand of research, Crémer and Palfrey (2000) analyze the effects of a central target, in terms of minimum level of a local good, on the social welfare of a community, stressing citizens’ preferences over those of politicians’. Moving within the framework of the decentralization theorem, the central target represents the median preferred policy for all voters in all local governments. Consequently, it produces a strict increase in the local supply policy for the low demand jurisdictions (preferred median policy level lower than the central target) generating a decline in their welfare. Nevertheless, even when they are aware of such welfare loss, citizens of a truly decentralized State might prefer this kind of interaction among the different levels of governments revealing preference for a multilevel alignment on issues they regard as important and believe to be priorities that governments should handle. According to this approach, if the provision of a local service is not aligned to local preferences, it could still be worthwhile to provide that level of service, once the priorities shared by voters are defined. From a different viewpoint, Enikolopov and Zhuravskaya (2007) investigate the possible trade-off between national and local interests when local policies are implemented. The basic idea is that a benevolent local political behavior satisfying local preferences and maximizing local welfare could negatively affect social national welfare when local policy is not compatible with some strategic national goal. In other words, the maximization of local welfare generates a negative externality on the social national welfare. All in all the benefits of a decentralized institutional setting come from the balance of local incentives to meet local needs with national needs.

## 2 A conceptual framework

This part provides a very intuitive framework on the expected degree of commitment of a local policy maker to the target required by the national government. The rationale of this basic framework is to define the main drivers explaining the choices of local decision makers in terms of supply of the targeted service/goods that we intend to investigate in the empirical part.

In a decentralized institutional context, local politicians, who aim to be reelected, have incentives to comply with a central target—expressed in terms of minimum levels of qualities or quantities—according to at least two different rationales (and their combinations): case 1) the national target matches local preferences; or case 2) the local decision maker is pushed through a strict system of incentives (i.e., premiums and punishments), set by the higher level of government, to pursue the target.<sup>4</sup> When national targets match local preferences (case 1), the only issue at stake is how to fund the targeted level. From an efficiency viewpoint the most appropriate funding mean is local taxation. Equivalently, other policy tools able to account for the local preferences, such as a system of fees for service, is expected to perform well in allocative terms. When the targeted goods have redistributive implications, a system of grants can be implemented as well. Nevertheless, there are no priors to expect a lower-than-the-target public supply.

In case (2) we assume that local preferences reveal a demand lower than the target. Under such assumption, we infer that the decisions of a self-interested local politician will be affected by two dimensions related to the targeted goods: 1) the political visibility of the service, which overall represents the importance that the potential voters (and not all the community) give to it; 2) broadly defined institutional elements, such as the system of transfers from the central to the local level, the incentives the local level can enjoy if the target is achieved, the political and economic cost of not achieving the target (e.g., the perspectives of political career that the local politician has within the national party), the parties' influence on the achievement process, and so forth. Overall, the local politicians' behavior depends on both the commitment to the higher level of government conditional on institutions and the local demand.<sup>5</sup>

To provide an insight of what we should expect as a consequence of the pressure of each dimension on the policy decision-making process, we consider a local government providing two goods named  $X$  and  $Y$ :  $X$  represents the targeted service and  $Y$  generically identifies a bundle of other services. The preferences of the local politician are represented by the following parametric utility function  $U$

$$U = f(X(\theta); Y(\tau); \gamma)$$

The parameters  $\theta$  and  $\tau$  respectively represent what we defined the *political visibility*

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<sup>4</sup>If the assumption of reelection concerns is released (e.g., term limit), then we should deal with an additional rationale: the local decision maker is ideologically committed to the national target.

<sup>5</sup>These are the key variables for both a benevolent politician, who cares for the preferences of local community, and for a self-interested politician, who cares more of reelection. The framework refers to both types.

of  $X$  and  $Y$ .<sup>6</sup> In other words, the stronger the local preferences for  $X$  ( $Y$ ) the higher its political visibility  $\theta$  ( $\tau$ ), the higher the weight that the local decision maker gives to that service in absolute terms.<sup>7</sup> As such  $\theta$  ( $\tau$ ) stands for the electoral importance of the service. The parameter  $\gamma \in (0; 1)$  summarizes the degree of commitment to the national target of the local decision maker driven by both the institutional and the ideological elements affecting the local government decisions.

Let assume that the local government provides a certain amount of  $X$ , depending on  $\theta$ , equal to  $X_{t-1}$  and that it is only funded through local taxation (or by a combination of local taxes and users' fees). At time  $t$ , the central government sets its target on  $X$  ( $X_t^l$ ). As stated, problems related to the target achievement stem only if  $X_t^l > X_{t-1}$ . We also assume, for the purpose of this basic framework, that the local taxation is not a flexible fiscal instrument in the short run. Hence, the local government receives an increase in the amount of no matching grants by the national-level government to fund the additional supply required by the target and given by:

$$\Delta X_t = (X_t^l - X_{t-1})$$

Since target achievement depends on both the political visibility of the targeted service and the institutional elements as previously specified<sup>8</sup>, local supply of targeted service can be written as:

$$X_t(\theta, \gamma) = X_{t-1}(\theta) + \gamma \Delta X_t(\theta)$$

with  $\gamma$  summarizing the commitment degree of local government to the central target. Given the framework we have sketched, there can be four solutions in terms of designed local policies on  $\Delta X_t$  which are summarized in Table 1. In the first case, the local politician is committed to the central target ( $\gamma$  high) and the local visibility of  $X$  is substantially strong ( $\theta$  high). Even though local preferences do not coincide with the national target, the targeted service is important for the local constituency. Given the institutional framework, we expect a target-oriented local decision-making process. Exactly the opposite (not target-oriented policy) is expected when local politicians are not committed to the central target ( $\gamma$  low)

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<sup>6</sup>The political economy literature analyzing the effects of central targets on local governments' behavior (e.g., Lockwood, 2006) mainly stresses the trade-off between local and central objectives for the provision of local goods/services in terms of efficiency and equity (Lockwood, 2002; Besley and Coate, 2003). The basic idea is that since local preferences drive local political choices, the realization of a recommended central target for a given service cannot occur if that service is not characterized by a high level demand. Consistent with the models of competitive federalism (Buchanan and Brennan 1980; Salmon, 1987), local politicians seek to maximize their reelection probability and, in case of budget constraints, they will invest resources mostly in those services in great demand with their voters.

<sup>7</sup>The political visibility parameter defines a sort of ranking among the services that drives the financial resource allocation of the local government. The higher the values of  $\theta$  ( $\tau$ ), the higher the level of provided  $X$  ( $Y$ ), given the budget constraint.

<sup>8</sup>As usual, politicians maximize their utility function subject to the constraint that total revenues (given by local taxation and a central no matching grant) are equal to the total expenditures. The particular optimal solutions characterizing the politicians' problem will depend on the analytical form of the utility function and on the budget constraint.

and the political visibility of  $X$  is weak ( $\theta$  low). The intermediate scenarios (e.g., high level of commitment with low political visibility or low level of commitment with high political visibility) foresee a partial target-oriented local policy driven by either the politicians' commitment or the residents' demand. The degree of target achievement depends on the interaction of the local demand with the broadly defined institutional elements. Our contribution provides an evaluation of the relative importance of these two dimensions with reference to childcare provision in the Italian case study.

Table 1 about here

### 3 Providing and funding childcare in Italy: means, jurisdictions, and targets

In Italy childcare public policies develop at both central and local levels. The State has the power to determine targets to be reached (if any), regions pursue their own welfare policies, and municipalities handle the direct provision of the service (e.g., number of slots, type of management, eligibility criteria to select applicants, and fees).<sup>9</sup> Regional funding (mainly received by the national state, or from the European Union (EU)), could be allocated: 1) to provinces for teacher training and monitoring activities; 2) to municipalities for maintaining both public and private crèches (e.g., new institutes, or widening or managing the existing ones even through agreement with private providers); and 3) to independent projects related to childcare and run by private institutions (e.g., work place crèches).<sup>10</sup> The criteria for financing municipalities change according to the Region and whether it is a matter of building new crèches or managing existing facilities.

Municipalities decide over a broad set of variables related to childcare. They set the number of slots to be supplied and whether these slots are mainly managed by the public sector or outsourced to private providers.<sup>11</sup> They decide on the amount of users' contributions (fees do not cover for the entire actual cost) according to indexed income levels of the applicants (*Indicatore della Situazione Economica Equivalente-ISEE*), which change according to the municipalities' redistributive policies.<sup>12</sup> In some cases, fees can be high or equivalent to those charged by private providers. Finally, they fix their own eligibility criteria, the so-called access criteria, to select among the applicants. Given the role of the municipal administration, when we refer to the choices of the local government we are basically dealing with municipal governments (Antonelli and Grembi, 2011).

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<sup>9</sup>In Italy there are 20 Regions, 104 provinces (which have changed over time), and more than 8,000 municipalities. The first law creating and organizing crèches in Italy was brought about in 1971 and the *National Fund for Childhood and Minors under 18* was instituted to be assigned to the Regions and, through them, to municipalities.

<sup>10</sup>EU transfers mainly concern new crèches' building and not their current expenditures.

<sup>11</sup>In the latter case the provision of the good is public (i.e., users have to submit their application to the municipal office), but the production is private.

<sup>12</sup>The ISEE is equal to: (family income+ 20% family property)/weighing parameter.

On average, Italy is known to be lagging by European standards in terms of work and family reconciliation tools, with alleged striking consequences on female labor supply, fertility rates, and gender equality (Del Boca, 2002; Del Boca et al., 2005; Del Boca and Vuri 2007; Campa et al., 2011). Southern Italian Regions consistently lag behind national averages, and not only in public childcare. This prompted the national government, in agreement with European guidelines, to enforce a targeting system on essential local services, the so-called National Strategic Framework (NSF) (*Quadro Strategico Nazionale*) for eight Southern regions (Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia, and Sardegna) to be implemented in a five-year period 2007-2013 (Casavola et al., 2008).

The NSF is a novel system in terms of incentives to improve the level of local service supply consistently with the European recommendations. The NSF was approved in 2007 and it introduced a performance-based mechanism related to quantitative targets (*Obiettivi di servizio*). The targeted services are education, childcare, care of the elders, urban waste management, and the municipal water system. For each service the policy sets targets to be achieved by 2013 and performs intermediate checks on the local government's performance. As a result of an intermediate check, the well-performing bodies have the right to receive extra funding by the national government, the distribution of which is mediated, as usual, by the regions (CIPE, 2007). Differently from other public sector evaluation schemes (i.e., CPA), the NSF does not develop its rewarding mechanism according to a synthetic indicator of the overall local administration performance with respect to the targeted services. A negative evaluation on one's service performance does not jeopardize the right of the local government to get the premium for the other services on which it performs consistent to the policy. Therefore, local governments can choose to invest their efforts only on a selected bunch of services among the objects of the policy, or on only one service.<sup>13</sup> A selection mechanism is in principle reinforced by the lack of explicit punishments. As a matter of fact, if there is no improvement in the direction of the target achievement, local governments lose the scheduled extra funding only on the failed service.

As for children younger than 3 attending childcare, municipalities in targeted regions are expected to cover at least 12% of the resident potential users. Within the targeted Regions, the focus is on the municipalities that were below 12% in 2004, most distant from the national average. For this target, at the intermediate check, municipalities implementing a target-oriented policy received additional central resources proportional to the covered gap. The gap is calculated as the difference between the targeted value at 2013 and the baseline 2004 value. The first premium was assigned in 2009. Local politicians knew with the policy implementation, that in 2009 their policies would be checked and they could earn a premium in case of a positive result. On this target, Southern Regions received an overall positive evaluation and a total extra funding equal to 18 million of 2009 euros.

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<sup>13</sup>The service on which the NSF appears to have been the most successful is the improvement of the municipal water system.

## 4 Econometric Framework

### 4.1 Econometric Specifications

We define three dummy variables:  $S$ ,  $L$ , and  $P$ .  $S$  captures the target status, identifying municipalities targeted by the policy. The running variable to identify  $S$  is the level of public coverage in 2004.  $L$  distinguishes the geographical location of municipalities between the South ( $L=1$ ) and the Central bordering Regions ( $L=0$ ). Finally,  $P$  accounts for the post-treatment period, which is equal to 1 for the period from 2007 onward and 0 otherwise. Only from that date do local governments acquire a right to extra funding related to specific parameters. To evaluate the impact of the target on the outcome of interest,  $C_{it}$ , which represents the *Coverage* rate for municipality  $i$  at time  $t$ , we first restrict the analysis to Southern Regions municipalities, where the target has been imposed, and implement a difference in differences (DD) specification as defined in equation 1:

$$C_{it} = \alpha_i + \lambda_t + \delta(S * P) + M'_{it}\sigma + D'_{it}\kappa + I'_{it}\tau + \varepsilon_{it} \text{ if } L=1 \quad (1)$$

where  $\alpha_i$  are municipal fixed effects, and  $\lambda_t$  are years fixed effects. A successful policy/treatment should be signaled by positive and statistically significant  $\delta$ . The identification of the treatment— $\delta$ —relies on the subtraction of the population average difference over time in the control group from the population average difference over time in the treated group to remove a common trend unrelated to the intervention (Imbens and Woolridge, 2009). The treated group is represented by municipalities below the 12% coverage level in 2004 and the control group by those above the 12% coverage level.<sup>14</sup>

We group the controls in three vectors of variables, which approximate the characteristics of the organization of the municipal childcare— $M'$ — of the potential demand for the service— $D'$ —, and political economy elements— $I'$ . In particular, the characteristics of childcare sorted in  $M'$  are: 1) the number of teachers per slots as a qualitative indicator of the service; 2) the relevant form of childcare management at the municipal level, since municipalities have the option of outsourcing the service, thus reducing the costs and inefficiencies of public production.<sup>15</sup> The main features of the potential demand for the service at the local level,  $D'$  are approximated by: 1) municipal income, which should capture higher potential tax revenues for the local administrations; 2) quota of resident 5-year-old, as a lagged measure of potential users, given that the use of the actual residents 0-3 would introduce an endogeneity bias, being higher coverage associated to higher fertility rates (Del Boca, 2002;

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<sup>14</sup>A way to address this different reaction would be to use Regression Discontinuity (RD) to assess the impact of the reform on those municipalities just below the target status. However, we do not have enough observations just below and just above the threshold to implement such approach. We count less than 100 municipalities with *Coverage* between 0.09 and 0.14.

<sup>15</sup>Stronger outsourcing solutions prevail in smaller municipalities (<10,000) (Antonelli and Grembi, 2009), which cannot afford to provide this expensive service directly, while direct public management tends to prevail as the municipality size increases. As for the qualitative indicator this is generally established at the regional level but municipality can derogate regional standards only in case they decide to adopt higher standards. The choice is rather expensive given the labor-intensive nature of the service. The wage of workers in childcare is quite homogeneous across the country- linked to the one of pre-school teachers.

Del Boca and Wetzels, 2007; Rindfuss et al., 2007; Baizan, 2009; Mork et al., 2011) and 3) the number of private firms managing childcare within the municipality, since private providers are most likely to operate where the demand for the service is higher.<sup>16</sup> Finally,  $I'$ , groups the variables related to the intergovernmental relations as funding and degrees of potential political pressure among different levels of government. We proxy them using: 1) political alignment variables defined in terms of both three (central-regional-municipal) or two levels of government (regional-municipal); 2) both central and regional pro capita transfers and their interactions with the alignment variables; 3) political alignment variables defined according to the political color of the ruling coalition, with reference to the left wing coalition, on three and two levels and their interactions with the central and regional transfers, respectively. According to the literature (Arulampalan et al., 2009) aligned lower governments tend to receive higher level of transfers, and this could explain how, ceteris paribus, they can achieve higher level of coverage. Political alignment can also affect local political behavior for at least two additional reasons. First, local politicians could overlap central goal to local needs when the political alignment with the central government provides them a higher probability of a political career within the affiliated party. Second, considering valuable the possible political support of a national party during future local election, local politicians comply with the central government guidelines more easily whenever they are aligned (Enikolopov and Zhuravskaya, 2007).<sup>17</sup> Overall, in our empirical analysis we approximate the political visibility of the service— $\theta$ —using  $D'$  while the degree of commitment of local policy makers to the national target— $\gamma$ —is measured by  $I'$ .  $M'$  accounts for the costs of the service.

As a second specification, we release the restriction of the analysis only to Southern municipalities and introduce a further control group: municipalities below the 12% coverage level in 2004 located in the bordering central Regions, implementing a DDD as defined in equation 2.

$$C_{it} = \alpha_i + \lambda_t + \delta(S * L * P) + \beta_1(S * L) + \beta_2(S * P) + \beta_3(L * P) + M'_{it}\sigma + D'_{it}\kappa + I'_{it}\tau + \varepsilon_{it} \quad (2)$$

When the triple difference is used, we control also for factors other than the NSF, which could have affected changes in the level of coverage. For instance, the Central State started to grant in this period—starting 2006—tax deductions for childcare fees. This national policy affected the entire country, giving incentives to use the service (exerts more pressure on elected politicians on the demand side). To detect if the increase in  $C$  is only related to

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<sup>16</sup>Information on the number of available slots managed by the private sector is not available. The only available measure for the private sector is the number of firms registered at the Board of Trade (i.e., Chamber of Commerce), which is an official register for all the profit and no profit firms that need to be enrolled to do business. Since one firm could manage more than one facility, it has to be considered a downward bias measure of the private childcare supply (see Antonelli and Grembi, (2011)). The importance of the variable *Income* is also due to the fact that municipalities rely mostly on transfers but they can levy a surcharge on the personal income tax (*Imposta sul Reddito delle Persone Fisiche*, IRPEF), which amounts to about 10% of municipal tax revenues.

<sup>17</sup>In this perspective, Riker (1964) underlines that, paradoxically, a mean to improve the performance of a decentralized institutional framework is the political centralization because only strong national political parties can enforce local politicians to balance local preferences with national goals.

the NFS, the DDD approach provides a better approximation. In fact, if  $\delta$  is significant only in the estimation of equation 1 but not of equation 2, it means the increase was not triggered by the NFS. In Table 2 we summarize the identification of  $\delta$  provided by equations 1 and 2 and the definition of treated and control in each setting.

Table 2, about here

## 4.2 Robustness Checks

As a further step, we check the robustness of the estimation of equations 1 and 2 using two additional specifications of  $S$ , so to say alternative definitions of the target status. The target status in equations 1 and 2 is defined as having a coverage level below 12% in 2004. However, the basic definition of  $S$  could understate a strategic behavior at the regional level. Regions fund their own resources to municipalities and they get the extra central funding as a consequence of the NFS.<sup>18</sup> In other words, it could underestimate some institutional pressure that Regions can exert on municipalities to get the extra central funding. For instance, Regions involved in the NFS could provide more financial help to the around-the-threshold municipalities until to the intermediate check, so that after the check they can substitute their own transfers with the central funding. This might be a concern since the intermediate check allows Regions to depend on the extra fund in the short run, when it is easier to boost preexisting coverage rather than investing in municipalities with no coverage at all.

Alternatively, if we define regional politicians in benevolent terms, it could be that, to exploit the extra funding, Regions would try to push those municipalities most in trouble with respect to the final expected coverage level rather than invest their political and economic energies on those naturally nearer to the threshold. This second approach could be more consistent with a long-run perspective triggered by the policy, which sets 2013 as the last term for compliance.<sup>19</sup>

We address the above-mentioned scenarios, moving from the distribution of coverage in Southern municipalities in 2004, which is the running variable for  $S$ . We derive the mean value of the 2004 distribution, which is equal to 3.4%, and we define two additional specifications of  $S$ , one capturing the municipalities between the mean value and the targeted value, and the other classifying the municipalities below the mean value. In (4) we summarize the three definitions of  $S$  used in the empirical part.

$$S_j = \begin{cases} S_1 = 1 & \text{if } C_{i2004} < 12, \text{ and } 0 \text{ otherwise} \\ S_2 = 1 & \text{if } C_{i2004} \geq 3.4 \text{ and } C_{i2004} < 12, \text{ and } 0 \text{ otherwise} \\ S_3 = 1 & \text{if } C_{i2004} < 3.4, \text{ and } 0 \text{ otherwise} \end{cases} \quad (3)$$

The treated and control groups when  $S_1=1$  have been already defined in the previous section. Treated and control groups for the robustness checks are reported in Table 3. The

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<sup>18</sup>The national fund paid as premium of NFS is not an earmarked grant. Hence, the extra fund could be freely disposed.

<sup>19</sup>From the municipalities' perspective, there should not be much of a difference. They know that their effort will be repaid by an ex post not earmarked extra grant, conditional to the target achievement rate.

control are not necessarily municipalities above the target, but also those below the mean value of the 2004 distribution.

Table 3, about here

Finally, we check whether the response to the policy is different according to differences at the municipal level in the quota of working and graduated women, when the mayor face more political competition and higher re-electoral concerns. Assuming that elected politicians are sensitive to local needs, we expect that the group of municipalities where there is a higher incidence of active and graduated women will be the most responsive to the policy. The characteristics of the municipal female population are based on 2001 Census data.<sup>20</sup>

## 5 Empirical Analysis

### 5.1 Descriptive statistics

Our dataset covers the period 2000-2009, contains data on municipalities with more than 5,000 residents,<sup>21</sup> and is based on three main sources: the Italian Ministry of the Interior, the Italian Institute of Statistics, and the Board of Trade of Milan.<sup>22</sup> These three sources provide the variables grouped in the vectors of controls in equations 1 and 2.

Table 4 shows the percentage of municipalities in the sample distributed according to the target status defined in section 4.2. While figure 1 shows that values between 0 and 3.4 are the great majority, table 4 reveals striking territorial differences within regions. Calabria and Campania are the worst performers since they have respectively 89.2% and 92% of the sampled municipalities below 3.4%. Abruzzo performs the best with up to 34.1% of its municipalities above the targeted threshold. Molise is the only region without any municipality in the above-the-threshold set. Among the Central Regions Lazio performs worse than Marche.

Table 4 and Figure 1, about here

From 2000 to 2009, the growth rate of childcare slots provided by the municipalities in the sample varied substantially between and within Regions, according to the target status. The growth rate of the slots provides an alternative measure of the local governments' effort to improve service supply. As shown in Table 5, Abruzzo municipalities above 12% coverage in 2004 experienced a +77% increase of supplied slots, while the increase was equal to +35% for the municipalities in the same region with a coverage level between 12% and 3.4% in 2004, and those in the low range decreased the number of slots by -56%. A decrease for the same

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<sup>20</sup>The fact we are using 2001 Census data to explain the reaction to a policy implemented in 2007 partially address problems of reverse causation.

<sup>21</sup>Institutional details such as the political color of the mayor and her alignment to higher level of government is difficult to derive for smaller municipalities. Additionally, since municipalities below 5,000 inhabitants were exempted from the domestic stability pact since 2001, other differences between these municipalities and the rest of the sample might bias the estimation.

<sup>22</sup>For a detailed description of the variables and their source see Table A1 in the Appendix.

group is assessed also in Calabria, Sardegna, and Sicilia. In Molise, only the municipalities between 3.4% and 12% increase the number of slots (+22%), but no increase was registered for the other groups. In the Center, municipalities in Lazio and Marche experienced a growth especially if in the around-the-threshold coverage range.

Table 5, about here

Trends per target status within Southern Regions appear stable in time. Figure 2 presents reasonably smooth trends on coverage for non targeted municipalities as well as for the targeted. On average, the distance from the neighboring central regions municipalities tends to be constant over time, and both areas show an increasing trend in coverage starting from mid-2000 as shown in Figure 3.

Figures 2 and 3, about here

Tables 6 and 7 provide descriptive statistics per treated and control, before and after the adoption the NSF, according to the different specifications of  $S$  ( $S_1$ — $S_3$ ), and with distinction between Southern and bordering Central municipalities. On average, Southern municipalities have childcare coverage equal to 4%, a teacher for every 7 slots (0.15), and 26% of the time run the service without a substantial involvement of private providers. The latter, on average, are 0.5 per municipality in the South, against 0.9 in the neighboring center, where the involvement of private providers is higher in the municipal administration, as well as the number of teachers per slot (1 every 6 slots). Younger children are slightly more in the South (1% of the residents) than in the Center (0.9%). Overall the average transfers received by Southern municipalities are higher than those received in the Center, where the municipalities appear to be more aligned to the central and the regional governments, especially with those run by left wing coalitions. The candidates at the mayor office in the South has a margin of victory lower than 12.4% the 38% of the time and 35% in the Center, and in the considered period the 36% of the mayors in central municipalities faced a term limit versus the 27% of those ruling in the South.

As for the time invariant characteristics, not striking differences appear between Southern and bordering Central municipalities in the ratio of women involved in the labor market, either employed or looking for a job (*Active Women*), being, on average, the 43.5% of the resident population in Southern municipalities and 44.4% in Central municipalities.<sup>23</sup> No big differences hold for the ratio of resident women with a college degree, which in the South is 2.8% and in the Center 3.2%.

Tables 6 and 7, about here

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<sup>23</sup>The denominator is broader than the only resident women, and because of that it provides a more reliable approximation of the political value of this part of the municipal constituency

## 5.2 Results and Implications

We present results for five specifications since we add the regressors in a stepwise approach. Each specification is estimated with panel fixed effects and errors are clustered at the regional level to cope with possible estimation bias due to serial correlation when repeated cross sections are used in DD and DDD (Bertrand et al., 2004). Specifications (2) and (3) are equivalent to specifications (4) and (5) and our baseline specification is specification (3). In (2) and (3) we use a no-party measure of alignment among the different layers of governments and we interact them with the pro-capita values of State and Regional transfers. It might be the case that the higher the level of transfer, the greater the effect on the pursuing of the target when there is political alignment among the governments. In (4) and (5) we replace the no-party measures with a party measure of alignment and we select alignment when a left wing coalition is ruling either three or two levels. The choice on the left wing coalition relates with the assumption that left-oriented policy makers might invest more in public services than right-oriented ones. The latter might be expected to rely, for instance, on vouchers to cover the fees so that the users could choose freely whether to use it either in the public or in the private sector. The interaction terms are used also in (4) and (5) for the same rationale.

Tables 8 and 9 contain the main DD and DDD estimation results.  $\delta$  is not significant in any of the tested specifications. Coverage appears to be particularly sensitive to the cost component of the service, represented by the qualitative indicator *Teachers*. As stated, the teacher’s payroll is the principal component of the expenditures related to the provision of childcare. To provide a deeper interpretation of the results, consider that on average, in Southern municipalities there is 1 teacher for every 7 slots. This means, for example, that to move the Southern ratio to the Central ratio (e.g., 1 to 6) it would require an increase of about 0.02 (i.e. 0.17-0.15 of the index) in the average value of *Teachers* (see values in Table 6). As a consequence, on the basis of the results in Table 8, a move of a ratio of teachers-slots from 1 to 7 to 1 to 6—an increase in the quality level— has an estimated negative impact on coverage equal to -0.03% within Southern municipalities (i.e.,  $0.02 * (-0.15359)$ ). Results in Table 9, column 3, confirm such a negative impact for Southern municipalities which is assessed in the same magnitude (i.e.  $0.02 * (-0.14183)$ ). A decrease in the quality of the service, from a a ratio of 1 to 7 to a ratio of 1 to 8 would increase the coverage by 0.035% in both scenarios.

Significance of the number of private providers disappears in the move from results in Table 8 to those of Table 9, while in the DDD approach the impact of alignment between the central, regional, and the municipal administration produces a negative impact of 0.04% on the childcare coverage at the 10% significance level. However, transfers matter even in the alignment framework. With no three-level alignment, an increase of a standard deviation in Central transfer (+69 euro) triggers a +0.03% increase in the coverage, which is slightly stronger when the transfer occurs in a three-level alignment framework. Regional transfers play a negative role at the 10% significance level, probably due to task reallocation between the two level of government. Overall, being aligned with Regions or Regions and Central government of the same political color does not have any significant impact.

Tables 8 and 9, about here

Results for robustness checks, as shown in Table 10, confirm that the introduction of the target did not show any effect on the amount of provided childcare even when defining the target status according to alternative criteria. It might be the case that there were reactions to the target only from those municipalities extremely near to the threshold so that this reaction did not get translated into a real impact on the coverage level. For this reason we test the model of equation 2 using an interaction term between  $\delta$  with other factors which are relevant at the local level to explain the heterogeneous childcare coverage. It could be that the policy is on average not effective, but it sorts out effects only in certain subset of municipalities. In particular we consider municipalities where the political competition is higher (i.e. no term limit and small margin of victory), with higher alignment incentives with the central target (i.e. alignment between the central government and the municipal government), and municipalities where the potential visibility of the service is higher (i.e. more active and graduated women). Table 11 reports the coefficient of those interactions. First it appears that there has been more reaction in those municipalities nearest to the policy thresholds. Second, the interactions shows that the reaction has been positive—increase in the targeted service- when: 1) there is more political competition, not necessarily due to facing or not a term limit; and 2) where there are more women involved in the labor market and more graduated women (the dummies capturing lower than the 50th and lower than the 25th percentile of the relative distribution of each variable).<sup>24</sup>

Tables 10 and 11, about here

## 6 Concluding remarks

We empirically address the weakness of centralized targets in a decentralized institutional framework. We present a basic theoretical framework according to which the main determinants of the local decision-making process when a central target is imposed rely on local preferences, on the one hand and the incentives playing in the multilevel government framework, on the other. We test the importance of the components driving the decisions of the local decision makers relying on a quasi-experimental empirical approach of DD and DDD. The main result stemming from the analysis of the Italian case study is that the choice of local politicians are mostly driven by their constituencies and by clear political incentives. Consistently with the fact that the NFS highly relies on the structure of local preferences, we found that in 2009 the policy had not been effective with respect to its childcare target. We found municipal characteristics related to the actual demand for the service, namely the quota of women either employed or looking for employment and those with a graduate degree, have a significant impact on the level of supplied service, more than any institutional devices able to put pressure on the local decision-making process.

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<sup>24</sup>For the variable explanation see the note to table 11.

As policy implications, our contribution call for policies designed to sustain the demand side of the service meant to be improved at the local level through, for instance, tax allowances related to the use of the service. Alternatively, when the target approach is preferred, following the UK CPA example, the costs for local administrations that are not target oriented should be increased through not only a proper disclosure of local performance, so as to trigger yardstick competition at the local level, but also a proper system of prize related to the overall qualitative and quantitative performance of the targeted goods, so as to urge local policy makers to balance central targets with local needs.

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# Tables and Figures

Table 1: **Target and policy maker characteristics: local policy implications**

		$\gamma$	
		High	Low
$\theta$	High	Committed	Not committed
		Target oriented local policy	Partially target oriented local policy driven by local preferences
	Low	Committed	Not committed
		Partially target oriented local policy driven by political commitment	Not target oriented local policy

NOTE: The table refers to the case of  $X_{t-1} < X_t^*$ .  $\theta$ = local political visibility of the targeted service;  $\gamma$ = commitment level of the local policy maker to the central target. The result of each cell accounts for both a benevolent and a self-interested local politician.

Table 2: Treated and control

Estimator	Equation	Treatment Group	Sample	Treatment Effect
				$\delta$
DD in the South	1	Below target ( $S=1$ ) x After 2007 ( $P=1$ )	South only ( $L=1$ )	$E[C_{it} C_{i2004} < 12, t \geq 2007] - E[C_{it} C_{i2004} < 12, t < 2007] -$ $E[C_{it} C_{i2004} \geq 12, t \geq 2007] - E[C_{it} C_{i2004} \geq 12, t < 2007]$
DDD	2	Below target ( $S=1$ ) x South ( $L=1$ ) x After 2007 ( $P=1$ )	South and Bordering Central	$E[C_{it} C_{i2004} < 12, L=1, t \geq 2007] - E[C_{it} C_{i2004} < 12, L=1, t < 2007] -$ $E[C_{it} C_{i2004} < 12, L=0, t \geq 2007] - E[C_{it} C_{i2004} < 12, L=0, t < 2007] -$ $E[C_{it} C_{i2004} \geq 12, L=1, t \geq 2007] - E[C_{it} C_{i2004} \geq 12, L=1, t < 2007]$

NOTE:  $L=1$ = Southern municipalities.  $L=0$ = Lazio and Marche municipalities.  $P=$  Post treatment period.  $C$  is coverage—number of childcare slots managed by each municipalities out of the total number of residents under 3 years old.

Table 3: Treated and control in the robustness checks

Estimator	Check	Treatment Group	Control	Sample $\delta$
DD in the South	1.1	Between 3.4 and 12 ( $S_2=1$ ) x After 2007 ( $P=1$ )	Above target	South only ( $L=1$ )
DD in the South	1.2	Between 3.4 and 12 ( $S_2=1$ ) x After 2007 ( $P=1$ )	Below 3.4	South only ( $L=1$ )
DD in the South	1.3	Below 3.4 ( $S_3=1$ ) x After 2007 ( $P=1$ )	Between 3.4 and 12	South only ( $L=1$ )
DDD	2.1	Between 3.4 and 12 ( $S_2=1$ ) x South ( $L=1$ ) x After 2007 ( $P=1$ )	Above target Municipalities	South and neighbor Center
DDD	2.2	Between 3.4 and 12 ( $S_2=1$ ) x South ( $L=1$ ) x After 2007 ( $P=1$ )	Below 3.4 Municipalities	South and neighbor Center
DDD	2.3	Below 3.4 ( $S_3=1$ ) x South ( $L=1$ ) x After 2007 ( $P=1$ )	Between 3.4 and 12 Municipalities	South and neighbor Center

NOTE:  $S_2$  and  $S_3$  refer to the target status.  $L=1$ = Southern municipalities.  $L=0$ = Lazio and Marche municipalities.  $P$ = Post treatment period. 12 and 3.4 are percentages and they measure respectively the target and the mean value of the coverage distribution in Southern municipalities in 2004. The treatment effect is identified analogously to what is in Table 2.

Table 4: Sample distribution according to the target status

Regions	Coverage Intervals		
	$\geq 12\%$	12%—3.4%	$< 3.4\%$
<b>Southern Municipalities</b>			
Abruzzo	0.341	0.186	0.473
Basilicata	0.123	0.350	0.527
Calabria	0.009	0.099	0.892
Campania	0.014	0.066	0.920
Molise	0.000	0.273	0.727
Puglia	0.069	0.195	0.735
Sardegna	0.192	0.269	0.539
Sicilia	0.228	0.284	0.489
<b>Central Municipalities</b>			
Lazio	0.157	0.270	0.573
Marche	0.530	0.271	0.199

NOTE: Coverage intervals are set according to the distribution of coverage in Southern municipalities in 2004. 3.4% is the mean value of the 2004 distribution, 12% is the target set in the National Strategic Framework 2007-2013 for Southern Regions.

Table 5: **Rate of growth of slots per target status**

Regions	Coverage Intervals			
	$\geq 12\%$	12%—3.4%	$< 3.4\%$	Overall
<b>Southern Municipalities</b>				
Abruzzo	0.770	0.349	-0.555	0.489
Basilicata	-0.143	0.053	0.000	0.009
Calabria	0.000	0.074	-0.070	0.011
Campania	0.000	0.170	0.336	0.216
Molise	0.000	0.222	0.000	0.222
Puglia	-0.231	0.045	0.239	0.013
Sardegna	0.030	0.243	-0.141	0.135
Sicilia	-0.040	-0.006	-0.585	-0.075
<b>Central Municipalities</b>				
Lazio	0.095	0.428	0.374	0.310
Marche	0.254	0.655	0.000	0.384

NOTE: The rate of growth of the public supplied slots is calculated as the difference between the slots in 2009 and the slots in 2000 out of the number of slots in 2000. Coverage intervals are set according to the distribution of coverage in Southern municipalities in 2004. 3.4% is the mean value of the 2004 distribution, 12% is the target set in the National Strategic Framework 2007-2013 for Southern Regions.

Table 6: Descriptive statistics per target status: only Southern municipalities

Target status	$S_1=I$		$S_1=0$		$S_2=I$		$S_3=I$		Overall sample
	before	after	before	after	before	after	before	after	
<b>Time variant</b>									
<i>Coverage</i>									
<i>Teachers</i>	0.019 (0.039)	0.022 (0.042)	0.184 (0.069)	0.188 (0.069)	0.078 (0.029)	0.083 (0.037)	0.003 (0.021)	0.004 (0.023)	0.040 (0.069)
<i>Management</i>	0.154 (0.075)	0.160 (0.081)	0.138 (0.060)	0.146 (0.060)	0.150 (0.071)	0.158 (0.079)	0.173 (0.089)	0.167 (0.086)	0.151 (0.072)
<i>Income</i>	0.209 (0.407)	0.188 (0.391)	0.704 (0.457)	0.710 (0.455)	0.771 (0.420)	0.691 (0.463)	0.056 (0.229)	0.045 (0.207)	0.263 (0.440)
<i>5 years quota</i>	13.073.171 (2.419.394)	17.238.325 (2.164.163)	13.269.498 (2.372.133)	17.527.001 (2.090.763)	13.916.127 (2.621.903)	18.422.635 (2.290.069)	12.844.489 (2.309.438)	16.909.720 (2.008.613)	14.303.339 (3.010.628)
<i>Private</i>	0.011 (0.002)	0.010 (0.002)	0.009 (0.001)	0.009 (0.001)	0.010 (0.002)	0.010 (0.001)	0.011 (0.002)	0.010 (0.002)	0.010 (0.002)
<i>State transfers</i>	0.424 (1.311)	0.844 (2.110)	0.312 (0.716)	0.670 (1.173)	0.988 (2.294)	1.858 (3.579)	0.268 (0.795)	0.532 (1.303)	0.532 (1.533)
<i>Regional transfers</i>	145.512 (61.423)	189.338 (79.601)	146.103 (57.976)	194.254 (62.186)	155.825 (62.681)	208.475 (78.217)	142.672 (60.775)	183.907 (79.181)	158.525 (69.319)
<i>Alignment 3</i>	47.326 (58.857)	81.048 (102.929)	80.758 (72.938)	147.997 (124.628)	65.764 (56.840)	109.899 (92.775)	42.248 (38.395)	72.860 (104.221)	62.346 (79.908)
<i>Alignment 2</i>	0.207 (0.405)	0.157 (0.364)	0.237 (0.426)	0.172 (0.378)	0.300 (0.459)	0.240 (0.428)	0.181 (0.341)	0.134 (0.397)	0.195 (0.397)
<i>Left 3</i>	0.176 (0.381)	0.149 (0.356)	0.113 (0.317)	0.136 (0.343)	0.174 (0.380)	0.183 (0.387)	0.177 (0.381)	0.139 (0.346)	0.162 (0.369)
<i>Left 2</i>	0.076 (0.265)	0.103 (0.304)	0.052 (0.222)	0.083 (0.276)	0.075 (0.263)	0.109 (0.312)	0.076 (0.266)	0.101 (0.302)	0.081 (0.273)
<i>Term Limit</i>	0.145 (0.352)	0.116 (0.320)	0.071 (0.257)	0.087 (0.283)	0.113 (0.316)	0.123 (0.329)	0.154 (0.361)	0.113 (0.317)	0.129 (0.336)
<i>Margin of Victory</i>	0.264 (0.441)	0.253 (0.435)	0.315 (0.465)	0.298 (0.459)	0.205 (0.404)	0.246 (0.431)	0.280 (0.444)	0.256 (0.438)	0.266 (0.442)
<i>Central Government and Municipality Aligned</i>	0.415 (0.493)	0.324 (0.468)	0.386 (0.473)	0.235 (0.425)	0.335 (0.472)	0.251 (0.434)	0.437 (0.496)	0.346 (0.476)	0.378 (0.485)
<b>Time invariant</b>	0.335 (0.472)	0.267 (0.442)	0.328 (0.470)	0.240 (0.428)	0.440 (0.497)	0.436 (0.497)	0.305 (0.461)	0.219 (0.414)	0.313 (0.464)
<i>Active Women</i>	0.438 (0.249)	0.438 (0.249)	0.504 (0.238)	0.504 (0.238)	0.378 (0.172)	0.378 (0.172)	0.458 (0.266)	0.458 (0.266)	0.435 (0.134)
<i>Women Graduated</i>	0.028 (0.013)	0.028 (0.013)	0.031 (0.014)	0.031 (0.014)	0.035 (0.015)	0.035 (0.015)	0.026 (0.011)	0.028 (0.011)	0.028 (0.013)

NOTE: Mean values reported. Standard errors in parenthesis. *Income*, *State transfers*, and *Regional transfers* are per capita and in euro 2009. *Active Women* and *Women Graduated* are time invariant 2001 Census data. Target status are set according to the distribution of coverage in Southern municipalities in 2004 (see section 4.2): 3.4% is the mean value of the 2004 distribution, 12% is the target set by the NSF for Southern regions.

Table 7: Descriptive statistics neighboring central municipalities

<i>Variable</i>	<i>&lt;12%</i>		Overall sample
	before	after	
<b>Time variant</b>			
<i>Coverage</i>	0.033 (0.045)	0.047 (0.064)	0.077 (0.078)
<i>Teachers</i>	0.177 (0.076)	0.153 (0.094)	0.164 (0.077)
<i>Management</i>	0.248 (0.432)	0.235 (0.424)	0.389 (0.488)
<i>Income</i>	14,756.938 (2,378.900)	18,969.213 (2,158.229)	16,007.119 (3,039.339)
<i>5 years quota</i>	0.009 (0.001)	0.009 (0.001)	0.009 (0.001)
<i>Private</i>	0.429 (1.081)	1.197 (2.273)	0.891 (5.191)
<i>State transfers</i>	75.853 (43.993)	141.308 (45.224)	103.149 (60.913)
<i>Regional transfers</i>	23.568 (20.252)	29.243 (25.037)	30.391 (36.176)
<i>Alignment 3</i>	0.225 (0.418)	0.107 (0.309)	0.184 (0.387)
<i>Alignment 2</i>	0.090 (0.286)	0.168 (0.374)	0.161 (0.367)
<i>Left 3</i>	0.096 (0.294)	0.108 (0.311)	0.112 (0.315)
<i>Left 2</i>	0.090 (0.286)	0.170 (0.376)	0.161 (0.368)
<i>Term Limit</i>	0.329 (0.470)	0.398 (0.490)	0.359 (0.480)
<i>Margin of Victory</i>	0.398 (0.490)	0.298 (0.458)	0.351 (0.477)
<i>Central Government and Municipality Aligned</i>	0.297 (0.457)	0.251 (0.434)	0.270 (0.444)
<b>Time invariant</b>			
<i>Active Women</i>		0.451 (0.228)	0.444 (0.119)
<i>Women Graduated</i>		0.031 (0.012)	0.032 (0.013)

NOTE: Mean values reported. Standard errors in parenthesis. Central regions included: Lazio and Marche. *Income*, *State transfers*, and *Regional transfers* are per capita and in euro 2009. *Active Women*, and *Women Graduated*, are time invariant 2001 Census data. 12% is the target set by the NSF for Southern regions.

Table 8: Results DD: Southern Municipalities

	(1)	(2)	(3)	(4)	(5)
$\delta$	0.00019 (0.00570)	0.00018 (0.00566)	-0.00137 (0.00538)	0.00004 (0.00556)	-0.00141 (0.00535)
Teachers	-0.15422*** (0.04380)	-0.15424*** (0.04367)	-0.15359*** (0.04219)	-0.15665*** (0.04370)	-0.15566*** (0.04239)
Management	0.00285 (0.00351)	0.00284 (0.00352)	0.00306 (0.00387)	0.00323 (0.00387)	0.00342 (0.00413)
Private	0.00168** (0.00071)	0.00168** (0.00070)	0.00149* (0.00068)	0.00170* (0.00074)	0.00145* (0.00071)
Income	-0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)	-0.00000 (0.00000)
5 years quota	0.18942 (0.34154)	0.19042 (0.33337)	0.29900 (0.28428)	0.16092 (0.35040)	0.23442 (0.32120)
Alignment 3		0.00010 (0.00153)	-0.00490** (0.00190)		
Alignment 2		0.00022 (0.00219)	-0.00201 (0.00297)		
State transfers			0.00005** (0.00001)		0.00005*** (0.00002)
Regional transfers			-0.00005** (0.00002)		-0.00005** (0.00002)
State transfers*Alignment 3			0.00003** (0.00001)		
Regional Transfers*Alignment 2			0.00003* (0.00001)		
Left 3				0.00332 (0.00319)	-0.00037 (0.00395)
Left 2				0.00187 (0.00301)	-0.00061 (0.00345)
State transfers*Left 3					0.00002 (0.00002)
Regional transfers*Left 2					0.00004* (0.00002)
Year FE	Yes	Yes	Yes	Yes	Yes
<i>Observations</i>	2,123	2,123	2,104	2,113	2,094
<i>Municipalities</i>	255	255	255	253	253

NOTE: Treated Municipalities < 12%. Control: Municipalities  $\geq$  12%. Interactions  $S * P$  and  $L * P$  are included in all regressions. Since we are using a panel fixed effect interaction  $S * L$  is not estimated. Robust standard errors clustered at the regional level in parenthesis. Significance at the 10% level is represented by \*, at the 5% level by \*\*, and at the 1% level by \*\*\*.

Table 9: Results DDD: Southern and Central Municipalities

	(1)	(2)	(3)	(4)	(5)
$\delta$	-0.00882 (0.00631)	-0.00889 (0.00640)	-0.01066 (0.00630)	-0.00880 (0.00635)	-0.01062 (0.00618)
Teachers	-0.14134*** (0.03645)	-0.14135*** (0.03655)	-0.14183*** (0.03604)	-0.14309*** (0.03658)	-0.14326*** (0.03625)
Management	0.00506* (0.00256)	0.00508* (0.00258)	0.00505* (0.00264)	0.00549* (0.00284)	0.00548* (0.00287)
Private	0.00035** (0.00015)	0.00035** (0.00015)	0.00025 (0.00014)	0.00036** (0.00015)	0.00024 (0.00014)
Income	0.00000 (0.00000)	0.00000 (0.00000)	0.00000 (0.00000)	0.00000 (0.00000)	0.00000 (0.00000)
5 years quota	-0.13895 (0.36252)	-0.13881 (0.36538)	0.02451 (0.38063)	-0.13777 (0.35689)	-0.00309 (0.37425)
Alignment 3		-0.00000 (0.00121)	-0.00371* (0.00194)		
Alignment 2		-0.00048 (0.00158)	-0.00174 (0.00195)		
State transfers			0.00004** (0.00001)		0.00004*** (0.00001)
Regional transfers			-0.00003* (0.00002)		-0.00003* (0.00002)
State transfers*Alignment 3			0.00003** (0.00001)		
Regional Transfers*Alignment 2			0.00002 (0.00001)		
Left 3				0.00376 (0.00209)	0.00221 (0.00220)
Left 2				0.00110 (0.00186)	-0.00038 (0.00194)
State transfers*Left 3					0.00001 (0.00001)
Regional transfers*Left 2					0.00003 (0.00002)
Year FE	Yes	Yes	Yes	Yes	Yes
<i>Observations</i>	3,066	3,066	3,042	3,056	3,032
<i>Municipalities</i>	367	367	367	365	365

NOTE: Treated: Southern Municipalities <12%. Control: Central Municipalities <12% and Southern Municipalities >12%. Interactions  $S * P$  and  $L * P$  are included in all regressions. Since we are using a panel fixed effect interaction  $S * L$  is not estimated. Robust standard errors clustered at the regional level in parenthesis. Significance at the 10% level is represented by \*, at the 5% level by \*\*, and at the 1% level by \*\*\*.

Table 10: Robustness checks: Different definitions of target status ( $S_j$ )

Estimator	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
<b>Target Status: Municipalities 12%—3.4% (<math>S_2</math>)</b>											
<b>Controls: Municipalities <math>\geq 12\%</math></b>					<b>Controls: Municipalities <math>&lt; 3.4\%</math></b>						
DD in the South	$\delta$	0.00143 (0.00572)	0.00142 (0.00569)	0.00009 (0.00538)	0.00132 (0.00556)	0.00012 (0.00532)	0.00757 (0.00416)	0.00761 (0.00408)	0.00809 (0.00449)	0.00747 (0.00416)	0.00801 (0.00463)
Observations Municipalities	1,843 211	1,843 211	1,828 211	1,834 210	1,819 210	1,409 172	1,409 172	1,392 172	1,399 170	1,382 170	
DDD	$\delta$	-0.00909 (0.00639)	-0.00914 (0.00649)	-0.01081 (0.00639)	-0.00901 (0.00646)	-0.01067 (0.00631)	-0.00543 (0.00474)	-0.00557 (0.00469)	-0.00563 (0.00507)	-0.00552 (0.00476)	-0.00553 (0.00517)
Observations Municipalities	2,730 308	2,730 308	2,710 308	2,721 307	2,701 307	1,891 234	1,891 234	1,869 234	1,881 232	1,859 232	
<b>Target Status: Municipalities <math>&lt; 3.4\%</math> (<math>S_3</math>)</b>											
<b>Controls: Municipalities <math>\geq 12\%</math></b>											
DD in the South	$\delta$	-0.00399 (0.00651)	-0.00414 (0.00611)	-0.00983 (0.00598)	-0.00502 (0.00595)	-0.01142 (0.00598)					
Observations Municipalities	994 127	994 127	988 127	993 126	987 126						
DDD	$\delta$	0.00245 (0.00443)	0.00247 (0.00436)	0.00095 (0.00491)	0.00227 (0.00442)	0.00028 (0.00509)					
Observations Municipalities	3,066 367	3,066 367	3,042 367	3,056 365	3,032 365						

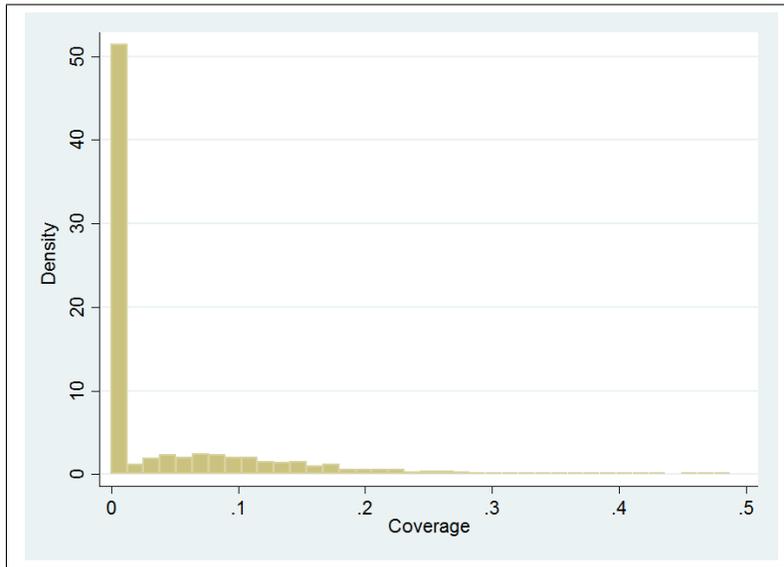
NOTE: All regressions include the variables in Table 9. Robust standard errors clustered at the regional level in parenthesis. Significance at the 10% level is represented by \*, at the 5% level by \*\*, and at the 1% level by \*\*\*.

Table 11: Heterogeneities: Different definitions of target status ( $S_j$ ) and DDD estimator

	(1)	(2)
<b>Target Status: Municipalities 12%— 3.4% (<math>S_2</math>)</b>		
	<b>Controls: Municipalities <math>\geq 12\%</math></b>	<b>Controls: Municipalities <math>&lt; 3.4\%</math></b>
Term Limit	-0.01123 (0.00762)	0.00601 (0.00513)
Margin of Victory	0.00819** (0.00376)	0.00760** (0.00358)
Central Government and Municipality Aligned	-0.00259 (0.00246)	-0.00379* (0.00202)
Active Women	-0.00617** (0.00268)	-0.00600** (0.00257)
Graduated Women	-0.00872** (0.00427)	-0.00830* (0.00454)
Observations	2,730	1,869
Municipalities	308	234
<b>Target Status: Municipalities <math>&lt; 3.4\%</math> (<math>S_3</math>)</b>		
	<b>Controls: Municipalities <math>\geq 12\%</math></b>	
Term Limit	-0.00352 (0.00683)	
Margin of Victory	-0.01473 (0.01054)	
Central Government and Municipality Aligned	0.00012 (0.00472)	
Active Women	0.01254 (0.00832)	
Graduated Women	-0.00104 (0.00076)	
Observations	3,042	
Municipalities	367	

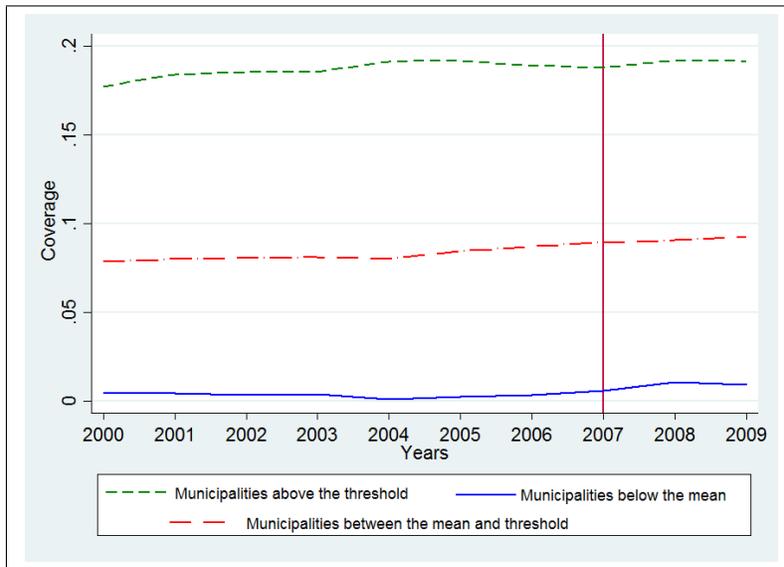
NOTE: *Term Limit* is equal to 1 if the mayor faces term limit and 0 otherwise. *Margin of Victory* is equal to 1 if the mayor won with a margin of victory lower than 12.4% (median value) and zero otherwise. *Central Government and Municipality Aligned* is equal to 1 if both the municipal and the central government have the same political orientation and zero otherwise. *Active Women* is equal to 1 if the quota of employed or looking for an employment women lower than 43% (median value) and zero otherwise. *Graduated Women* is equal to 1 if the quota of resident college graduated women is lower than 1.9% (25th percentile) and zero otherwise. Each coefficient represents the interaction between the specific dummy and  $S * L * P$ . All regressions include the variables in Table 9. Robust standard errors clustered at the regional level in parenthesis. Significance at the 10% level is represented by \*, at the 5% level by \*\*, and at the 1% level by \*\*\*.

Figure 1: Distribution of Childcare Coverage in the South&Islands



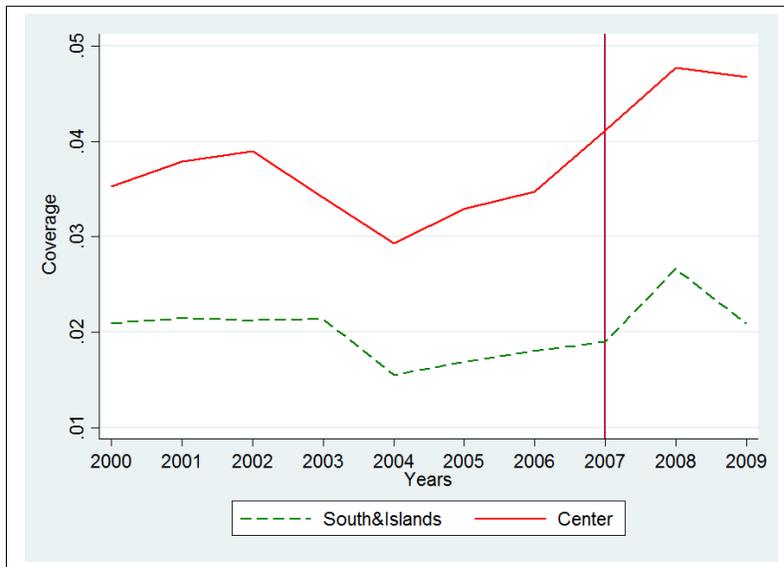
NOTE: Coverage= number of slots managed by the municipality per resident younger then 3 years old in the period 2000-2009.

Figure 2: Trends in the South and the Islands by target status



NOTE: Coverage= number of slots managed by the municipality per resident younger then 3 years old. Target status refer to **section 4.2**. The threshold is the 12% target on coverage set by the National Strategic Framework, while 3.4% is the mean value of 2004 coverage distribution in the South. Municipalities between the mean and the threshold are those with a coverage level between 3.4% and 12% in 2004. The red vertical line indicates the first year of the policy adoption.

Figure 3: Coverage Trends in the South and Neighboring Center



NOTE: *Coverage*= number of slots managed by the municipality per resident younger than 3 years old. The trends refer to municipalities below 12% of coverage as measured in 2004. The red vertical line indicates the first year of the policy adoption.

# Appendix

Table A1: Variables definition and sources

Variable	Definition	Source	Level
<i>Coverage</i>	Number of available slots (seats) managed by the municipality (i.e., seats in crèches directly managed by the municipalities, seats in public crèches managed by private firms such as cooperatives, seats reserved to the municipalities in private crèches) out of the resident children younger than 3	IMI	Municipality
<i>Teachers</i>	Number of teachers out of the number of available seats	IMI	Municipality
<i>Management</i>	Equal 1 if public childcare has direct municipal management, and 0 otherwise	IMI	Municipality
<i>Income</i>	Per Capita Average Taxable Income deflated at 2009	IMoF	Municipality
<i>Population</i>	Resident population	ISTAT	Municipality
<i>5 Years Quota</i>	Number of resident 5-year children out of municipal residents	ISTAT	Municipality
<i>Private</i>	Number of private (profit and no profit) firms providing childcare	BTM	Municipality
<i>State Transfers</i>	Per capita State transfers deflated at 2009	IMI	Municipality
<i>Regional Transfers</i>	Per capita Regional transfers deflated at 2009	IMI	Municipality
<i>Alignment_3</i>	Equal to 1 if the central government has the same color of the regional government and of the municipal government , and 0 otherwise	IMI	Municipality
<i>Alignment_2</i>	Equal to 1 if the regional government has the same color of the municipal government but not of the central government, and 0 otherwise	IMI	Municipality

NOTE: *IMI*= Italian Ministry of the Interior. *ISTAT*= Italian National Institute of Statistic. *IMoF*= Italian Ministry of Finance. *BTM*=Board of Trade of Milan.

Table A1: Variables definition and sources (Contd.)

Variable	Definition	Source
<i>Left_3</i>	Equal to 1 if the central government belongs to the center left coalition as the regional and the municipal government , and 0 otherwise	IMI Municipality
<i>Left_2</i>	Equal to 1 if the regional government belongs to the center left coalition as the municipal government but the central government is right wing oriented, and 0 otherwise	IMI Municipality
<i>Term Limit</i>	Equal to 1 if the mayor cannot get reelected and 0 otherwise	IMI Municipality
<i>Margin of Victory</i>	Equal to 1 if the mayor margin of victory was below 12.4 which is the median value of margin of victory and 0 otherwise	(Census Data 2001) IMI Municipality
<i>Central Government and Municipality Aligned</i>	Equal to 1 if the municipal government is aligned to the national government	IMI Municipality
<i>Women Graduated**</i>	Number of resident graduates women out of the total number of residents	ISTAT (Census Data 2001) Municipality
<i>Active Women**</i>	Number of women in the job market (employed+unemployed) out of the total number of residents	ISTAT (Census Data 2001) Municipality

NOTE: *IMI*= Italian Ministry of the Interior, *ISTAT*= Italian National Institute of Statistic. \*\*= for the regressions in table is 11 we construct dummies out of these variables. Their explanation is in the note of table t:dddhet.