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# The Size of Political Jurisdictions: Evidence from a Fascist Consolidation\*

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**ABSTRACT:** The paper uses the consolidation of municipalities brought about by the Fascist dictatorship in Italy during the 1920s to gauge the role of the size of local jurisdictions for economic development. It finds that the consolidation was associated with relevant net welfare gains for the communities involved. In particular, the advantages related to the bigger economies of scale made possible in jurisdictions of larger size overwhelmed the costs owing to the higher heterogeneity.

Key words: city size; local government; local economic development

JEL classification: R12, H10, R11

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\* The views expressed in this paper are those of the authors and do not necessarily correspond to those of the Institutions they are affiliated with.

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## 1. Introduction

Path-breaking research by Alesina and co-authors (see, for instance, Alesina and Spolaore, 1997 and Alesina et al., 2004) has argued that the size of political jurisdictions is an issue that fully falls into the realm of economics. In particular, the dimensions of the jurisdictions depend on a *trade-off* between benefits - basically due to economies of scale - and costs - mainly associated with increased heterogeneity - of a larger scale. No need to say, the argument is very challenging. For instance, historians would certainly make the point that the trade-off is an oversimplification that misses the complex interplay deriving from historical events that are often unpredictable.

The empirical investigation of the trade-off is a mounting task. In principle, a controlled social experiment might help to overcome some difficulties in empirical implementation. Take two populations - one more heterogeneous of the other - let them settle on two similar (both by geography and institutions) territories and endow them with the same technologies to provide public goods. In this setup, if the trade-off story is correct, one should observe (perhaps, after a while) that the more heterogeneous population is split in a higher number of political jurisdictions. Variants of this social experiment might also be informative. For instance, by shocking the observed pattern (through an arbitrary change of the size of the jurisdictions) one should notice relocation flows that reflect changes in welfare (see: Davis and Weinstein, 2008).

Social experiments are very difficult to implement, but sometimes history provides natural experiments. This paper elaborates on one of them. It analyses the consequences of a shock to the size distribution of Italy's municipalities (*comuni*) that occurred in the 1920s when - under the Fascist dictatorship of Mussolini - 2,078 small municipalities were consolidated (over a total number of 9,195 *comuni* existent in 1921). The Fascist consolidation remained binding until the end of WWII, when municipalities were allowed to go back to the pre-consolidation boundaries. Between 1945 and 1961, 778 *comuni* regained their original features. The mandatory reduction in the number of *comuni* is the historical event that this paper uses to gauge the role of the size of local jurisdictions on welfare.

Our study starts with a simple theoretical model that explains how population movements reflect the welfare properties of local jurisdiction size. We propose a spatial economy *à la* Roback (1982) where larger jurisdictions bring benefits, due to scale economies in public goods and services provision, which trade-off with the costs due to increased heterogeneity. Indeed, larger administrations will provide services that have to mediate the different needs of the communities they include. A crucial feature of the present framework, which neatly distinguishes it from the work of Alesina and co-authors, is that residents are mobile. Thus, as in Tiebout (1956), they can "vote with their feet". The model clarifies how the welfare of residents depends on the size of the jurisdiction. When fixed costs in the provision of local public goods are sufficiently high, consolidation brings welfare gains and inward migration. On the contrary, when the costs of increased heterogeneity dominate, some individuals will move away, and those who stay will make pressure to restore the pre-consolidation status.

In the empirical section we exploit the model predictions and look at city population dynamics, which are taken to be those referring to the period after WWII as migration was prohibited under the Fascist regime. Our identification strategy is straightforward. We use information on the municipalities as they were both before consolidation (*consolidating* units) and after it (*consolidated* ones). We start by gauging the *net* welfare variations (either positive or negative) of the Fascist consolidation. This is done by comparing consolidating units (treated) with a control group of non-consolidated *comuni* that were similar (before consolidation) to the suppressed ones. This comparison does not allow us to disentangle the respective roles of economies of scale and heterogeneity, as the two sources of welfare differences have both an impact at the same time. Thus, to make some progress in this respect, we take the consolidated units as treated, and contrast them with a control group of non-consolidated *comuni* similar (before the Fascist shock) to the ones *resulting* from consolidation. This second comparison highlights the sole effect of having more heterogeneity, as the gains from economies of scale are differentiated away by using treated and controls of the same size. Finally, we make use of a third control group. This group is made up of municipalities that were consolidated during the 1920s, but returned independent after WWII. As these *comuni* received a treatment that was reversed later on, their use as control group allows us to check for the role of unobservables that might have determined selection into the treatment.

Our results suggest that consolidation was associated with significant net welfare gains for the communities involved. In particular, the economies of scale made possible by larger jurisdictions overwhelmed the costs brought in by higher heterogeneity. We also find evidence consistent with the arguments that heterogeneity implies welfare costs. We also discuss the role of selection bias for our results, which occurs if the consolidation targeted the most inefficient local jurisdictions. Such a bias is likely to be attenuated by the fact that Mussolini was more inclined to consolidate the *comuni* with many political opponents.

The paper is structured as follows. Section 2 summarizes the existing literature on the optimal size of the jurisdictions. Section 3 provides a simple model to inform the empirical strategy. Section 4 gives the details of the Fascist consolidation. Section 5 discusses the identification strategy, the empirical challenges and presents the findings. Section 6 concludes with a discussion of the results.

## 2. Related literature

Theory suggests that the optimal size of a jurisdiction depends on two forces that go in opposite directions: the economies of scale in the provision of public goods and the heterogeneity in population preferences. According to Barro (1991), “a large country can spread the cost of public goods over many taxpayers, but a large country is also likely to have a diverse population that it is difficult for the central government to satisfy”. Gilbert and Picard (1996) show that the optimal territorial organization is a compromise between small jurisdictions with more information about public goods’ production costs and large entities where there is more scope for internalizing the spatial externalities of local public goods provision. Alesina and Spolaore (1997, 2003) argue that optimal size of a country is determined by a cost-benefit trade-

off between the benefits of size and the costs of heterogeneity. The benefits of size derive from scale economies in taxation, common defence, internal free trade and the decreasing per capita cost of non-rival public goods. However, the heterogeneous preferences of a large population make it hard to deliver services and design policy. Bolton and Roland (1997) assume that centralized policies generate efficiency gains (e.g., coordination and economies of scale). But, in nations whose regions show high territorial economic disparities, the redistributive effect of centralized policies may induce a desire for regional autonomy and fiscal decentralization. Hence, the efficiency gains from centralization are traded-off with local policies that better fit the preferences of heterogeneous communities. Goyal and Staal (2004) examine the incentives of regions to unite or separate in terms of a basic trade-off: separation allows for greater influence over political decision while unification allows regions to exploit economies of scale in the provision of government. Desmet et al. (2011) analyze the trade-off between increasing returns in the provision of public goods and the costs of greater cultural heterogeneity that determines the likelihood of secessions and unions. After calibrating their model to Europe, they identify regions prone to secession and countries most likely to merge.

From an empirical perspective, the literature contributions are quite few. Our paper is closely related to the work of Alesina et al. (2004). This study finds that the trade-off between economies of scale and heterogeneity is an important force in the determination of the number and size of local jurisdictions. By looking at school districts, municipalities, and special districts, it shows that racial heterogeneity is more important than income heterogeneity. However, heterogeneity has almost no effect in counties where population is so small to make economies of scale the predominant factor. Other papers not directly concerned with the size of jurisdictions make similar points. For instance, Cutler, Elmendorf, and Zeckhauser (1993), Temple (1996), Poterba (1997), Goldin and Katz (1999), Alesina, Baqir and Easterly (1999, 2000) find that the provision of public goods may be higher in smaller jurisdictions where ethnicity is more homogeneous and preferences are more uniform. The basic problem of studies about the size of local jurisdictions is that size is generally not exogenous, as it stems from changes over a long period of time. Compared with previous empirical works, our paper exploits a natural experiment, and the endogeneity issues can be openly tackled. Few other works use a similar approach. For instance, Swee (2010) studies the effects of the municipalities' partition occurred at the end of the Bosnian War on the post-war provision of public goods. He finds that partitioned municipalities provide more primary schools services and teachers than undivided municipalities. Lassen and Serritzlew (2011) use a large-scale municipal reform in Denmark to estimate a causal effect of jurisdiction size on internal political efficacy. Based on survey data collected before and after the reform, they find that jurisdiction size has a relevant detrimental effect on citizens' beliefs in their own possibilities to influence local politics. Barone (2012) examines the creation of new Italian provinces in the 1990s and shows that the reduction in the size of the local jurisdiction has not generated any benefit in terms of total public goods provision. While these papers analyse the effect of size on specific outcomes, as measured by internal political efficacy and local public goods provisions, our work focuses on the link between size and migration flows which - as we argue here - signal welfare gains and losses.

### 3. Theory: a model of political jurisdictions and mobility

Alesina and Spolaore (1997) and Alesina et al. (2004) have investigated the “optimal” size of a jurisdiction when residents are characterized by preferences related to the distance from the administrative centre. There, larger borders reduce utility from public goods for those who live far from the administrative centre but, at the same time, they also reduce the per-capita burden of taxation. A crucial, and quite perplexing, assumption of this approach is that people cannot migrate: indeed, it is borders that are endogenously determined over time, so to meet optimality in the size of jurisdiction (see, for instance, Alesina et al., 2004)<sup>1</sup>. Our approach is substantially different to this respect. We allow for mobility of people across geographical areas, and we do not necessarily consider the size of jurisdictions as an optimal outcome of history. In this perspective, we sketch a model where people migrate to respond optimally to changes in the size of local jurisdictions. We do so by building on a regional model with idiosyncratic location preferences<sup>2</sup>. In the spirit of Alesina and co-authors, we postulate that larger administrative borders imply “heterogeneity” costs, that is, less “tailoring” of local public goods to the needs of residents (such as a primary school organization). But, at the same time, due to fixed costs, larger administrative borders make it easier to provide public goods<sup>3</sup>.

To summarize, our model separates the issue of mobility of individuals, who will always have the option to leave, from the issue of the size of the borders. Thus, differently from Alesina and Spolaore (1997), there is not a one-to-one correspondence between size of jurisdictions and size of resident populations. In short, we will consider a location, say  $c$ , characterized by a land endowment of surface  $\bar{\ell}_c$ , which can be part of a jurisdiction of a size larger than  $\bar{\ell}_c$  itself. The jurisdiction size is associated with costs and benefits. Depending both on satisfaction for local public good provision and an idiosyncratic preference shock, individuals will decide whether to dwell in location  $c$ , or move elsewhere.

The model has two stages. In the first stage, taking as given the size of the jurisdiction, a benevolent local administration chooses local public good provision, so to maximize the welfare of the residents in the area considered. The impact on utility crucially depends on the scale of the jurisdiction: larger administrations may be less attentive to the specific needs of the areas they cover but - at the same time - they may provide larger amounts of public goods due to scale economies. In the second stage, individuals play. They observe the (predetermined) value of local characteristics and the realization of their individual preference shock about the location, and decide whether to dwell there or move away. Note that, in the perspective of the model, the

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<sup>1</sup> Interestingly, Alesina et al. (2004) acknowledge that ‘Readers may find it hard to envision how local jurisdictions respond to heterogeneity because they can recall few, if any, jurisdictions being created in their area’ (p. 350) and that ‘The assumption that each individual’s location is fixed is natural if location represents tastes or ideology. It is less natural if location represents geography because individuals can move in response to changes in jurisdictional boundaries’ (p. 352).

<sup>2</sup> Roback (1982) postulates full mobility of residents, who arbitrage away utility gains across locations. By this respect, the Roback model is an extreme representation of Tiebout’s (1956) idea, related to the quality of local policies, that people will vote “with their feet”. However, Moretti (2011) has introduced idiosyncratic individual preference shocks for specific locations, implying that residents will face different mobility costs. Thus, when a local shock occurs, only a fringe of people will be willing to move across locations.

<sup>3</sup> We postulate that local public goods are funded directly by central authorities, and not by local taxation as in Alesina and Spolaore (1997) or Alesina et al. (2004).

Fascist consolidation might either increase or reduce the welfare of residents, depending on whether the net benefit generated by a larger jurisdiction has a positive or negative sign, respectively. As we show, in the former case we shall observe a rise in local population, in the latter a fall.

### 3.1 *The optimum problem for individuals*

We start by characterizing the optimal behaviour of firms and individuals in location  $c$ , taking the size of the jurisdiction, denoted by  $\beta$ , and local characteristics as *given* (stage 2).

Firms are perfectly competitive and mobile, and produce the tradable good  $Y$  at an economy-wide price equal to one, using labour  $N_c$  and “land”  $L_c$ . Under a Cobb-Douglas technology with constant returns of scale<sup>4</sup>, it holds that:

$$(1) \quad Y_c = A_c^Y \cdot N_c^\alpha \cdot L_c^{1-\alpha}$$

where  $A_c^Y$  denotes a local productivity shifter. Denoting with  $(w_c, r_c)$  the local wage and the local price of “land” (rent), respectively (the price of the tradable consumption good is the *numeraire*). Profit maximization, together with firms’ full mobility, yields the following equilibrium condition:

$$(2) \quad \theta \cdot A_c^Y = w_c^\alpha \cdot r_c^{1-\alpha}$$

where  $\theta$  is a positive constant.

We define as “residents” in area  $c$  those who decide to dwell on  $\bar{\ell}_c$ , the amount of usable land in area  $c$  itself. The preferences of residents are given by a typical Cobb-Douglas utility:

$$(3) \quad u_c = A_c^u \cdot Y^\mu \cdot L^{1-\mu} \cdot \varepsilon_c$$

where  $Y$  denotes the consumption of the tradable good and  $L$  is consumption of residential space by the individual considered. The individual is hit by the shock  $\varepsilon_c$ , uniformly distributed on the support  $[1-\phi, 1+\phi]$ . The parameter  $\phi \in (0,1)$  is then a measure of the “mobility costs” faced by residents. When  $\phi$  is very close to zero, individuals are fully mobile across locations, as in Roback (1982). The term  $A_c^u$  picks up the impact on utility of public goods that are provided both within and outside the area  $c$  considered. The evaluation of such public goods is, in turn, affected by the size of political jurisdictions. Each resident maximizes utility (3) under the budget constraint  $w_c = Y + r_c \cdot L$ . This yields the following indirect utility:

$$(4) \quad v_c = \eta \cdot A_c^u \cdot \frac{w_c}{r_c^{1-\mu}} \cdot \varepsilon_c$$

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<sup>4</sup> See, for instance, Glaeser (2008).

where  $\eta$  is a positive constant. The decision whether to stay or to move from location  $c$  depends on the realization of the individual preference shock  $\varepsilon_c$  and the (exogenous) level of utility that can be obtained by moving elsewhere, denoted by  $\bar{v}$ . There is a critical value of the shock,  $\hat{\varepsilon}_c$ , such that the following holds:

$$(5) \quad v_c = \begin{cases} \bar{v}, & \text{if } \varepsilon_c \leq \hat{\varepsilon}_c \quad (\text{movers}) \\ \eta \cdot A_c^u \cdot \frac{w_c}{r_c^{1-\mu}} \cdot \varepsilon_c, & \text{if } \varepsilon_c > \hat{\varepsilon}_c \quad (\text{residents}) \end{cases}$$

Notice that (5) implies that  $\bar{v} = \eta \cdot A_c^u \cdot \frac{w_c}{r_c^{1-\mu}} \cdot \hat{\varepsilon}_c$ , as illustrated in Figure 1.

[Figure 1]

By exploiting equations (2) and (5), we can find the equilibrium levels of local wage and rent,  $(w_c, r_c)$ , reported in the Appendix A. Substituting such values into (5), we obtain that, when  $\varepsilon_c > \hat{\varepsilon}_c$ , the utility obtained by a resident in location  $c$  is given by<sup>5</sup>:

$$(6) \quad v_c = \frac{\varepsilon_c}{\hat{\varepsilon}_c} \cdot \bar{v} > \bar{v}$$

Thus, given the individual shock,  $\varepsilon_c > \hat{\varepsilon}_c$ , the utility of a resident will be higher, the lower the critical value  $\hat{\varepsilon}_c$ . We show in Appendix A that the critical value  $\hat{\varepsilon}_c$  can be written as an implicit function of local ‘‘amenities’’  $(A_c^Y, A_c^u)$ :

$$(7) \quad \frac{1 + \phi - \hat{\varepsilon}_c \cdot \bar{N}}{2\phi} = \left[ \frac{\alpha \cdot \bar{\ell}_c}{1 - \alpha\mu} \right] \cdot \left[ \frac{\eta \cdot \theta^\mu \cdot A_c^u \cdot A_c^Y \cdot \hat{\varepsilon}_c}{\bar{v}} \right]^{\frac{1}{1-\alpha\mu}}$$

where  $\bar{N}$  denotes the population in the *entire* economy. By implicit differentiation of (7), the following holds:

*Result 1. An increase in the level of the local amenity and productivity terms, as denoted by  $A_c^u$  and  $A_c^Y$ , will reduce the critical value  $\hat{\varepsilon}_c$  which discriminates movers from residents. A lower  $\hat{\varepsilon}_c$  has the following consequences: i) the population in location  $c$  will increase, and ii) the utility of each resident in location  $c$  will increase.*

The impact of an improvement in local amenities and productivity is illustrated in Figure 2.

[Figure 2]

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<sup>5</sup> The proof is given in Appendix A.



Thus, a noticeable implication of Result 1 is the following:

*Corollary. If an administrator wants to maximize welfare in the location considered, she will have to take actions that reduce  $\hat{\epsilon}_c$  to the lowest attainable level.*

We are now ready to analyze the local administration's problem (stage 1), given the size of the borders  $\beta$  of the jurisdiction which includes area  $c$ .

### 3.2 The provision of local amenities

As shown in expression (7), the impact of local characteristics on residents' welfare is summarized by the product  $A_c^u \cdot \left( A_c^Y \right)^{\beta}$ . Thus, given the size of the jurisdictions  $\beta$ , and given the extent, denoted by  $\alpha$ , of self-determination in the management of local affairs the central government leaves to municipalities, Result 1 suggests that, in order to maximize the welfare of residents, the local administration will have to choose an action of "intensity"  $x$  that maximizes  $\Lambda_c \equiv A_c^u \cdot \left( A_c^Y \right)^{\beta}$ . We suppose that local characteristics depend on policy action according to the following function:

$$(8) \quad \Lambda_c = 1 + g(x, \beta, \alpha) - h(x) - f(\beta)$$

where,  $g_x > 0$ ,  $g_{xx} \leq 0$ ,  $g_\beta < 0$ ,  $g_\alpha > 0$ ;  $h_x > 0$ ,  $h_{xx} > 0$ ; and  $f'(\beta) < 0$ . This function postulates that the local characteristics aggregator is a concave function of policy intensity  $x$ . The benefits from political action,  $g(x, \beta, \alpha)$ , are *i*) increasing with the degree of subsidiarity left to local administrators  $\alpha$ , and *ii*) decreasing in the size of the jurisdiction,  $\beta$ , to which area  $c$  belongs. The latter assumption can be justified as follows. When political action, which has a variable convex cost equal to  $h(x)$ , concerns the provision of public goods enhancing local welfare and productivity, the larger the jurisdiction the lower the ability of administrations to tailor such goods to fit local needs at best<sup>6</sup>. In other words, larger jurisdictions generate higher heterogeneity costs. However, when political actions (like public goods provision) imply a fixed cost  $f(\beta)$ , scale economies are likely to make provision costs lower in larger jurisdictions. Similar arguments about the benefits and costs of integration are put forward by Alesina et al. (2000).

To give a straightforward characterization, we can resort to a specific example. Suppose that (8) takes a simple quadratic form in  $x$ , the policy choice variable:

$$(9) \quad \Lambda_c = 1 + \frac{2 \cdot \alpha \cdot x}{\beta} - x^2 - \frac{f_c}{\beta^3}$$

where  $0 \leq f_c < 1$ , and  $\beta$  can only take two values,  $\beta = \frac{1}{2}$ , which can be interpreted as non-integration, and  $\beta = 1$ , which entails integration of area  $c$  into a larger jurisdiction.

The optimal choice of local action  $x^*$  that maximizes (9) is given by:

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<sup>6</sup> Also, if  $x$  is related to civic participation in public interests of the community, it is likely that such a form of "effort" is diluted when the size of the jurisdiction increases.

$$(10) \quad x^* = \frac{\alpha}{\beta}$$

Thus, the optimal intensity of the local action is higher when local administrations have more discretionality in their decisions ( $\alpha$  higher) and when administrative borders are narrower ( $\beta$  smaller). We can now compare the net benefits from integration versus non-integration.

Consider first non-integration. When fixed costs are sufficiently small, the optimal level of policy action is  $x_{\beta=1/2}^* = 2\alpha$ , which yields  $\Lambda_{c,\beta=1/2} = 1 + 4 \cdot \alpha^2 - 8 \cdot f_c$ . Notice however that, when fixed costs are so high that  $f_c > \frac{1}{2}$  holds true, we have a corner-solution: the best policy under non-integration is no policy at all, so that  $\Lambda_{c,\beta=1/2} = 1$ .

On the other hand, under integration, it holds that  $x_{\beta=1}^* = \alpha$ , implying  $\Lambda_{c,\beta=1} = 1 + \alpha^2 - f_c$ . Thus, the level of welfare under integration will be higher than the one under separation, if it holds that:

$$(11) \quad \Lambda_{c,\beta=1} > \Lambda_{c,\beta=1/2} \Leftrightarrow f_c > \frac{3}{7}\alpha^2$$

which is, when fixed costs associated with provision of local public goods are sufficiently high. We can summarize this conclusion in the following:

*Result 2. Local residents benefit from integration into larger jurisdictions when: i) fixed costs in the provision of local public goods are relatively high, and ii) the degree of subsidiarity in the management of local political action  $\alpha$  is rather limited.*

Summarizing, the prediction given by the model on the Fascist consolidation remains open. Local administrators take borders as a given constraint when choosing local policy. Considering the Fascist move towards larger jurisdictions, this means that if the area  $c$  satisfies a condition such as (11), then it will benefit from larger administrative borders<sup>7</sup>. As a consequence, as suggested by Result 1, when (11) holds true, local population, as well as residents' welfare, will rise in that area.

On the contrary, when condition (11) does not hold, the model predicts that population in area  $c$  will decrease and those who remain will experience lower utility. In this case, one can expect that *residents will be likely to exert political pressure in favour of administrative break-ups that restore the pre-reform status.*

From Results 1 and 2, the empirical implications of the model can be summarized by the following:

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<sup>7</sup> The case for condition (11) holding true is made more likely by the fact that Fascism gave the central government much greater powers on (every) local administrations, reducing the scope of local policies (see Section 4 below).

*Remark:*

i) *If consolidations had an overall positive (negative) effects on the welfare of residents, local population should increase (decrease) on average.*

ii) *If scale economies in local public goods provision were negligible, residents would always prefer to live in smaller jurisdictions.*

iii) *In those specific locations where the consolidation had a negative effect on welfare, residents desired to restore pre-reform borders.*

#### **4. History: Fascism and the *Comuni***

The *Comune* (municipality) is the local authority *par excellence* (Caringella, Giuncato, Romano, 2007). It pre-exists to the birth of Italy as a Nation and it is the oldest local autonomy in the history of the Italian political institutions. All the administrative functions - with the exception of those that are more usefully exerted by other authorities of upper competence (subsidiarity principle) - refer to the *Comune*. Thus, this type of political jurisdiction has traditionally cured the interests of the local community<sup>8</sup>.

After the unification of Italy in 1861, for several decades, the central State delegated to municipalities the management of a large variety of tasks, such as public infrastructure of local relevance, local policing, primary schooling (Giannini, 1967). However, since it was recognized that several small municipalities did not have sufficient human and financial resources to provide a minimal acceptable level of administrative efficiency, a law was passed in 1859 to promote aggregations into larger jurisdiction. The implementation of such aggregations, however, largely relied on a voluntary basis, and failed to produce the outcome that had been hoped by the legislator (Troccoli, 1967).

The advent of Fascism in 1922 led progressively to dramatic changes in the attitude of the central State towards municipalities. First, the discretionary power in the management of several local activities, such as the organization of primary schooling or the provision of public utilities, which had characterized the Italian municipalities after Unification, was progressively reduced by increasing intrusion of the central State (see: Piva, 1967; Piras, 1967; Dau 2012)<sup>9</sup>. The trend towards centralism concerned all Italian municipalities, reducing the potential benefits that local administrations could produce by tailoring services that better suited local needs. Secondly, what matters more to our purposes, two laws (*Regio Decreto* 2839, 30 December 1923, and, in particular, the *Regio Decreto* 383, 17 March 1927) prescribed mandatory aggregations. The government gained the power to revise the boundaries of local jurisdictions so to “adequate their efficiency to the new and greater national needs”. The claimed rationale for this action was thus to force a number of municipalities, mainly small ones, to aggregate into larger administrations, so to reach a scale which was deemed to be adequate for the provision of public services

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<sup>8</sup> Another local, and larger, administrative unit is the *Provincia* (the “county”, a local jurisdiction born in 1859 with the *Decreto Rattazzi*), which however has been endowed with much less competences (and now there is a discussion on whether it should be abolished).

<sup>9</sup> After 1923, the locally elected mayor and city council were removed and replaced by the *Podestà*, a local member of the Fascist party who was appointed under the supervision of the central government.

(Troccoli, 1967). An interesting example, the *Comune* of Rovigo, is presented in detail in the Appendix B.

Figure 3 shows the number of municipalities at Census dates (see: ISTAT, 2011; ANCI, 2011). Note that the number of *comuni* changes sharply in 1921 due to the annexation of new territories after the end of WWI (Trentino Alto Adige, Trieste, Gorizia, Istria, Zara) reaching the peak of 9,195. At invariant boundaries, the number of *comuni* changes only modestly before and after the Fascist consolidation. In 1921 there were 8,354 municipalities: basically the same number as in 1871 (8,383). From 1921 to 1931, 2,078 small municipalities were consolidated by the regime. Subsequently, the number raised - mostly because of the law that allowed the *comuni* to go back to the pre-fascist boundaries (see below). Since 1961 the number of *comuni* has changed only slightly.

[Figure 3]

The true motives for consolidating have been heavily disputed. Some observers have claimed that there were also reasons other than economic efficiency for the suppression of certain municipalities, in particular political punishment exerted by the Fascist regime. Mussolini might have been more inclined to consolidate the *comuni* with many political opponents<sup>10</sup>. In the next Section we show some evidence in favour of the political bias in consolidating (and argue that this evidence might reinforce the credibility of our identification strategy). There are only few previous evaluations, mainly based on case-studies, on the effects of the Fascist consolidation. Such assessments tend to conclude that this measure was basically ineffective, if not harmful. In particular, Giovenco (1958) and Troccoli (1967, p.158) report that several aggregations proved to be a failure, since they could not solve the original deficiencies in services such as communications, health, schooling and, additionally, contributed to raise discontent and conflict among residents of formerly independent administrations.

Note also that Fascist regulations put severe restrictions on internal migrations. As mentioned by Ginsborg (1989), in order to make migration unfeasible, a Fascist law approved in 1939 trapped the would-be migrants into a paradoxical situation: in order to change residence, the migrants should have proved to have a job in the new destination; however, to get a job at destination, a formal certification of the new residence was required<sup>11</sup>. In the empirical section, we use the Fascist ban on migration to derive an appropriate time frame for our outcomes (city population dynamics), which is taken to be the period following WWII<sup>12</sup>.

After WWII and the birth of the Italian Republic many communities pushed for the reconstitution of pre-fascist boundaries. The decisional power on the matter was first attributed

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<sup>10</sup> See, for instance, the case of the municipality of Donelasco, mentioned by Senator Locatelli in the debate at the Senate House on the 22 of March 1956 (Appendix B).

<sup>11</sup> As emphasized in Ascoli (1982) and Treves (1976), while the consensus is that during the Fascist regime migrations were kept modest, illegal migrations could have occurred. In particular, after the end of WWII. Note also that the law against internal migration was abolished only in 1961: therefore, it is possible that irregular migrants legalized their position only after that date.

<sup>12</sup> We also make sure that our results are not driven by the death rate experienced by civilian population because of WWII.

to an *ad hoc* committee<sup>13</sup> and, later, a new law was passed (Law 71, 1953, called *Ricostituzione dei comuni soppressi in regime fascista*). This law, also known as *legge Rosati* after the name of the proponent, permitted to restore pre-fascist jurisdictions by reconstituting the municipalities suppressed during the Fascist regime, when requested by a petition of the 3/5 of the electors, even when the municipality had less than 3,000 inhabitants. Between 1945 and 1961, 778 *comuni* (out of 2,078 that were originally consolidated) regained their pre-Fascist size.

## 5. Empirics: consolidation and welfare

We first discuss the identification strategy (Section 5.1). Then, we tackle selection (Section 5.2) and data (Section 5.3) issues. Finally, the empirical findings are illustrated in Section 5.4.

5.1 *Identification strategy*. Our identification strategy includes three experiments. They are the empirical counterparts of Remarks *i*) to *iii*) in Section 3. In each experiment, the treatment group is made up of municipalities that were consolidated during the 1920s and did not restore their pre-Fascist boundaries. We refer to these (treated) municipalities both as they were before consolidation (*consolidating* units) and as they resulted after consolidation (*consolidated* ones). The experiments are the following:

Experiment 1: *Net Welfare variations* (henceforward *Net Welfare*). To gauge the net welfare variations of the Fascist consolidation, we compare the consolidating units with a control group of non-consolidated *comuni* that were similar (before consolidation) to the suppressed ones. For instance, if city *a* and city *b* were consolidated by Mussolini (and the result of the merge was city *c*), we find counterfactuals for *a* and *b*, and compare the performance of *c* (the only one we observe since 1931) with that of a synthetic control (given by aggregating the counterfactual for *a* and that for *b*). The comparison is illustrated in Figure 4.

[Figure 4]

Note that in this experiment the performance of an aggregated unit is compared with the aggregate performance of disaggregated units. Therefore, the two sources of welfare differences - economies of scale and heterogeneity - impact both at the same time. This implies that we are not able to disentangle their respective role. We can only estimate their net impact.

Experiment 2: *Heterogeneity Only variations* (henceforward *Heterogeneity Only*). We isolate the sole role of heterogeneity costs by comparing the consolidated units with a control group of non-consolidated *comuni* similar (before the Fascist shock) to the ones resulting from consolidation. For instance, if city *a* and city *b* were consolidated (and the result of the merger was city *c*) we find a counterfactual for *c* and compare it with the performance of the factual (see Figure 4). Note that, in this experiment, we are comparing two units of similar size. Therefore the effects of economies of scale are differentiated away. Differences in performance might only come from the fact that the factual units have higher heterogeneity (they were consolidated by

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<sup>13</sup> See the Report of the Permanent Committee on the Proposal of Law on the Restoration of *Comuni* suppressed during the Fascist regime, approved by the Senate on November 8, 1950.

the Fascist reform) than the counterfactuals (which maintained their original, pre-dictatorship, size)<sup>14</sup>.

Experiment 3: *Returning Independent Municipalities* (henceforward *Returning Independent*). As implied by Remark *iii*), residents will try to un-do the administrative reform whenever it has a negative welfare impact. Moreover, if this attempt is successful, the desire to emigrate for the marginal fringe will fade. In this perspective, we contrast treated municipalities with a control group of municipalities that were first consolidated during the 1920s, but then, after WWII, returned to their pre-Fascist boundaries<sup>15</sup>. This experiment has to be considered a robustness check. First, returning independent municipalities received the treatment. That is, during the 1920s they shared with our treatment group many features - both observable and unobservable - that led them into the Fascist consolidation. Second, for returning independent municipalities the treatment was reversed after WWII. After the reversal, these *comuni* regained their original size; thus, population movements referring to these places cannot be related to Mussolini's consolidation. Should we observe from Experiment 3 migration patterns that are different from those estimated in Experiment 1 we would have to worry that migration flows reflect other factors than the Fascist consolidation.

5.2 *Selection issues*. The sample of consolidated municipalities is not randomly drawn. Our results are obtained (see Section 5.3) by using propensity score matching (see: Rosenbaum and Rubin, 1983), a method that makes justice of pre-treatment observable characteristics which might determine selection into treatment. As the availability of data for those characteristics, which refer to the 1920s, is clearly reduced, we need to worry that some unobservables might drive the likelihood of receiving the treatment. We discuss now the two aspects that are more relevant to gauge the role of selection bias.

*i*) The Fascist regime (see Section 4) claimed that the consolidation was intended to improve local efficiency in the provision of public goods. If this rationale was indeed put into practice by the regime, this implies that the results from Experiment 1 might be downwardly biased, as they might refer to municipalities with the highest pre-treatment inefficiency. No obvious source of bias should instead prevail for the Experiment 2, as in this case the effect of economies of scale is differentiated away. Note that the results from Experiment 3, which compares two groups of municipalities that were both consolidated, might shed some lights on the extent to which pre-treatment inefficiency impacts on our estimates<sup>16</sup>.

*ii*) Many observers (see Section 4) have argued that - irrespective of the above stated rationale - Mussolini was more inclined to consolidate *comuni* where political opposition was

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<sup>14</sup> Recall from Remark *ii*) of Section 3, our model unambiguously predicts that the impact due to heterogeneity only should be negative.

<sup>15</sup> For this experiment we consider only municipalities that returned independent between 1945 and 1953 (631 of them). Those that regained their size between 1954 and 1961 (147 of them) are excluded because the reversal in treatment can be considered to have occurred too late with respect to the period 1951-1971 over the which our outcome variable is defined. However, as we checked, including these 147 *comuni* would have only minor consequences for our results. Similarly, excluding the 41 *comuni* that returned independent between 1951 and 1953, have no implications for the findings.

<sup>16</sup> The sample of returning independent *comuni* is not randomly drawn, too. This fact, however, might be a threat to identification that turns out to be less relevant insofar (as the model predicts, see: Section 3, Remark *iii*)) a change in the size of the local jurisdiction is alternative to migration movements from the point of view of the households.

predominant<sup>17</sup>. Quite often, thus, the decision whether to consolidate was a matter of sheer political will. The example of the municipality of Baone (Appendix B) makes this point: the local Fascist mayor (*Potestà*) opposed consolidation and the *comune* remained intact. The possibility of a selection bias of political nature might make our results more credible, insofar the selection into the treatment does not depend on the efficiency of the local public sector. To the extent that the likelihood of receiving the treatment for two otherwise identical municipalities depends on the political preferences of the residing population, our experiments might exploit a source of variation that is arguably less related to the economic perspectives of the local area. We try to shed some light on the possibility of a political bias in consolidation (see Appendix C). For a subsample of *comuni* for which we have been able to collect data for the shares of votes at the political elections of 1919 and 1921, we provide linear probability model estimates<sup>18</sup> of the effect of local political preferences on the likelihood of receiving the treatment (controlling also for all the time-invariant and 1921 characteristics, reported in Table 1, Section 5.3). Note the political parties participating in the two elections were not the same<sup>19</sup>. For instance, among the main political parties, the third party of the 1919 political elections was the coalition of Liberals, Democratic and Radicals created *ad hoc* to participate in the elections. The third political party at the 1921 elections was an alliance between liberals and fascists called *Blocchi Nazionali*, created *ad hoc* for the elections, that allowed Mussolini to be elected at the *Camera dei Deputati*<sup>20</sup>. The Communist party was born only in January 1921. Our results seem to confirm the role of a political bias: higher local voting shares for liberal and socialist parties (Mussolini started his political career as a socialist) in 1919 elections are a negative predictor of consolidation, while a local electorate more inclined to the positions of communists positively predicts treatment.

5.3 *Data issues.* The model of Section 3 suggests that the net impact on welfare due to consolidation will be reflected by movements of the population across municipalities. Ideally, as in all counterfactual exercises, one wants to make sure that municipalities were similar before the Fascist consolidation and then analyse the outcome just after it occurred. As explained in Section 4, however, this option is not available as migration was not allowed under the Fascist regime<sup>21</sup>. Therefore, we focus on relocations referring to the first period in which Italy's households gained freedom to move: the years after WWII. In particular, we make use of municipality-level Census population flows from 1951 to 1971<sup>22</sup>. During this time, a massive spatial reallocation of

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<sup>17</sup> In the 1920 local polls, more than 2,000 municipalities elected a mayor from the Socialist Party: see Dau (2012).

<sup>18</sup> Probit estimates provide similar results.

<sup>19</sup> In 1919, the political parties that obtained the three highest share of votes were the followings: the Socialist party - *Partito Socialista Italiano* - (vote share equal to 32.3 per cent); the Popular party - *Partito Popolare Italiano* - (20.5 per cent); the coalition of liberals, democratic and radicals - *Liberali e altri* - (15.9 per cent). In 1921, the three main political parties were: *Partito Socialista Italiano* (24.5 per cent); *Partito Popolare Italiano* (20.8 per cent); and the alliance between liberals and fascists called *Blocchi Nazionali* (14 per cent). These were the first elections in which socialists and communists were divided. The new born Communist party - *Partito Comunista* - obtained a vote share of 4.6 per cent.

<sup>20</sup> As mentioned, the fascists participated in the 1921 elections with an alliance with the liberals of Giolitti. Mussolini became a member of the Chamber of Deputies together with other 34 fascist deputies. After the elections, the *Fasci di combattimento* founded by Mussolini in 1919, became the *Partito Nazionale Fascista* (Fascist party).

<sup>21</sup> Our results should be read as the effects of the consolidation on outcomes (predicted by the theory) that have been restrained for 25 years.

<sup>22</sup> For robustness, we also use plant and employment growth rates for the same time span (see: Section 5.4).

people featured Italy's landscape: over 9 million Italians were involved in interregional migrations basically towards two routes - from rural areas to urban ones and from the relatively underdeveloped South to the prosperous Centre-North (see: Ginsborg, 1989 p. 295)<sup>23</sup>. Sample details are summarized in Appendix D. We make use of the information on the historical variations of the Italian municipalities provided by the Italian National Institute of Statistics (ISTAT). In the period 1921-1931, the number of municipalities involved in the Fascist consolidation amounted to 2,078. Among them, 884 regained their original size (778 between 1945 and 1961) and are therefore excluded from the treatment group (see Section 4). As for the other 1,194, many of them were attached to existing municipalities, often large in size. We also exclude these kinds of consolidations as we are concerned that the impact we estimate may reflect the (pre-treatment) performance of the incorporating municipality rather than the effect of the consolidation policy. The remaining municipalities were consolidated into new entities that we refer to as the *new born municipalities*. Our treatment group is made up of 168 new born municipalities (of the type of Taurianova: see Appendix B).

The PS routine is able to match 136 (out of 168) treated cities with, respectively for the three experiments, 131, 63, and 96 control municipalities. For each comparison, the PS routine selects controls on the basis of the limited set of information at the city-level that is available for the first half of the 20<sup>th</sup> Century. In particular, we make use of: *i*) a number of time invariant city characteristics (surface, altitude of the municipality centre, elevation range of the municipal territory, costal location); *ii*) the (log of) 1921 population; *iii*) some variables measured in 1951 (logs of population, employees, and plants). That is, municipalities are taken to be similar with respect to both 1921 (pre-intervention) and 1951 (pre-observation of the outcomes) characteristics. Therefore, we are comparing municipalities that, in addition to be suitable to inform our identification strategy (Section 5.1), are similar in many respects at the beginning of the 1950s, period to which the outcomes are referred to. Doing so, the confounding factors that occurred between the Fascist consolidation and the time in which we can observe the outcomes are arguably differentiated away. Figure 5 provides a map of Italy with the treated and the control municipalities. Both of them are very small, therefore they are not easily visible on the map of Italy's territory. Figure 5a locates the municipalities we use for our exercise over the entire national territory through the use of their centroids (the geometric centre of their shape). In order to represent the municipalities through their shape (the polygons) rather than the centroids, we focus (Figure 5b) on the North-Western territorial partition, which includes Piedmont, Lombardy, Liguria and Valle d'Aosta, and where the consolidation was more widespread. Balancing properties for the samples we compare are described in Table 1.

[Figure 5]

[Table 1]

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<sup>23</sup> Below (Section 5.4), we also perform additional checks to make sure that we are not spuriously capturing those types of dynamics.



5.4 *Results*. Table 2 presents our baseline results, obtained by using 1951-1971 city population growth rates as the dependent variable. The estimated ATT (Average Treatment Effect on the Treated), calculated using the Nearest Neighbour routine, suggests that the net impact of the consolidation resulted in welfare gains, as treated municipalities exhibit higher immigration. The estimated impact is a cumulative 7.1 percent growth differential over a twenty-year period (about 21 percent of the standard deviation of the dependent variable). The estimated ATT is highly significant (t-stat = 1.76). The impact due to heterogeneity only is negative, as the model would predict, though not significant. Note that the magnitude of the (negative) effect of higher heterogeneity is very close (in absolute value) to that estimated for the *Net Welfare* experiment. This would suggest that the positive effect related to larger economies of scale is estimated to be basically twice the cost of increased heterogeneity. Finally, we estimate the impact of consolidation by using as counterfactual the group of municipalities that decided to restore their pre-Fascist boundaries. The ATT is still positive while slightly reduced with respect to the one calculated in the *Net Welfare* experiment. This suggests that the selection bias due to the unobserved features of the *comuni* that were consolidated has no major impact for our results.

[Table 2]

Table 3 illustrates a number of robustness checks. The first three panels show that our estimates are rather insensitive to the use of different routines to estimate the ATT<sup>24</sup>. The nearest neighbour matching method matches each treated unit with the control unit that has the closest propensity score (*i.e.* the nearest neighbour) and, allowing for replacement, a control unit can be the best match for more than one treated unit (as it happens in our case). The advantage of this method is that all treated units find a match but poor matches can occur if units with fairly different propensity score end up to be matched. Given this limitation, we follow the rule-of-thumb of double-checking the findings with alternative routines<sup>25</sup>. Panel A presents the results we obtain by using the stratification method. This method computes the ATT as a weighted average of the ATT computed in blocks such that within each block treated and controls have on average the same propensity score, with weights given by the distribution of treated units across blocks. This approach discards observations in blocks where either treated or controls are absent. Panel B provides results obtained by using the radius matching method. The latter matches treated units with controls whose propensity score belongs to a neighbourhood (*i.e.* the radius) with a dimension that is arbitrarily chosen by the researcher. A small radius might generate higher quality matches at the cost of unmatched treated units. A bigger radius might increase the number of matches at the cost of lower quality matches. We use a radius equal to 0.1, the minimum necessary in order not to lose unmatched treated observations. Panel C presents the results we obtain by using the kernel matching method. This routine matches all treated units with a weighted average of all controls, with weights inversely proportional to the distance

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<sup>24</sup> For all routines, results have been obtained under the common support restriction; see: Dehejia and Wahba, (1999 and 2002).

<sup>25</sup> As highlighted by Becker and Ichino (2002), none of the available alternatives is a priori superior to the nearest neighbour matching; however, their joint adoption is useful to assess the robustness of the estimates.

between the propensity scores of treated and controls. As shown in the table, our evidence is robust to the choice of alternative routines. Overall, the results with the alternative routines mimic those obtained with the nearest neighbour matching. However, we find that the role of heterogeneity is now reduced (basically is 1/3 of that due to the economies of scale).

Panel D considers only municipalities located in the Centre-North of Italy. As the massive internal migration of the 1950s and the 1960s was mainly coming from the South, we want to make sure that we are not mistakenly capturing this type of macro-dynamics. Perhaps, this is an unnecessary precaution as the PS-matching routine already balances treated and controls along this dimension. In any case, the results we obtain by dropping Southern municipalities are very similar to the ones that refer to the whole national territory (except for the importance of heterogeneity, which appears again reduced). Panel E performs a similar robustness exercise for rural-urban migrations. Here we discard all the municipalities that are located in the vicinity of a main urban centre<sup>26</sup>. Results confirm those previously obtained (heterogeneity however has a larger role than the one estimated in the baseline).

In Panel F we control for the main potential confounding factor that we might be capturing in the estimates: the mortality caused by WWII. Note that war casualties are not reflected in our outcome (city population growth over the 1951-71 period) as WWII ended in 1945. However, we cannot be assured that post-war demographics have no role for our results. For instance, municipalities that suffered more casualties might experiment rises or falls in population that might put our identification strategy in danger. Data on casualties and missing persons over the period 1940-1945 have been collected by ISTAT (on the basis of the territorial boundaries established with the 1947 Peace Treaty) and released only at the province level. Therefore, we use 1936 (the last year available before WWII) city population data to attribute to each municipality a share of the provincial data on war casualties. The results provided in Panel F are obtained by computing the ATT conditioning on the number of deaths and missing persons at the end of WWII. Results are still very much in line with those obtained so far.

The model of Section 3 provides predictions in terms of city migration. However, the empirical results shown so far have been derived in terms of population growth. Note that, population growth reflects both migration and the “natural movement” (the difference between deaths and births). To make sure that the natural movement is not driving our results, in Panel G, we also control for the difference between deaths and births at the local level<sup>27</sup>. Results are still there.

Finally, the model of Section 3 also suggests that the location decisions of the households go hand in hand with that of the firms. In Panel H and Panel I we find that this is the case. By using as outcomes the growth rates respectively of plants and employment, we find effects that are in line (even though less statistically significant) with those we find for population.

[Table 3]

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<sup>26</sup> Vicinity is defined as being located at most 30 kilometres from urban centres. Urban centres are those with more than 100,000 inhabitants in 1951. As we checked, modifications to the vicinity band or to the definition of urban centres produce minor consequences.

<sup>27</sup> As data on natural movement are available only at regional level, we have spread regional level data over municipalities through the share of municipality’s population over the regional one.

## 6. Conclusions

The paper tries to assess the welfare impact of the consolidation of municipalities brought about by the Fascist dictatorship in Italy during the 1920s. Building on a simple model where people can move across locations, “voting with their feet”, our findings suggest that consolidation was associated with relevant net welfare gains for the communities involved. In particular, the advantages related to the economies of scale prevailed over the costs of higher heterogeneity implied by larger jurisdictions.

Given the type of policy we exploit, and the nature of our data, a possible caution arises. The extent to which our results can be generalized is admittedly limited. Our exercises compare very small municipalities (in 1921 the average resident population was under 750 inhabitants, the average area was less than 1 square kilometre). This implies that the benefits related to scale economies, which we document, might not arise when consolidations of larger jurisdictions are considered. On the other hand, the costs related to heterogeneity, which we show to be rather small in our case, might have substantial impact on consolidations of larger areas.

Finally, our empirical investigation suggests that merged jurisdictions are associated with positive population growth. This evidence, therefore, does not support the idea that historically-determined boundaries were optimal.

## References

- Alesina, Alberto, Reza Baqir, and William Easterly. 2000. Redistributive public employment. *Journal of Urban Economics* 48(2): 219-41.
- Alesina, Alberto, Reza Baqir, and William Easterly. 1999. Public goods and ethnic divisions. *Quarterly Journal of Economics* 114(4): 1243-84.
- Alesina, Alberto, Reza Baqir, and Caroline Hoxby. 2004. Political jurisdictions in heterogeneous communities. *Journal of Political Economy* 112(2): 348-96.
- Alesina, Alberto, and Enrico Spolaore. 1997. On the number and size of nations. *Quarterly Journal of Economics* 112(4): 1027-56.
- Alesina, Alberto and Enrico Spolaore. 2003. *The size of nations*. Cambridge: MIT Press.
- Alesina, Alberto, Enrico Spolaore, and Romain Wacziarg. 2000. Economic integration and political disintegration. *American Economic Review* 90(5): 1276-96.
- Associazione Nazionale Comuni Italiani (National Association of Italian Municipalities). 2011. *1861-2011: L'Italia dei Comuni, 150 anni di Unità*. Available at: <http://www.fondazioneifel.it/Archivio/Archivio-Volumi/1861-2011-Italia-dei-Comuni-150-anni-di-Unita>.
- Ascoli, Ugo. 1982. *Movimenti migratori in Italia*. Bologna: Il Mulino.
- Barone, Guglielmo. 2012. Sull'ampiezza ottimale delle giurisdizioni locali: Il caso delle province italiane. *Politica Economica* (1): 77-102.
- Barro, Robert J. 1991. Small is beautiful. *The Wall Street Journal* (11 October 2011).
- Becker, Sascha O. and Andrea Ichino. 2002. Estimation of average treatment effects based on propensity scores. *The Stata Journal* 2(4): 358-377.
- Bolton, Patrick and Gerard Roland. 1997. The breakup of nations: a political economy analysis. *Quarterly Journal of Economics* 112(4): 1057-1090.
- Caringella, Francesco, Antonio Giuncato, and Filippo Romano. 2007. *L'ordinamento degli enti locali*. Assago: Ipsoa.
- Cutler, David M., Douglas W. Elmendorf, and Richard J. Zeckhauser. 1993. Demographic characteristics and the public bundle. *Public Finance* 48:178-198.
- Dau, Michele. 2012. *Mussolini l'anticittadino. Città, società e fascismo*. Roma: Castelvecchi.
- Davis, Donald R. and David E. Weinstein. 2008. A search for multiple equilibria in urban industrial structure. *Journal of Regional Science* 48(1): 29-65.
- Dehejia, Rajeev H. and Sadek Wahba. 1999. Causal effects in non-experimental studies: Re-evaluating the evaluation of training programs. *Journal of the American Statistical Association* 94(448): 1053-1062.
- Dehejia, Rajeev H. and Sadek Wahba. 2002. Propensity score-matching methods for non-experimental causal studies. *The Review of Economics and Statistics* 84(1): 151-161.

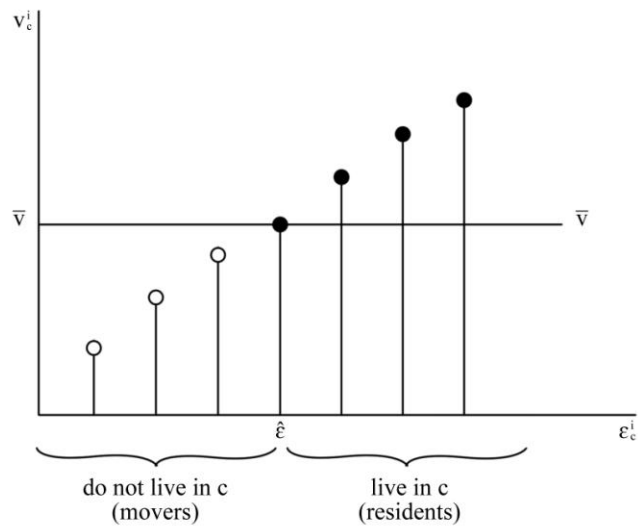
- Desmet, Klaus, Michel Le Breton, Ignacio Ortuño-Ortín and Shlomo Weber. 2011. The stability and breakup of nations: a quantitative analysis. *Journal of Economic Growth* 16:183-213.
- Giannini, Massimo S. 1967. I Comuni. In Massimo S. Giannini (ed.) *Atti del congresso celebrativo del centenario delle leggi amministrative di unificazione*. Vicenza: Neri Pozza.
- Gilbert, Guy and Pierre Picard, 1996. Incentives and the optimal size of local territories. *European Economic Review* 40(1):19-41.
- Ginsborg, Paul A. 1989. *Storia d'Italia dal dopoguerra ad oggi*. Torino: Einaudi.
- Giovenco, Luigi. 1958. *L'ordinamento comunale*. Milano: Giuffrè.
- Goldin Claudia, and Laurence F. Katz. 1998. Human capital and social capital: The rise of secondary school in America. NBER Working Paper No. 6439.
- Goyal Sanjeev and Klaas Staal. 2004. The political economy of regionalism. *European Economic Review* 48(3): 563-593.
- Istituto Nazionale di Statistica (Italian National Institute of Statistics). 2011. *Italia in cifre*. Roma: ISTAT.
- Lassen, David D. and Søren Serritzlew. 2011. Jurisdiction size and local democracy: Evidence on internal political efficacy from large-scale municipal reform. *American Political Science Review* 105(2): 238-258.
- Moretti, Enrico. 2011. Real wage inequality. *American Economic Journal: Applied Economics*. Forthcoming.
- Piras, Aldo. 1967. La municipalizzazione. In Massimo S. Giannini (ed.) *Atti del congresso celebrativo del centenario delle leggi amministrative di unificazione*. Vicenza: Neri Pozza.
- Piva, Francesco. 1967. Comuni e pubblica istruzione. In Massimo S. Giannini (ed.) *Atti del congresso celebrativo del centenario delle leggi amministrative di unificazione*. Vicenza: Neri Pozza.
- Poterba, James M. 1997. Demographic structure and the political economy of public education. *Journal of Policy Analysis and Management* 16(1): 48-66.
- Roback, Jennifer. 1982. Wages, rents and the quality of life. *The Journal of Political Economy* 90(6): 1257-78.
- Rosenbaum, Paul R. and Donald B. Rubin. 1983. The central role of the propensity score in observational studies for causal effects. *Biometrika* 70(1): 41-55.
- Swee, Eik L. 2010. Together or separate? Post-conflict partition and provision of public schooling. Working Paper, University of Toronto.
- Temple, Judy A. 1996. Community composition and voter support for tax limitations: Evidence from home-rule elections. *Southern Economic Journal* 62(4): 1002-16.
- Tiebout, Charles M. 1956. A pure theory of local expenditures. *Journal of Political Economy* 64(5): 416-24.

Treves, Anna. 1976. *Le migrazioni interne nell'Italia fascista: politica e realtà demografica*. Torino: Einaudi.

Trocchi, Mario. 1967. Le variazioni territoriali dei comuni. In Massimo S. Giannini (ed.) *Atti del congresso celebrativo del centenario delle leggi amministrative di unificazione*. Vicenza: Neri Pozza.

## Figures

**Figure 1: Indirect utility and critical value of the idiosyncratic shock**

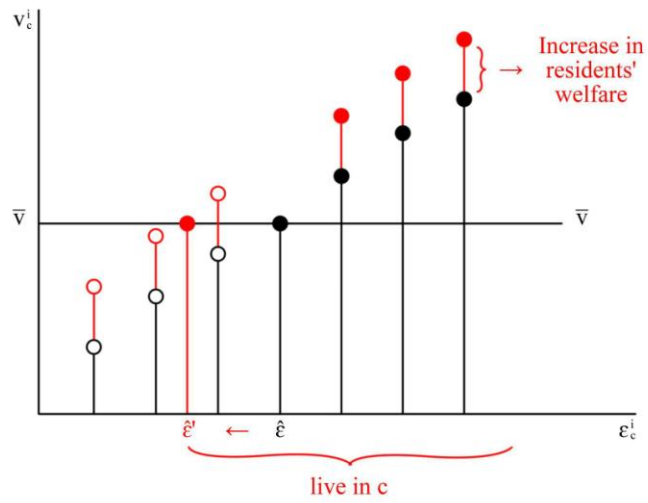


where:  $v_c^i$  - utility for individual  $i$  living in location  $c$

$\epsilon_c^i$  - idiosyncratic preference of individual  $i$  for location  $c$

*Notes:* The Figure shows the relationship between the indirect utility, the idiosyncratic preference shock and the critical value of the idiosyncratic preference shock.

**Figure 2: Effect of an increase in local amenities and productivity**



Local amenities and productivity  $\uparrow \Rightarrow$   
 $\Rightarrow$  Local utility for residents  $\uparrow \Rightarrow \hat{\varepsilon} \downarrow$

*Notes:* The Figure shows the effect of an increase in local amenities and productivity on the indirect utility and on the critical value of the idiosyncratic preference shock.

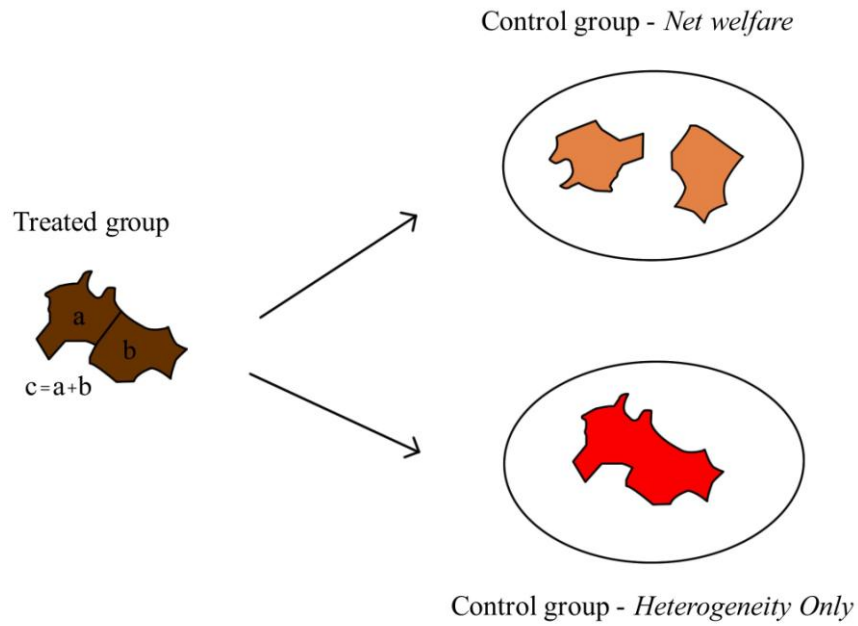


**Figure 3: Number of municipalities at Census dates**



*Notes:* The data source is the Italian National Institute of Statistics (ISTAT). The big jump in 1921 is due to the annexations of Trentino Alto Adige, Trieste, Gorizia, Istria, Zara after WWI for a total of 841 (9,195-8,354) *comuni*.

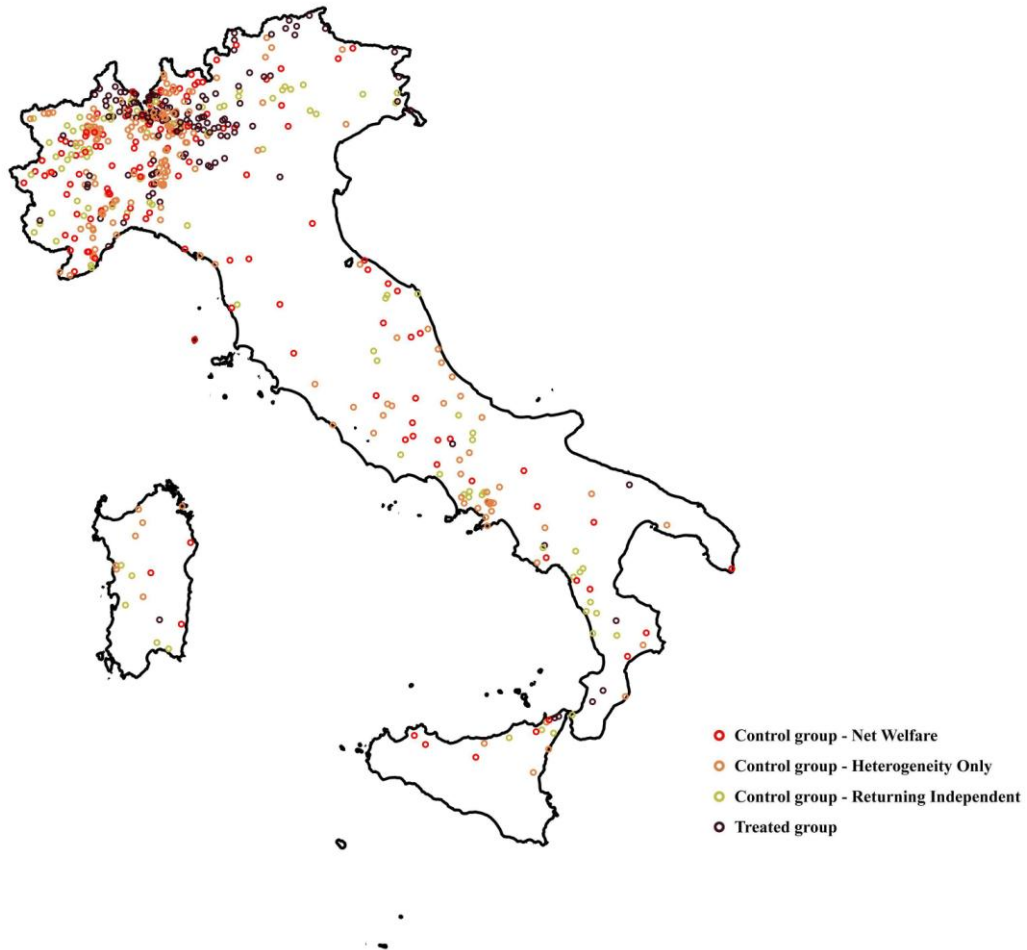
**Figure 4: Municipalities involved in the experiments**



*Notes:* Treated group: consolidated municipalities that have been created as a result of consolidation of consolidating suppressed municipalities. Control group - *Net Welfare Experiment*: municipalities that are most similar to the consolidating ones and that are joined to constitute synthetic counterfactuals for consolidated municipalities. Control group - *Heterogeneity Only Experiment*: municipalities that are most similar to the consolidated municipalities.

## Figure 5: Municipalities in the sample

**Figure 5a: Municipalities across the entire Italian territory (centroids)**

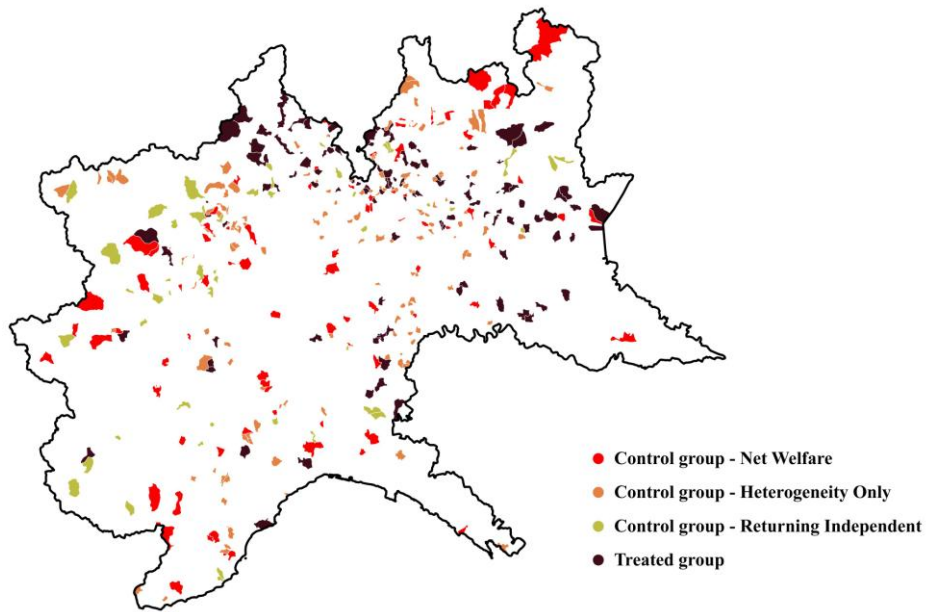


*Notes:* The Figure shows coloured circles that represent the centroids of the municipalities involved in the experiment. As the latter are very small, polygons would be not easily visible across the entire Italian territory.

*(continue)*

**Figure 5: Municipalities in the sample (*continue*)**

**Figure 5b: Municipalities across the North-Western territorial partition (polygons)**



*Notes:* The Figure shows the polygons of the municipalities involved in the experiment over the North-Western territorial partition (Piedmont, Lombardy, Liguria and Valle d'Aosta).

## Tables

**Table 1: Balancing Property**

<b>Panel A. Treated and PS-Selected Controls for the <i>Net Welfare Experiment</i></b>			
Covariate	Treated	PS-Controls	Balancing Property
	136	131	Test (p-value)
Ln(Population 1921)	7.557	7.533	0.781
Ln(Population 1951)	7.580	7.503	0.447
Ln(Plants 1951)	5.366	5.254	0.469
Ln(Employees 1951)	4.276	4.254	0.839
Ln(Surface)	7.491	7.436	0.646
Ln(Altitude)	5.724	5.624	0.431
Ln(Elevation range)	6.111	5.830	0.168
Costal location	0.029	0.066	0.156
<b>Panel B. Treated and PS-Selected Controls for the <i>Heterogeneity Only Experiment</i></b>			
Covariate	Treated	PS-Controls	Balancing Property
	136	63	Test (p-value)
Ln(Population 1921)	7.557	7.601	0.538
Ln(Population 1951)	7.580	7.742	0.110
Ln(Plants 1951)	5.366	5.618	0.113
Ln(Employees 1951)	4.276	4.515	0.307
Ln(Surface)	7.491	7.115	0.184
Ln(Altitude)	5.724	5.775	0.610
Ln(Elevation range)	6.111	6.245	0.392
Costal location	0.029	0.074	0.095
<b>Panel C. Treated and PS-Selected Controls for the <i>Returning Independent Experiment</i></b>			
Covariate	Treated	PS-Controls	Balancing Property
	136	96	Test (p-value)
Ln(Population 1921)	7.557	7.496	0.462
Ln(Population 1951)	7.580	7.481	0.321
Ln(Plants 1951)	5.366	4.211	0.530
Ln(Employees 1951)	4.276	5.275	0.548
Ln(Surface)	7.491	7.481	0.931
Ln(Altitude)	5.724	5.561	0.201
Ln(Elevation range)	6.111	6.362	0.312
Costal location	0.029	0.062	0.223

*Notes:* Treated: consolidated municipalities that have been created as a result of consolidation of consolidating suppressed municipalities. Controls - *Net Welfare Experiment*: PS-selected municipalities that are similar to the consolidating ones in terms of observable characteristics and that have been joined into synthetic counterfactuals for consolidated municipalities. Controls - *Heterogeneity Only Experiment*: PS-selected municipalities that are similar to the consolidated municipalities in terms of observable characteristics. Controls - *Returning Independent Experiment*: PS-selected municipalities that have obtained the reconstitution of pre-fascist boundaries and that are similar to the treated ones in terms of observable characteristics. Observable characteristics are: (log of) surface, (log of) altitude, (log of) elevation range, costal location, (log of) population in 1921, (log of) population in 1951, (log of) number of plants in 1951 and (log of) employment in 1951.

**Table 2: Baseline results**

Experiment	Treated	Controls	ATT	s.e.	t-stat
Net Welfare	136	131	0.071	0.040	1.76
Heterogeneity Only	136	63	-0.068	0.058	-1.17
Returning Independent	136	96	0.055	0.050	1.09

*Notes:* Treated: consolidated municipalities that have been created as a result of consolidation of consolidating suppressed municipalities. Controls - *Net Welfare experiment*: PS-selected municipalities that are similar to the consolidating ones in terms of observable characteristics and that have been joined into synthetic counterfactuals for consolidated municipalities. Controls - *Heterogeneity Only Experiment*: PS-selected municipalities that are similar to the consolidated municipalities in terms of observable characteristics. Controls - *Returning Independent Experiment*: PS-selected municipalities that have obtained the reconstitution of pre-fascist boundaries and that are similar to the treated ones in terms of observable characteristics. Observable characteristics are: (log of) surface, (log of) altitude, (log of) elevation range, costal location, (log of) population in 1921, (log of) population in 1951, (log of) number of plants in 1951 and (log of) employment in 1951. ATT estimated with the nearest neighbour matching method.

**Table 3: Robustness checks**

<b>Panel A. Other matching routines. Stratification matching</b>					
Experiment	Treated	Controls	ATT	s.e.	t-stat
Net Welfare	136	131	0.070	0.040	1.76
Heterogeneity Only	136	63	-0.042	0.044	-0.97
Returning Independent	136	96	0.053	0.051	1.04
<b>Panel B. Other matching routines. Radius matching</b>					
Experiment	Treated	Controls	ATT	s.e.	t-stat
Net Welfare	136	131	0.071	0.040	1.76
Heterogeneity Only	136	63	-0.033	0.053	-0.63
Returning Independent	136	96	0.067	0.041	1.63
<b>Panel C. Other matching routines. Kernel matching</b>					
Experiment	Treated	Controls	ATT	s.e.	t-stat
Net Welfare	136	131	0.074	0.040	1.86
Heterogeneity Only	136	63	-0.035	0.044	-0.79
Returning Independent	136	96	0.050	0.046	1.09
<b>Panel D. Only municipalities located in the Centre and North of Italy</b>					
Experiment	Treated	Controls	ATT	s.e.	t-stat
Net Welfare	127	107	0.070	0.055	1.28
Heterogeneity Only	127	34	-0.014	0.077	-0.18
Returning Independent	127	67	0.053	0.060	0.87
<b>Panel E. Only municipalities located not close from main urban centres</b>					
Experiment	Treated	Controls	ATT	s.e.	t-stat
Net Welfare	92	69	0.062	0.064	0.97
Heterogeneity Only	92	47	-0.104	0.061	-1.70
Returning Independent	92	59	0.055	0.053	1.04

*Notes:* Treated: consolidated municipalities that have been created as a result of consolidation of consolidated suppressed municipalities. Controls - *Net Welfare Experiment*: PS-selected municipalities that are similar to the consolidating ones in terms of observable characteristics and that have been joined into synthetic counterfactuals for consolidated municipalities. Controls - *Heterogeneity Only Experiment*: PS-selected municipalities that are similar to the consolidated municipalities in terms of observable characteristics. Controls - *Returning Independent Experiment*: PS-selected municipalities that have obtained the reconstitution of pre-fascist boundaries and that are similar to the treated ones in terms of observable characteristics. Observable characteristics are: (log of) surface, (log of) altitude, (log of) elevation range, costal location, (log of) population in 1921, (log of) population in 1951, (log of) number of plants in 1951 and (log of) employment in 1951. Panel A: ATT estimated with the stratification matching method. Panel B: ATT estimated with the radius (0.1) matching method. Panel C: ATT estimated with the kernel matching method. Panels D-I: ATT estimated with nearest neighbour matching method.

*(continue)*

**Table 3: Robustness checks (*continue*)**

<b>Panel F. Population growth rate 1951-1971. Controlling for casualties and missings during WWII</b>					
Experiment	Treated	Controls	ATT	s.e.	t-stat
Net Welfare	136	131	0.067	0.038	1.72
Heterogeneity Only	136	63	-0.059	0.049	-1.20
Returning Independent	136	96	0.047	0.044	1.07
<b>Panel G. Population growth rate 1951-1971. Controlling for natural movement</b>					
Net Welfare	136	131	0.074	0.036	2.01
Heterogeneity Only	136	63	-0.157	0.066	-2.37
Returning Independent	136	96	0.054	0.045	1.22
<b>Panel H. Other outcomes of interest. Plants growth rate 1951-1971</b>					
Experiment	Treated	Controls	ATT	s.e.	t-stat
Net Welfare	136	131	0.056	0.061	0.92
Heterogeneity Only	136	63	-0.014	0.066	-0.22
Returning Independent	136	96	0.080	0.057	1.39
<b>Panel I. Other outcomes of interest. Employment growth rate 1951-1971</b>					
Experiment	Treated	Controls	ATT	s.e.	t-stat
Net Welfare	136	131	0.043	0.098	0.44
Heterogeneity Only	136	63	-0.024	0.084	-0.28
Returning Independent	136	96	0.054	0.036	1.49

*Notes:* Treated: consolidated municipalities that have been created as a result of consolidation of consolidating suppressed municipalities. Controls - *Net Welfare Experiment*: PS-selected municipalities that are similar to the consolidating ones in terms of observable characteristics and that have been joined into synthetic counterfactuals for consolidated municipalities. Controls - *Heterogeneity Only Experiment*: PS-selected municipalities that are similar to the consolidated municipalities in terms of observable characteristics. Controls - *Returning Independent Experiment*: PS-selected municipalities that have obtained the reconstitution of pre-fascist boundaries and that are similar to the treated ones in terms of observable characteristics. Observable characteristics are: (log of) surface, (log of) altitude, (log of) elevation range, costal location, (log of) population in 1921, (log of) population in 1951, (log of) number of plants in 1951 and (log of) employment in 1951. Panel A: ATT estimated with the stratification matching method. Panel B: ATT estimated with the radius (0.1) matching method. Panel C: ATT estimated with the kernel matching method. Panels D-I: ATT estimated with nearest neighbour matching method.



## Appendices

### Appendix A

*Determination of local wage and rents.* The equilibrium values  $(w_c, r_c)$  can be obtained by solving the system given by equation (2) and  $\bar{v} = \eta \cdot A_c^u \cdot \frac{w_c}{r_c^{1-\mu}} \cdot \hat{\varepsilon}_c$ . It holds that:

$$(A.1) \quad r_c = \left[ \frac{\theta \cdot \eta^\alpha \cdot A_c^Y \cdot A_c^u \cdot \bar{v}^\alpha \cdot \bar{\epsilon}_c^\alpha}{\bar{\epsilon}_c^\alpha} \right]^{\frac{1}{1-\alpha\mu}}$$

$$(A.2) \quad w_c = \left[ \frac{\theta^{1-\mu} \cdot A_c^Y \cdot \bar{v}^{1-\mu} \cdot \bar{\epsilon}_c^{1-\alpha}}{\eta^{1-\alpha} \cdot A_c^u \cdot \bar{\epsilon}_c^{1-\alpha}} \right]^{\frac{1}{1-\alpha\mu}}$$

*Derivation of equation (7).* Local firms' demands for labour and land are given, respectively, by  $N_c = \bar{\epsilon}_c Y_c / w_c$  and  $L_c = (1-\alpha)Y_c / r_c$ . Demand for residential space by individuals is given by  $(1-\mu) \cdot N_c \cdot w_c / r_c$ . Thus, market clearing in the local land market requires that:

$$(A.3) \quad \bar{\ell}_c = \frac{(1-\alpha) \cdot Y_c + (1-\mu) \cdot N_c \cdot w_c}{r_c}$$

which also implies that

$$(A.4) \quad Y_c = \frac{\bar{\ell}_c \cdot r_c}{1-\alpha\mu}$$

Thus, exploiting (A.4),  $N_c$  can also be written as:

$$(A.5) \quad N_c = \frac{\alpha \cdot \bar{\ell}_c}{1-\alpha\mu} \cdot \frac{r_c}{w_c}$$

Equation (A.4) can be interpreted as the “demand side” for local population. The ratio  $r_c / w_c$  is immediately obtained from (A.1) and (A.2). In the absence of a perfectly elastic labour supply, the number of residents in the jurisdiction,  $n_c$ , will depend on the critical value  $\hat{\varepsilon}_c$ , according to the uniform shock distribution we assumed. Thus, it must hold that  $F(\hat{\varepsilon}_c) = \int_{1-\phi}^{\hat{\varepsilon}_c} \frac{1}{2\phi} d\varepsilon = \frac{\bar{N} - n_c}{\bar{N}}$ .

Solving the integral, we obtain the following expression:

$$(A.6) \quad n_c = \frac{\bar{N} + \phi - \hat{\varepsilon}_c \cdot \bar{N}}{2\phi}$$

In equilibrium  $n_c = N_c$ . Thus, equating (A.5) and (A.6) gives equation (7) in the text.

*Proof of Result 1.* The results that  $d\hat{\varepsilon}_c/dA_c^u < 0$ , and  $d\hat{\varepsilon}_c/dA_c^Y < 0$ , follow immediately from differentiation. Part *i*) is a consequence of (A.6): the lower the critical value  $\hat{\varepsilon}_c$ , the higher the equilibrium population  $n_c$ . Part *ii*) is consequence of (6): the lower the threshold  $\hat{\varepsilon}_c$ , the higher the utility for each resident.

## Appendix B

### **Deliberation of the Podestà (Major) of Rovigo. Archive of the *Comune* of Rovigo, vol. 65**

**Original:** *Il commissario prefettizio di Rovigo sottolinea: «il comune si affatica e arranca in mezzo a difficoltà finanziarie dipendenti non da sperperi o da altre cause di natura antieconomica, ma dal fatto che le risorse di cui dispone sono, in via assoluta, inadeguate al costo dei servizi che egli deve mantenere. Per rimediare a questa situazione, che trova la sua origine in una insufficienza di carattere organico, si adottarono in passato vari provvedimenti, che si risolsero però sempre in palliativi, che, in luogo di sanare il male, contribuirono ad aggravarlo»; ed ancora «Rovigo con l'aggregazione acquisterà un più ampio respiro e si procurerà condizioni di vita meno impossibili, ma anche i comuni aggregandi riceveranno vantaggi non indifferenti, primo tra i quali quello di poter dare alle loro popolazioni i pubblici servizi, dei quali sono sprovvisti». Nel provvedimento si spiega il motivo dell'esclusione da questa proposta del comune di Costa, territorio contermina a quello di Rovigo, ma con il centro distante dieci chilometri e senza nessuna dipendenza con il capoluogo, trattandosi di «comune di tipo cittadino dotato di sufficiente autonomia ... fornito di un buon bilancio e provvisto di molti servizi». Si rendeva, invece necessario l'inglobamento di Sant'Apollinare che, per quanto non confinante, distava pochi chilometri dalla città e «col quale ha stretti ed intimi rapporti».*

**Translation:** The prefectural commissioner of Rovigo stresses: «the common toils and limps in the midst of financial difficulties are not due to squandering or other inefficiencies, but to the fact that the available resources are absolutely inadequate to fund the cost of services. Various measures have been adopted in the past to change this situation, originated by lack of organization, but they always happened to be a palliative that instead of acting as a remedy, helped to aggravate the situation», and still, «After the aggregation, Rovigo will improve on its extreme living conditions, and also the municipalities under consolidation will receive considerable advantages, such as the possibility to provide their people with those public services they are currently lacking». The measure explains the reason for excluding from this proposal the town of Costa, located in the vicinity of Rovigo, but with a center located ten kilometers away and without any dependence on Rovigo itself, being «a municipality with sufficient autonomy, due to an adequate budget and provision of many services». It was, however, necessary to merge Sant'Apollinare that, although not neighbouring, is located only few kilometers away from the city of Rovigo, to which is related «through close relationship».

**From the history of the *Comune* of Baone, available at <http://www.comune.baone.pd.it/dalla-guerra-al-fascismo>.**

**Original:** *E' noto infatti che tra i comuni di Arquà Petrarca e di Este si è convenuto di fare del Comune di Baone due parti, una delle quali, Valle San Giorgio, dovrebbe essere incorporata ad Arquà Petrarca, l'altra, Baone centro e Calaone, ad Este. Arquà e gli altri due comuni fondavano la loro richiesta sul decreto del 17 marzo 1927 che stabiliva che dovevano essere eliminate quelle “situazioni comunali sfornite non solo di capacità di sviluppo ma anche della possibilità di continuare a far fronte con un minimo di sufficienza all'aumentato costo dei pubblici servizi ed alle cresciute esigenze dei cittadini.” Si voleva creare organismi più robusti mediante il raggruppamento di piccole unità preesistenti o mediante l'aggregazione di piccole*

*unità ad un centro consistente. Immediata fu la reazione degli abitanti di Valle. Gli animi si infiammarono. Tutti i capifamiglia firmarono una petizione contraria all'assorbimento del comune. La protesta si allargò coinvolgendo l'intera realtà comunale. Carisio Canevarolo, che in quell'epoca era un dipendente comunale, così la ricorda nelle sue memorie: "Insorse l'Amministrazione comunale di Baone e il Fascio locale. Il Podestà comm. Carturan approntò con grande cura una lunga e dettagliata relazione in piena opposizione alle richieste dei detti Comuni. La relazione del Podestà e apposito ricorso del Fascio locale vennero spediti al Ministero degli Interni, alla Prefettura di Padova, alla federazione dei Fasci di Padova. Dopo un anno tutte le acque si calmarono e Baone rimase intatto."*

**Translation:** It is well-known that the municipalities of Arquà Petrarca and Este have agreed to separate the Comune of Baone in two parts, one of which, San Giorgio Valle, should be merged with Arquà Petrarca, while the other, namely Baone center and Baone Calaone, should be aggregated together with Este. Arquà and the other two municipalities based their request on the Decree of March 17, 1927, which stated the eradication of "municipalities which lack not only of development capacity, but also of the ability to cope with the increasing minimum sufficient financial burden of public services, and the increasing necessities of citizens." The Decree aimed at creating stronger organizations through the grouping of existing small units, or through the aggregation of small units to a large center. The reaction of the inhabitants of the valley was immediate. Tempers inflamed. All the heads of the family signed a petition against the aggregation of the town. The protest spread and involved the whole town. Carisio Canevarolo, at the time a civic employee, wrote in his memoirs: "The City Council and the local Fascist Party Section rose up. The Podestà (Mayor), Mr. Carturan, wrote a long and detailed report which fully opposed the demands of those municipalities [Arquà and Este]. The report of the Mayor and the appeal of the local section of the Fascist Party were sent to the Home Office, the Prefect of Padua, and to the federation of the Fascist Party in Padua. After one year, the quarrel dust settled, and Baone remained untouched."

### **Consolidation of Radicena, Jatrinoli and Terranova Sappo Minulio in a unique comune denominating Taurianova. Decree 16 February 1928 n. 377**

**Original:** *Vittorio Emanuele, per grazia di Dio e per volontà della Nazione, Re d'Italia:*

*In virtù dei poteri conferiti al Governo con R. Decreto 17 marzo 1927, n. 383: sulla proposta del Capo del Governo, Primo Ministro Segretario di Stato, Ministro Segretario di Stato per gli affari dell'Interno; abbiamo decretato e decretiamo):*

*I comuni di Radicena, Jatrinoli e Terranova Sappominulio, in provincia di Reggio di Calabria, sono riuniti in un unico comune denominato TAURIANOVA. Le condizioni di tale unione, ai sensi e agli effetti dell'articolo 118 della legge comunale e provinciale, testo unico 4 febbraio 1915, n. 148, saranno determinate dal Prefetto, sentita la Giunta Provinciale Amministrativa.*

*Ordiniamo che il presente decreto, munito del sigillo di Stato, sia inserito nella raccolta ufficiale delle leggi e dei decreti del Regno d'Italia, mandando a chiunque spetti di osservarlo e farlo osservare.*

*Vittorio Emanuele*

*Visto: il Guardasigilli: Rocco*

*Registrato alla Corte dei Conti addì 10 marzo 1928 - Anno VI.*

*CASATI*

*Atti del Governo, registrato 270, foglio 80.*

**Translation:** Vittorio Emanuele, King of Italy for Grace of God and Will of the Nation:

Owing to the powers conferred to the Government by the Royal Decree of 17 March 1927, n. 383: on proposal of the Head of Government, Prime Minister Secretary of State, Secretary of State for the Home Office, we have decreed and decree that:

The municipalities of Radicena, Jatrinioli and Terranova Sappominulio, in the province of Reggio di Calabria, join together in a single town called Taurianova. The conditions for this union, in the respect of Article 118 of the municipal and provincial law, the Testo Unico of February 4, 1915, n. 148, will be determined by the Prefect, after consultation with the Provincial Administration.

We order that the present decree, bearing the Seal of the State, be inserted in the official collection of laws and decrees of the Kingdom of Italy, commanding the whom is concerned to observe and enforce it.

Vittorio Emanuele

The Registrar: Rocco

Registered at the Court of Auditors on March 10, 1928 - Year VI.

CASATI

Acts of Government, registered 270, sheet 80.

**Discussion and referral of the initiative of the senators Farina and Gavina, on the “Reconstitution of the village of Donelasco, in the province of Pavia” From: Senate Acts, March 22, 1956.**

**Original:** *PRESIDENTE. L'ordine del giorno reca la discussione del disegno di legge d'iniziativa dei senatori Farina e Gavina: «Ricostituzione del comune di Donelasco, in provincia di Pavia». Per questo Comune, essendo stato soppresso dal fascismo, è applicabile la legge Rosati. Inoltre, trattandosi di un Comune di appena 482 abitanti, con 353 ettari di terreno, mancherebbe l'autosufficienza.*

*Dichiaro aperta la discussione generale.*

*LOCATELLI. Conosco molto bene questo paese, che era Comune fin dal 1700. Il fascismo lo sopprime per ragioni politiche; pertanto a me sembra opportuno che si debba ricostituire immediatamente.*

*BISORI, Sottosegretario di Stato per l'interno.*

*A questo Comune è applicabile la legge Rosati. Tanto basterebbe perché, secondo me, dovesse ritenersi non conveniente che il potere legislativo — trascurando la volontà della popolazione, sulla quale qui nulla risulta, e senza tenere presente il riguardo dovuto al Capo dello Stato, al Consiglio di Stato ecc. competente secondo quella legge — emettesse un suo provvedimento. Nel merito, debbo aggiungere questo. Agli uffici risulta che la frazione di Donelasco, sita in zona collinosa, è collegata con il capoluogo da due strade, entrambe in buono stato di manutenzione, lunga l'una chilometri 1,300, l'altra chilometri 3,500. Risulta altresì che i*

*vari nuclei abitati, che dovrebbero essere compresi nel ricostituendo Comune, comunicano più agevolmente con l'attuale capoluogo di Santa Maria della Versa, che non con la frazione di Donelasco. Risulta inoltre che l'economia di Donelasco è strettamente collegata a quella di Santa Maria della Versa dove si trovano persino le cantine sociali nelle quali affluisce l'uva raccolta nel territorio del Comune. Dal lato finanziario attualmente il bilancio di Santa Maria della Versa è in pareggio. Ricostituire, invece, il comune di Donelasco comporterebbe, per quel Comune, una spesa obbligatoria per circa 3 milioni di lire a carico di 482 abitanti.*

*Per tutte queste ragioni il Governo è contrario all'approvazione di questo disegno di legge.*

*TERRACINI. Ho piena fiducia e verso al rappresentante del Governo e verso i nostri colleghi proponenti di questo disegno di legge, ma vi sono delle strane contraddizioni tra ciò che è scritto nella relazione ed alcune delle cose che abbiamo in questo momento udito. Nella relazione si parla di una pratica iniziata in via amministrativa, la quale aveva già avuto il parere pienamente favorevole del Consiglio provinciale di Pavia, della quale però poi non si dicono gli sviluppi ulteriori. Pertanto penserei che l'iniziativa legislativa sia stata conseguenza di una di quelle delusioni fatte sorgere in mezzo alla popolazione dall'estrema lentezza della pratica amministrativa. Per ciò che si riferisce alle distanze, nella relazione del nostro collega si parla di 5 chilometri di strada carrozzabile tra Santa Maria della Versa e Donelasco. Per ciò che si riferisce alle spese obbligatorie, se gli abitanti di questa frazione sono disposti a pagarle, non so se abbiamo il diritto di intervenire per consigliarli a devolvere altrimenti il denaro di cui possono disporre. Inoltre non possiamo dimenticare che questa frazione in passato era già Comune e ha dato dimostrazione di poter vivere in maniera autonoma.*

*Per questi motivi sono favorevole alla approvazione del disegno di legge.*

*BISORI, Sottosegretario di Stato per l'interno.*

*La pratica amministrativa della quale il senatore Terracini ha parlato si è arenata, anzi si è interrotta, non per l'intervento degli uffici, bensì per la presentazione di due opposizioni a firma di frazionisti di Donelasco, già firmatari della istanza di ricostituzione di Donelasco in comune autonomo. A seguito della presentazione di quelle due opposizioni, vennero meno alla istanza i requisiti richiesti dalla legge Rosati.*

*Quindi, approvando questo disegno di legge, calpesteremmo non solo la legge Rosati, ma anche la volontà della maggioranza delle popolazioni.*

*TERRACINI. L'onorevole Sottosegretario ha detto che l'opposizione è stata firmata da frazionisti : ciò non vuol dire che questi siano numerosi, ma semplicemente che sono abitanti di Donelasco.*

*BISORI, Sottosegretario di Stato per l'interno.*

*Ritengo che, essendo applicabile la legge Rosati, poiché si tratta di un Comune soppresso durante il fascismo, una delle due: o esistono i requisiti che il Parlamento ha stabilito nel dettare la legge Rosati e allora si deve agire in sede amministrativa; o quei requisiti non esistono, ed allora non è il caso che il Parlamento faccia una leggina ad hoc, contrastando perfino la volontà delle popolazioni.*

*LOCATELLI. Chiedo che sia sospesa la discussione e che si faccia un supplemento di istruttoria chiaro e preciso.*

*BISORI, Sottosegretario di Stato per l'interno.*

*A me sembra assurdo che una frazione di 482 abitanti possa spendere 3 milioni all'anno. In ogni modo dichiaro che sono contrario alla proposta di sospensiva.*

*ANGELINI, relatore. Gli atti della istruttoria si riducono solamente alla relazione fatta dal Prefetto di Pavia al Ministero del l'interno; non mi è stato possibile acquisire altri elementi. Debbo aggiungere che da detta relazione risulta che la distanza tra la frazione di Donelasco e il comune di Santa Maria della Versa è di un chilometro e mezzo.*

*PRESIDENTE. Nessun altro chiedendo di parlare metto ai voti la proposta di sospensiva formulata dal senatore Locatelli, alla quale il Governo ha dichiarato di essere contrario.*

*(È approvata).*

*Il seguito della discussione di questo disegno di legge è pertanto rinviato ad altra seduta.*

**Translation:** PRESIDENT. The next item concerns the discussion of the initiative of Senators Farina and Gavina, on the "Reconstitution of the town of Donelasco, in the province of Pavia." As the municipality has been suppressed by Fascism, the Rosati law can be applied. However, since the city has just 482 inhabitants, with 353 hectares of land, it fails to meet the requirements for self-sufficiency.

I open the general discussion.

LOCATELLI. I know very well this small town, which has been a *Comune* since 1700. Fascism suppressed it for political reasons, so I believe it is appropriate to restore it immediately.

BISORI, Secretary of State for the Home Office.

Since the Rosati law applies to this municipality, in my opinion, it is not appropriate that the Parliament - ignoring the will of the people and without any regard for the opinion of the Head of the State, the Council of the State, etc. which are competent by law - would issue its own decision. I must add that, according to the offices in charge, the fraction of Donelasco, located in a hilly area, is connected with the administrative centre by two roads, both in good condition, one 1.3 km, the other 3.5 km long. It is also clear that the various settlements and hamlets which should be included into the reconstituted municipality have better connections with the current administrative centre, Santa Maria della Versa, than with the town of Donelasco. Moreover, the economy Donelasco is closely connected with Santa Maria della Versa, where there the wineries which process the grapes of Donelasco. From a public finance perspective, the budget of Santa Maria della Versa is balanced. However, the restoration of the municipality of Donelasco would imply, for that municipality itself, mandatory spending for about 3 millions to be spread over a population of 482 inhabitants.

For all these reasons the Government opposes the approval of this proposal.

TERRACINI. I fully trust the representatives of the Government and our fellow members who propose this bill, but there are some peculiar contradictions between what is written in the report and some of the things we just heard. The report describes an administrative procedure, which has been fully endorsed by the Provincial Council of Pavia, without illustrating any further development. So, I believe that the present legislative initiative was the result of the disappointment arising among citizens who were tired of the extreme slowness of the administrative procedure. With concern to distances, the report of our colleague mentions 5 km of paved road between Santa Maria della Versa and Donelasco. For what it concerns mandatory expenditures, if the residence of this small town are willing to pay, I do not know if it is right to

advise them to use their money differently. We cannot also forget that this fraction was formerly a comune, and has already demonstrated that it could manage on its own.

For these reasons I support the approval of the bill.

BISORI, Secretary of State for the Home Office.

The administrative process mentioned by Senator Terracini got interrupted because of two petitions signed by groups of Donelasco's residents opposing the reconstitution of the municipality. After such petitions, the requirements of the Rosati law failed to apply. By approving this bill, we would trample not only the Rosati law, but also the will of the majority of the population.

TERRACINI. The Honourable Minister said that the opposition was signed by groups of opponents who are residents of Donelasco: this does not mean, however, that they are majority.

BISORI, Secretary of State for the Home Office.

I believe that the existing Rosati law applies, because Donelasco is a small municipality suppressed during Fascism. One of following two possibilities must be correct: either the requirements prescribed by the Rosati law are met, so that the matter must be left to an administrative act, or those requirements are not met. In the latter case, the Parliament should not make an ad hoc law, which would even go against the will of residents.

LOCATELLI. I call for a suspension of the debate, demanding that additional investigation is made on the subject.

BISORI, Secretary of State for the Home Office.

To me, it sounds absurd that a village of 482 inhabitants would spend 3 million per year. In any case, I declare that I am against the suspension of the debate.

ANGELINI, Rapporteur.

The proceedings of the inquiry are limited to the report made by the Prefect of Pavia to the Home Secretary. I have not been able to acquire other information. I should add that this report argues that the distance between Donelasco and the municipality of Santa Maria della Versa is 1.5 kilometers.

PRESIDENT. As nobody else asked to speak, I ask you to vote the proposal of Senator Locatelli on the suspension of the current debate.

(The proposal is approved).

The debate is therefore postponed to a future session.



## Appendix C

**Table A1: Political determinants of consolidation**

Dependent variable: Probability of consolidation		
<i>Political party</i>	1919	1921
<i>Liberali e altri</i>	-0.0005** (0.0002)	
<i>Partito Socialista</i>	-0.0006*** (0.0001)	-0.001*** (0.0002)
<i>Partito Popolare</i>	-0.0001 (0.0002)	-0.0004* (0.0002)
<i>Blocchi Nazionali</i>		-0.0005 (0.0003)
<i>Partito Comunista</i>		0.0004** (0.0002)
Controls	YES	YES
R2	0.107	0.107
Observations	3,780	3,483
<i>which: Consolidated</i>	343	354

*Notes:* Dependent variable: dummy equal to one if a municipality consolidated. In this case, for consolidation we mean that the municipality is subject to any kind of territorial variations due to the consolidation policy. Explanatory variable of interest: vote share obtained in each municipality by the main Italian political parties in 1919 (Socialist - *Partito Socialista*, Popular - *Partito Popolare Italiano*, and the coalition of liberals, democratic and radicals - *Liberali e altri*) and 1921 (Socialist - *Partito Socialista*, Popular - *Partito Popolare Italiano*, liberals and fascists alliance - *Blocco Nazionale*). We also included the Communist party as the 1921 elections were the first in which socialists and communists were divided after the birth of the *Partito Comunista*. Controls: population, surface, altitude, elevation range, costal location, southern location. Coefficients are linear probability model estimates. Probit estimates produce similar results. \* - \*\* - \*\*\*: coefficient statistically significant at 1% - 5% - 10% significance level. Standard errors in brackets.

## Appendix D

Our data source is the Italian National Institute of Statistics (ISTAT), which provides information about the territorial variations of Italy's municipalities and links them with the corresponding legislative act. Among them we select only the municipalities involved into the Fascist consolidation policy. The number of consolidating municipalities amounts to 2,078. At the end of WWII, municipalities were allowed to restore their pre-fascist boundaries. The total number of consolidating municipalities that regained their original features is 884, of which 778 between 1945 and 1961. The other 1,194 were either attached to 736 already existing municipalities or consolidated into 248 new born municipalities<sup>28</sup>. As 80 out of 248 new born municipalities were definitely suppressed after WWII to allow reconstitutions of pre-fascist boundaries, the number of new born municipalities available for our exercise is 168. Information is summarized in Table A2, Panel A. The estimation sample is described below. Information about the estimation sample is summarized in Table A2, Panels B to E.

*Treated group* (Table A2, Panel B). This is a group of 136 municipalities chosen among the 168 new born municipalities (the consolidated municipalities), resulting from the aggregation of 302 suppressed municipalities (the consolidating municipalities). Of the 168 new born (consolidated) municipalities, 136 are those that find a match with each of the three control groups described below. The matched consolidated municipalities correspond to 205 suppressed (consolidating) municipalities.

*Control group - Net Welfare Experiment* (Table A2, Panel C). This is a group of 131 municipalities that are similar to the consolidating ones in terms of observable characteristics (see below) and that have been joined into synthetic counterfactuals for consolidated municipalities. To construct this group we use a three step procedure. In the step I, we use an exact matching procedure to choose, among 5,709 untreated municipalities, those that are most similar to the 205 consolidating ones in terms of surface and population in year 1921. In the step II, the selected municipalities are joined into synthetic municipalities (see Figure 4). On average, each synthetic municipality is made up of 2.6 selected municipalities. In the step III, we use a propensity score method to choose, among the synthetic municipalities, those that are most similar in terms of observable characteristics (see below) to the 136 consolidated municipalities. Observable features are: (log of) surface, (log of) altitude, (log of) elevation range, costal location, (log of) population in 1921, (log of) population in 1951, (log of) number of plants in 1951 and (log of) employment in 1951.

*Control group - Heterogeneity Only Experiment* (Table A2, Panel D). This is a group of 63 municipalities similar to the 136 consolidated ones. To construct this group, within the set of 5,094 untreated municipalities, we PS-select the 63 that are most similar in terms of observable features to the consolidated municipalities. Observable features are: (log of) surface, (log of) altitude, (log of) elevation range, costal location, (log of) population in 1921, (log of) population in 1951, (log of) number of plants in 1951 and (log of) employment in 1951.

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<sup>28</sup> The policy involved also 143 municipalities that have lost only fractions (attached either to the already existing municipalities or to the new born municipalities). These municipalities have not been considered in this study.

*Control group - Returning Independent Experiment* (Table A2, Panel E). This is a group of 96 municipalities that return to be independent after being involved in the Fascist consolidation. To construct this group, within the set of municipalities that return to be independent in the period 1945-53, we PS-select the 96 municipalities that are most similar to the treated municipalities in terms of observable features. Observable features are: (log of) surface, (log of) altitude, (log of) elevation range, costal location, (log of) population in 1921, (log of) population in 1951, (log of) number of plants in 1951 and (log of) employment in 1951.

**Table A2: Sample construction**

<b>Panel A. Municipalities involved in the consolidation</b>	Obs.
Municipalities involved in the consolidation as consolidating units	2,078
<i>of which:</i>	
Attached to existing municipalities or consolidating into new born municipalities	1,194
Returning independent	884
<i>of which: Returning independent in the period 1945-1961</i>	778
<i>of which: Returning independent in the period 1945-1953</i>	631
Municipalities involved in the consolidation as consolidated units	984
<i>of which:</i>	
Existing municipalities	736
New born municipalities	248
<i>of which: New born municipalities not suppressed after WWII</i>	168
<b>Panel B. Treated group</b>	Obs.
New born municipalities not suppressed after WWII	168
Matched new born municipalities not suppressed after WWII	136
<b>Panel C. Control group - <i>Net Welfare Experiment</i></b>	Obs.
Untreated municipalities	5,907
PS-selected untreated municipalities	131
<b>Panel D. Control group - <i>Heterogeneity Only Experiment</i></b>	Obs.
Untreated municipalities	5,094
PS-selected untreated municipalities	63
<b>Panel E. Control group - <i>Returning Independent Experiment</i></b>	Obs.
Returning independent municipalities	631
PS-selected returning independent municipalities	96

*Notes:* Data source is the Italian National Institute of Statistics (ISTAT)