

# Building the Glass House: Transparency and Civic Capital in Italy\*

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## Abstract

In democratic societies, transparency is a fundamental pillar of the process of monitoring the public sector's performance, fostering the integrity of public officials and favoring accountability. In this paper we aim to investigate its relationship with civic capital, using a composite indicator of transparency based on hand-collected data about the level of transparency in a large sample of Italian Municipalities. Our results are robust to different samples and endogeneity concerns, and demonstrate that civic capital positively affects transparency, suggesting that the quality of the social environment provides an incentive for public agents to become more transparent and therefore more accountable.

Keywords: Transparency, local governments, civic capital, political accountability

JEL Classification: K2, K4, H3, Z1

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## 1. Introduction and related literature

Fostering transparency is one of the policies undertaken in contemporary democracies to monitor the performance of the public administrations, promote the integrity of public officials and favor accountability.<sup>1</sup> In a principal-agent framework, transparency represents a solution to the problems of information asymmetry characterizing the relationship between the principal, i.e., the stakeholders, and the agent, i.e., policy makers, whose interests may indeed be conflicting. Consequently, policy makers have to show to their stakeholders that they are acting in line with their engagements and transparency is a way to verify such a behavior (Heald, 2006; Holzner and Holzner, 2006). In this respect, transparency may have beneficial effects at any level of the decision-making process. These positive implications cannot be taken for granted as they are often limited and conditional on several features such as the area of government, policy domain, or the communities' characteristics (de Fine Licht et al., 2014).

The political science literature has widely explored the connections between transparency and several features such as trust in public institutions, political participation, quality of government, the perception of legitimacy, and civic satisfaction. The findings demonstrate that these connections are mostly, although not always, positive and dependent on a specific context<sup>2</sup>. Moreover, it is worth noting that the literature on transparency to a great extent refers to decentralized contexts, i.e., where competition across jurisdictions is supposed to foster accountability (Oates, 2008; Martinez-Vazquez et al., 2017) and that transparency may play a major role in the effectiveness of decentralization, increasing and improving the information available to citizens. Again, on the theoretical side, the economic literature has analyzed how increased access to information by voters could curb the ability of politicians to shirk or to extract rents, and improve

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<sup>1</sup>This is an old question raised in the political sphere. Already in 1908 Filippo Turati, an influential Italian political leader, suggested the importance to make the public activity transparent, coining the metaphor of the "glass house".

<sup>2</sup>See among others: Welch, Hinnant, and Moon (2005); Piotrowsky and Van Ryzin (2007); Benito and Bastida (2009); Worthy (2010); Grimmelikhuijsen and Meijer (2014).

their selection (Besley and Burgess, 2002), even if it does not unambiguously increase efficiency (Gavazza and Lizzeri, 2007, 2009).

Instead, only recently this issue has been studied in the empirical literature. In particular, Fadda et al. (2018) show that there is an inverse correlation between levels of corruption and a public administration's commitment to transparency, using information derived from the "Compass of Transparency".<sup>3</sup> Again, Galli et al. (2017) build a new composite indicator of transparency (CTI) for a large sample of Italian municipalities and show that it is significantly correlated with widely used measures of the quality of institutions.

Our study contributes to this new branch of literature by verifying if the degree of transparency of public administrations depends on the local context, and in particular on civic attitudes. To this end, we estimated a model where transparency for a large sample of Italian Municipalities, measured by the composite indicator (CTI) built by Galli et al. (2017), is regressed over a few indicators of civic capital (Guiso et al., 2016) and several other controls.

We have found that civic capital positively affects transparency. This result is robust to different specifications, including an IV model to tackle endogeneity concerns. Also, we provide some suggestive evidence that part of the positive effect of civic capital on transparency could be related to the electoral punishment of political misbehavior in terms of transparency.

Overall, our study suggests that the quality of the social environment provides an incentive for public agents to become more transparent and therefore more accountable. In this regard, the paper is also related to the literature that examines the relationship between social capital and political accountability. For example, Nannicini et al. (2013), using Italian national data, find that voters' punishment of politicians' misbehaviors is considerably larger in districts where social

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<sup>3</sup>The "Compass of Transparency" is a web-portal managed by the Italian government. It does not allow the verification of data or the information content of the public administrations' websites ("Transparent Administration") but only provides information on whether such a section exists and if its structure formally complies with the standard legal requirements.

capital is higher, while Albanese et al. (2017) investigate how electoral rules and the degree of civicness interact in affecting politicians' behavior.

The rest of the paper is organized as follows. In the next section, we briefly summarize the issue of measuring transparency. Section 3 describes the empirical strategy. Section 4 provides the main empirical results, while Section 5 presents an empirical analysis of the political payoff of transparency. Section 6 concludes the paper.

## **2. Measuring Transparency**

Over the last three decades, the interest in the construction and use of governance indicators has led to a burgeoning production of corruption (Sequeira, 2012) and transparency (although to a lesser extent) indicators (Cucciniello et al., 2016). This proliferation of measures has encouraged a growing complexity in both data gathering and methodologies, but also raised significant criticisms regarding the method through which corruption and transparency have been defined and operationalized, i.e. the procedures of their quantification (Malito, 2014). As regards transparency, Galli et al. (2017), following a “top down” approach, propose an indicator (CTI) based on the transparency obligations requested in Italy to the public administration since the 2013 legislation<sup>4</sup>. To this respect, the Italian well-established regulatory framework<sup>5</sup> represents a great opportunity as it allows to select among several aspects of public administration activity<sup>6</sup> concerning both dimensions of “integrity” and “performance”.

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<sup>4</sup>The so-called “Code of Transparency - Leg. decree n. 33/2013” enlarges the subjective and objective scope of transparency, so that the obligations apply to more than 10,000 subjects, i.e. all public offices at any level of government and public companies, and includes approximately 270 detailed items to be published in a standardized format.

<sup>5</sup> A potentially crucial role is assigned to citizens: the 2013 reform provides the so-called “civic access,” i.e., the recognition of the right for any citizen to access all of the information and data included in the mandatory publication list, and if it is not published yet, to obtain it from public organizations. The access has been further enlarged with the legislative decree n. 97/2016 which points toward the generalized dissemination of information upon request, in line with the Freedom of Information (FOI) approach

<sup>6</sup>Transparency obligations cover a very wide and diversified scope: information about competences, salaries, fiscal declarations, and statements on the lack of conflict of interest of the top public managers and officers, and external

In technical terms, the CTI is a composite indicator resulting from the average of a set of items referring explicitly to the degree of transparency carried out by the public administrations in the two above-mentioned dimensions. “Integrity” comprises items on income, asset disclosure and conflict of interest (for both politicians and top and senior public officials), while “performance” encompasses items on the management of public property, the timeliness of public payments, and the quality of public services. The CTI is based on a completely new first-hand dataset including information on the integrity and management of municipality activities, published on the municipality websites (in the section *Amministrazione Trasparente*). The value of each item is based on the evaluation provided by an Independent Evaluation Unit (“*Organismo Indipendente di Valutazione*” - OIV) which follows the criteria established by the National Anticorruption Authority (*Autorità Nazionale Anticorruzione* - ANAC<sup>7</sup>), i.e. “publication of information”, “completeness”, “updating” and “openness”. The scale goes from 0 to 3, except for “publication of information” which ranges from 0 to 2; for the purpose of the computation, the items are re-scaled from 0 to 3. Values are normalized, and the average for all indices was set equal to unity. Then, the values for each sub-pillar were recalculated in relation to the average and given equal weights, consistent with the ANAC methodology<sup>8</sup>.

It is worth noting that this methodology is replicable in any context where public administrations are requested to engage in a more active disclosure of information through regulated obligations. As regards Italy, the indicator is operationalized and tested on a large sample of municipalities and calculated for 2013, the first year of implementation of the new transparency regulations.

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consulting and collaborations as well as information about public procurement, management of property and assets, timing of payments, and the provision of public services.

<sup>7</sup>ANAC resolution n.77/2013

<sup>8</sup>For further details, see Galli et al. (2017).

### 3. Estimating the relationship between Transparency and Civic Capital

In this paper, we aim to verify the relationship between civic capital and transparency empirically.

In particular, the following formula is used:

$$Transparency_i = \alpha + \beta * CivicCapital_i + \gamma * Controls_i + \varepsilon_i \quad (1)$$

where our measure of transparency in city  $i$  is regressed over civic capital and a set of control variables. Transparency is measured with the CTI index built by Galli et al. (2017), as described in Section 2.

The CTI index is available for 524 municipalities. Almost four-fifths are drawn from a stratified sample of municipalities with less than 15,000 inhabitants selected by ANAC (2015) for its monitoring activities. We complemented these with all the provincial capital cities, in order to include in the analysis a set of larger cities disseminated across Italy. Accordingly, our final sample covers 6.5% of Italian towns, which represent 32% of the population. Figure 1 shows the spatial distribution of CTI index. Transparency is on average higher in the Centre and North municipalities, but there is substantial variability across space, which we exploit in our empirical model.

*[Insert Figure 1 about here]*

Data on transparency are regressed on two different indicators of civic capital taken from Guiso et al. (2016). In particular, our baseline measure is the (log) number of non-profit organizations per capita; we also consider a dummy for the existence of an organ donation organization at the city level. Both of these are conventionally accepted proxies for social capital (Guiso et al., 2011). Figure 2 reports the spatial distribution of our preferred index. This map confirms the well-known gap in civic capital between the Centre North and the South, but also shows the heterogeneity within areas.

*[Insert Figure 2 about here]*

Of course, the relationship between transparency and civic capital could be driven by several confounding factors. Therefore, our OLS estimates in Section 4.1 take into account a wide set of (socio-economic, fiscal, politico-institutional, and geographical) control variables selected

according to the literature on the determinants of transparency (Galli et al., 2017, 2019). Table 1 illustrates the summary of the statistics of the variables employed in our study, while a description of the variables used, and the relative sources, is available in the Appendix (Table A). Again, in Section 4.2 we attempt to correct for other sources of endogeneity through the use of an IV estimator.

*[Insert Table 1 about here]*

## **4. Main evidence**

### ***4.1 OLS Results***

In this section, we report our OLS equation estimates (1). Table 2 indicates the baseline specifications. The measure of civic capital is the (log) number of non-profit organizations per capita. In our most parsimonious model (Column 1), we consider population and its square as the only covariates. Column 2 uses a wider set of controls for the socio-economic and geographic characteristics of municipalities, which can be correlated with the levels of transparency and civic capital (population and its square, ratio of people with secondary education, average income, Gini income inequality, digital divide, elevation, coastal location, and a dummy for the Southern municipalities). Column 3 adds regional fixed effects to control for unobserved region-specific factors. Since transparency has been shown to be spatially correlated (Galli et al., 2018), we also report standard errors corrected using Conley's method (1999).

Overall, the results support the existence of a positive and significant relationship between civic capital and the degree of transparency adopted at the municipal level. Interestingly, the magnitude of the coefficient is stable across the regressions despite an increase in the goodness-of-fit of a less conservative specification.

*[Insert Table 2 about here]*

We also performed other robustness checks. Table 3 reports the estimates obtained using the presence of an organ donation organization (AIDO) in the municipality as an alternative measure of civic capital. In Table 4, we add additional controls for the quality of local institutions to our baseline specification (Column 1), political features of incumbent city mayors (Column 2), and census indicators (Column 3). In the last case, we have considered a set of about one hundred potential socio-economic variables (31 characteristics from 2001 census data, their squared terms and interaction terms with a dummy for the Southern municipalities)<sup>9</sup>, but the regression includes only the covariates selected using the “double-lasso” variable selection procedure proposed by Belloni et al. (2014).<sup>10</sup> In general, these results confirm the previous evidence.

*[Insert Table 3 about here]*

*[Insert Table 4 about here]*

#### **4.2 IV Results**

Our OLS results support the existence of a relationship between civic capital and the degree of transparency in Italian public administrations. However, there are a number of important reasons to be cautious before interpreting this result as causal. First, the civic capital variable could be measured with error, and thus it could correspond poorly with the true civic capital that matters in practice. This creates attenuation bias and may lead the linear estimates downward. Second, better administered cities may be able to afford or prefer a greater sense of civic duty. This reverse causality problem could introduce positive bias in the linear estimates. Third, there are many omitted determinants of institutional quality that could be correlated with civicness. Therefore, in this section, we provide evidence for a causal nexus between civic capital and transparency, by referring to an IV specification.

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<sup>9</sup>See Table B in the Appendices for a description of the variables used.

<sup>10</sup>Following Belloni et al (2014), we selected a subset of covariates by using a Least Absolute Shrinkage and Selection Operator (LASSO), which minimizes the sum of squared residuals and an additional penalty parameter that aims to reduce the overall size of the model.

Following a long tradition (Putnam, 1993; de Blasio and Nuzzo, 2010; Bracco et al., 2015; Albanese and de Blasio, 2016; Guiso et al., 2016), we have considered that the current civic behavior in Italy has strong historical roots, due to the long-term persistence of civicness. More specifically, the medieval experience of self-government promoted the formation of civic capital, which has persisted until today transmitted across generations. Accordingly, in our IV analysis we have used two historical instruments for civic capital in northern Italian cities taken from Guiso et al. (2016):<sup>11</sup> a dummy equal to one if the municipality was a free city-state (“Comune”) in the Middle Ages, and a dummy equal to one if the municipality became an independent “Signoria” during the 15th century. Both these measures are strongly correlated with the current level of civic capital. However, in order to be good instruments for our study, this (first stage) condition is not sufficient; the historical variables indeed must correlate with the CTI index only through civic capital, which technically is referred to as the condition of the orthogonality of the instrument to the (second stage) error term. There are a number of reasons to suggest that this is a fair assumption to make. First, the long-term determinants of civic capital remove any simultaneity bias caused by local shocks that occurred in more recent history. For such simultaneity to remain, we would need for these past local shocks to have influenced both medieval experience of independence and other city characteristics related to the performance in transparency currently observed in Italy. This seems to be hard to believe, as many major events contributed to the abrupt changes in the structure of Italy’s economy and society (Malanima 2005, 2011). Second, the condition might be violated if some missing permanent municipality’s characteristics drove both the history of cities and their current transparency performance. However, we directly control in our regressions for the most relevant geographic characteristics, and we also control for population size, which differentiates the potential sources of violation of the condition related to both people’s agglomeration and mobility

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<sup>11</sup> Using Guiso et al. (2016), we can obtain instruments for civic capital restricted to northern Italian municipalities. To our knowledge, alternative instruments based on historical traditions of civicness are available only at the provincial level (de Blasio and Nuzzo, 2010; Di Liberto and Sideri, 2015), while Bracco et al. (2015) exploits a unique historical event concentrated in a few areas in southern Italy.

across the national territory. Again, we address later in this section some potential issues with this identification strategy.

Table 5 illustrates our baseline IV results. Columns 1 and 2 confirm our previous OLS evidence when we restrict the analysis only to the Centre-North sample, for which some plausible instruments are feasible. Columns 3 and 4 report 2SLS results where our two indexes of civic capital (respectively, the number of non-profit organizations and the presence of an organ donation organization) are instrumented by the two historical variables on medieval political institutions. In both cases, the evidence supports the existence of a causal effect of civic capital on the degree of transparency. The usual tests corroborate the credibility of our IV specification. In particular, first stage F-tests confirm the strong correlation between historical variables and current civic capital already demonstrated by Guiso et al. (2016); indeed they are always higher than the critical values of Stock and Yogo (2005), therefore we can be assured that weak instruments issues do not apply. Again, Sargan tests for over identifying restrictions do not reject the hypothesis that the model is correctly specified, and the instruments used are valid. Finally, we note that the coefficient of the 2SLS estimator is larger, showing that OLS results underestimate the effect of civic capital on transparency.

*[Insert Table 5 about here]*

In what follows, we discuss some threats to our exclusion restriction. Our baseline specification includes regional fixed effect based on current political borders. Yet, they barely correspond to historical political borders that characterized pre-unification history of Italy. In fact, before the first half of the 19th century, Italy was fragmented into several states with administrative subdivisions that were largely changing across the time. Often, they reflect the foreign colonisations experienced by different areas of the country over the centuries. In our context, this may matter if such past dominations influenced persistently political institutions. For example, the forms of Spanish domination in Italy were in many ways oppressive: fiscalism, which has always been excessive, became even more intolerable in the Seventeenth century, when the weight of the costs

of military campaigns was largely discharged on the Italian citizens (De Luca, 2012). Spain was also identified as the armed arm of the Counter-Reformation Church, ready to deny any space of freedom. Therefore, cities in those territories could be less well managed today due to the legacy of bad institutions (Acemoglu et al., 2005). More importantly, this could harm our identification strategy if the medieval experience of independence is related to the subsequent exposure to dominations due to some form of path dependence (Martin and Sunley, 2010). To take into account this possibility, we have controlled for past dominations using indicators taken from Di Liberto and Sideri (2015). Data on political history are measured at provincial level, in line with the high fragmentation in pre-unification borders. In particular, two specifications have been considered. The first one includes a set of dummies to capture the domination whose influence was predominant at the local level. They are selected among those that were more relevant in pre-unification Italian history (Spanish, Papal, Austrian, Venetian, Sabaudian). The second regression reflects a more flexible specification obtained by including nine variables which measure the number of years that a specific regime has persisted at the local level in the period that spans from 1100 to 1861. In this latter case, due to data availability, we were able to consider the following dominations: Norman, Swabian, Anjou, Spanish, Bourbon, Papal, Sabaudian, Austrian and Venetian. In both cases, the tests presented in Table 6 (Columns 1 and 2) confirm the robustness of our empirical strategy.

Again, our baseline estimates control only for current population. Nevertheless, the medieval experience of independence could have influenced the historical pattern of urbanization and, through it, the political institutions in place over time. On this regard, a relationship between past institutions and agglomeration process is has been found for Italy by Percoco (2014). Accordingly, we have also considered data on urbanization in XIV-XIX centuries from Malanima (1998)<sup>12</sup>. In our sample, for instance, the correlation between actual population and the estimated level for 1300 is high but less than perfect (0.51). However, our IV results persist after accounting

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<sup>12</sup> Malanima (1998) provides estimates of city population for Italy on a centennial basis over the period 1300-1861. Population is censored to zero when it is lower than 5,000 inhabitants.

for differences in population measured at various points of time (1300, 1400, 1500, 1600, 1700, 1800, 1861).

*[Insert Table 6 about here]*

## **5. The Political Payoff from Transparency**

In the previous section, we found a significant effect of civic capital on the level of transparency of the Italian municipalities. Among others, there are two possible explanations for this result. First, from a “supply side” perspective, civic capital may increase the quality of local institutions, and subsequently, higher transparency could be a proxy for better administrations. This view is supported by recent studies showing that the level of transparency is significantly correlated with measures of the quality of institutions (Galli et al., 2017, 2019). Second, from a “demand side” perspective, more civic citizens may prefer a higher level of transparency, since this is related to greater participation and cooperation in the political sphere. Combined with previous research on civic capital and political accountability (Nannicini et al., 2016; Albanese et al., 2017), this would translate into different electoral outcomes as more civic citizens incorporate these values in their vote.

In this section, we aim to verify whether a political payoff for more transparent administrations exist and, in case it does, if it depends on local civic capital. Accordingly, we test if the transparency performance of the Italian municipalities after the 2013 reform has changed the political payoff of incumbent administrations, specifically the probability to be reelected. More formally, we regress the percentage of mayors and city administrators in 2012 (before the reform) that were still in power in 2017 (as five years is the usual length of the electoral cycle in Italy) on the CTI index.<sup>13</sup> All the regressions control for population (and its square), education, income,

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<sup>13</sup> Data are taken from the Ministry of Home Affairs Archive and are available only for 479 cities in our sample.

digital divide, elevation, coastal location, and a set of political variables at the initial period (age, gender, and education of mayor, party affiliation, and an index for second term).

Overall, Table 7 suggests that the political payoff from being transparent is strictly related to the level of civic capital. In line with a “demand side” effect, the results indicate that, in a high civic capital environment, a standard deviation increase in the CTI index raises the probability of remaining in power after five years by about 4%. On the contrary, there is no significant political payoff for the transparency performance in low civic capital municipalities. In other words, the electoral punishment of political misbehavior in terms of transparency is observed only in municipalities characterized by high social capital. This is in line with the idea that in environments where social capital is high, citizens’ attention toward government accountability is higher, and therefore, it might be politically unfeasible to disregard the demand for transparency. Combined with our previous findings, this evidence supports the hypothesis that the positive effect of civic capital on transparency can be partially due to the importance that civic people confer to the degree of transparency of their local administrators.

*[Insert Table 7 about here]*

## **6. Concluding remarks**

In this paper, we have addressed an issue that has not been explored thus far in the economic literature, i.e., whether the degree of transparency, which is an important tool to foster accountability, is affected by the level of civic capital. Using a composite indicator of transparency built by Galli et al. (2017), we have found a significant effect of civic capital on the level of transparency adopted by the Italian municipalities. Moreover, we have tested whether there is a political payoff for more transparent administrations, and above all, if it depends on civic capital at the local level. Our findings show that electoral punishment of political misbehavior in terms of transparency is observed only in cities with high civic capital where voters give importance to the degree of transparency of their local administrators. Based on these results, we can suggest that the

quality of the social environment is a powerful incentive to induce public agents to be more transparent, and therefore more accountable.

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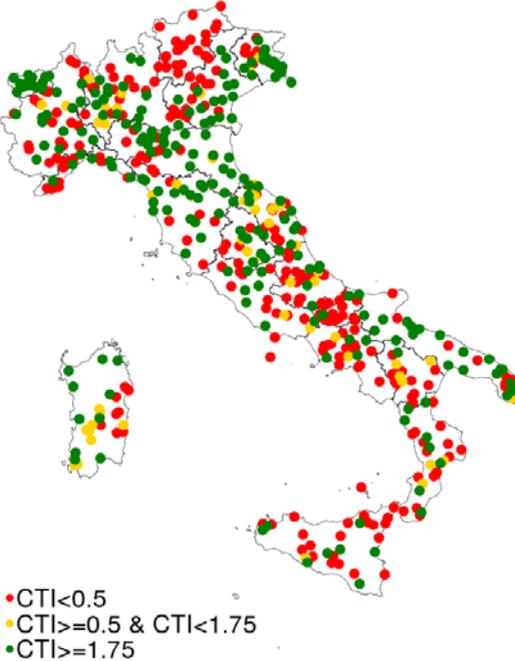
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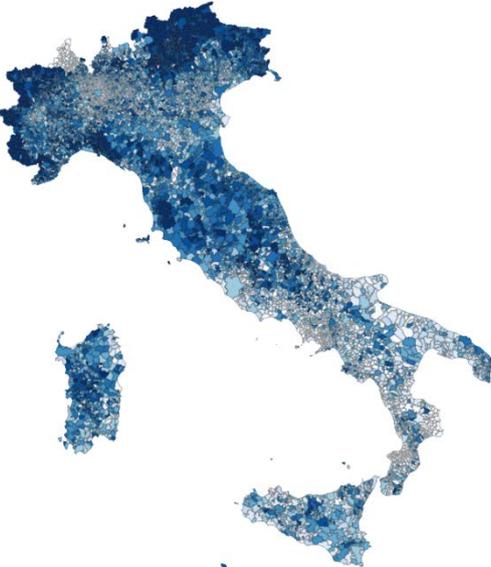
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**Figures and Tables**

**Figure 1 –Transparency (CTI index)**



**Figure 2 – Civic Capital (Non-profit organizations per capita)**



Darker colors indicate higher civic capital



**Table 2 – Baseline OLS results**

	(1)	(2)	(3)
Civic capital	0.149** (0.059) [0.017]	0.149*** (0.054) [0.013]	0.140** (0.059) [0.009]
Population	0.006*** (0.001) [0.000]	0.004*** (0.001) [0.000]	0.003*** (0.001) [0.000]
Population squared	-0.000*** (0.000) [0.000]	-0.000*** (0.000) [0.000]	-0.000*** (0.000) [0.000]
Education		2.695*** (0.842) [0.026]	2.533** (1.030) [0.029]
Income		0.045* (0.025) [0.221]	0.043 (0.028) [0.196]
Gini		-3.683*** (1.255) [0.009]	-1.207 (1.218) [0.404]
Digital divide		-0.118 (0.134) [0.466]	-0.138 (0.149) [0.425]
Elevation		-0.000*** (0.000) [0.179]	-0.000 (0.000) [0.445]
Coastal location		0.211 (0.163) [0.238]	0.202 (0.164) [0.125]
South FE	N	Y	N
Region FE	N	N	Y
R <sup>2</sup>	0.160	0.262	0.373
N	524	524	524

Note: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01. CTI represents the dependent variable and measures the degree of transparency across the sample. Civic capital is the (log) number of non-profit organizations per capita. Robust standard errors in parentheses (p-value with spatial HAC correction in brackets, assuming a 100 miles maximum radius).

**Table 3 –Estimates with an alternative measure of civic capital**

	(1)	(2)	(3)
Civic capital	1.019*** (0.188) [0.000]	0.655*** (0.198) [0.003]	0.644*** (0.191) [0.002]
Population	0.003** (0.001) [0.011]	0.002** (0.001) [0.029]	0.002** (0.001) [0.038]
Population squared	-0.000** (0.000) [0.007]	-0.000** (0.000) [0.011]	-0.000** (0.000) [0.018]
Education		2.079** (0.827) [0.074]	2.132** (1.024) [0.063]
Income		0.036 (0.025) [0.371]	0.031 (0.029) [0.299]
Gini		-3.993*** (1.204) [0.003]	-1.636 (1.167) [0.219]
Digital divide		-0.094 (0.132) [0.549]	-0.075 (0.146) [0.681]
Elevation		-0.000* (0.000) [0.381]	-0.000 (0.000) [0.723]
Coastal location		0.209 (0.164) [0.299]	0.164 (0.163) [0.270]
South FE	N	Y	N
Region FE	N	N	Y
R <sup>2</sup>	0.217	0.276	0.387
N	524	524	524

Note: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01. CTI represents the dependent variable and measures the degree of transparency across the sample. Civic capital is a dummy for the existence of an organ donation organization (AIDO) in the city. Robust standard errors in parentheses (p-value with spatial HAC correction in brackets, assuming a 100 miles maximum radius).

**Table 4 – Robustness checks**

	(1)	(2)	(3)
Civic capital	0.142** (0.058)	0.136** (0.060)	0.123** (0.059)
Population	0.003*** (0.001)	0.003*** (0.001)	0.002** (0.001)
Population squared	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Education	2.548** (1.032)	2.532** (1.025)	2.111** (0.978)
Income	0.044 (0.028)	0.040 (0.028)	0.047* (0.027)
Gini	-1.205 (1.222)	-1.227 (1.244)	-2.353* (1.234)
Digital divide	-0.155 (0.152)	-0.120 (0.151)	0.004 (0.145)
Elevation	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Coastal location	0.211 (0.163)	0.197 (0.166)	0.094 (0.163)
Fiscal autonomy	-0.116 (0.264)		
Fiscal efficiency	0.257 (0.274)		
Age Mayor		0.001 (0.004)	
Gender Mayor		-0.107 (0.130)	
Education Mayor		0.167* (0.086)	
Political party		-0.009 (0.109)	
Second term		0.004 (0.099)	
Region FE	Y	Y	Y
Lasso covariates	N	N	Y
R <sup>2</sup>	0.372	0.375	0.404
N	524	524	524

Note: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01. CTI represents the dependent variable and measures the degree of transparency across the sample. Civic capital is the (log) number of non-profit organizations per capita. Column 3 includes covariates selected by the “double-lasso” variable selection procedure (Belloni et al., 2014) among the 31 socio-economic census variables reported in the Appendices (Table B), their squared terms and their interaction with a dummy for Southern municipalities. Robust standard errors in parentheses.

**Table 5 – Baseline IV estimates**

	(1)	(2)	(3)	(4)
Civic capital	0.262*** (0.056)	0.758*** (0.213)	0.532*** (0.188)	1.330*** (0.467)
Population	0.002** (0.001)	0.003*** (0.001)	-0.000 (0.002)	0.002 (0.001)
Population squared	-0.000*** (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.000* (0.000)
Education	2.791** (1.246)	2.896** (1.301)	1.427 (1.571)	1.978 (1.441)
Income	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)
Gini	-2.575** (1.301)	-2.862** (1.273)	-2.499* (1.461)	-3.022** (1.236)
Digital divide	0.067 (0.209)	-0.152 (0.203)	0.295 (0.257)	-0.150 (0.197)
Elevation	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)
Coastal location	0.295 (0.241)	0.404 (0.250)	0.073 (0.286)	0.324 (0.258)
Civic capital index	Non-profit organizations	Organ donors	Non-profit organizations	Organ donors
Estimator	OLS	OLS	IV	IV
Region FE	Y	Y	Y	Y
First stage F-test			17.2	15.8
Sargan over identification test (p-value)			0.65	0.32
N	319	319	319	319

Note: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Regressions were run on the sample of cities located in the Center–North of Italy. CTI represents the dependent variable and measures the degree of transparency across the sample. The instruments are a dummy equal to one if the town was a free city-state (“Comune”) in the Middle Ages and a dummy equal to one if the town was an independent “Signoria” (source: Guiso et al., 2016). Robust standard errors in parentheses.

**Table 6 – IV estimates with historical controls**

	(1)	(2)	(3)
Civic capital	0.546*** (0.197)	0.478*** (0.168)	0.688*** (0.195)
Population	-0.000 (0.002)	0.000 (0.002)	-0.000 (0.002)
Population squared	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Education	1.228 (1.755)	1.361 (1.667)	0.800 (1.655)
Income	-0.000 (0.000)	-0.000 (0.000)	-0.000* (0.000)
Gini	-2.257 (1.435)	-2.184 (1.430)	-2.238 (1.633)
Digital divide	0.319 (0.260)	0.232 (0.241)	0.453* (0.273)
Elevation	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Coastal location	0.054 (0.288)	0.213 (0.277)	-0.081 (0.291)
Civic capital index	Non-profit organizations	Non-profit organizations	Non-profit organizations
Estimator	IV	IV	IV
Region FE	Y	Y	
Additional controls	Dummies Past Dominations	Years Past Dominations	Historical Levels of Urbanization
First stage F-test	15.5	19.6	15.3
Sargan over identification test (p-value)	0.70	0.82	0.98
N	319	319	319

Note: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01. Regressions were run on the sample of cities located in the Center–North of Italy. CTI represents the dependent variable and measures the degree of transparency across the sample. The instruments are a dummy equal to one if the town was a free city-state (“Comune”) in the Middle Ages and a dummy equal to one if the town was an independent “Signoria” (source: Guiso et al., 2016). Column 1 includes five dummies which capture the domination whose influence was predominant at the provincial level: Spanish, Papal, Austrian, Venetian, Sabaudian (Di Liberto and Sideri, 2015). Column 2 includes nine variables which measure the number of years that the following regimes have persisted at the provincial level in the period that spans from 1100 to 1861: Norman, Swabian, Anjou, Spanish, Bourbon, Papal, Sabaudian, Austrian and Venetia (Di Liberto and Sideri, 2015). Column 3 includes seven variables measuring population at the following points of time: 1300, 1400, 1500, 1600, 1700, 1800 and 1861 (Malanima, 1998). Robust standard errors in parentheses.

**Table 7 – Evidence on the probability of re-election**

	(1) FULL SAMPLE CITIES	(2) FULL SAMPLE CITIES	(3) HIGH CIVIC CAPITAL CITIES	(4) LOW CIVIC CAPITAL CITIES
CTI	1.926 (1.251)	-1.320 (1.806)	4.251** (1.910)	0.988 (1.732)
CTI*Civic capital		2.027** (1.000)		
Region FE	Y	Y	Y	Y
R <sup>2</sup>	0.150	0.155	0.238	0.173
N	479	479	239	240

Note: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01. The dependent variable is the percentage of pre-reform (2012) mayors and city's administrators that were also in power in 2017. High (low) civic capital includes cities with a (log) number of non-profit organizations per capita higher (lower) than the median. All the regressions include the following controls: population (and its square), education, income, digital divide, elevation, coastal location, and political variables from the initial period (age mayor, gender mayor, education mayor, political party, and second term). Robust standard errors in parentheses.

## Appendix

**Table A – Descriptions of variables and sources**

<b>Variables</b>	<b>Description</b>	<b>Source</b>
<b>Dependent variable</b>		
<i>Transparency Index (CTI)</i>	The Composite Indicator built using the transparency obligations validated by the OIV of each administration, according to ANAC resolution n.77/2013	Galli et al. (2018a)
<b>Civic Capital variables</b>		
<i>Non-profit organizations per capita</i>	The total number of non-profit organizations (sum of voluntary associations, social cooperatives, and foundations, excluding church-based organizations) in the city scaled by the population of the municipality.	Guiso et al. (2016)
<i>Organ donors</i>	An indicator of the existence of an organ donation organization in the municipality.	Guiso et al. (2016).
<b>Socio-demographic variables</b>		
<i>Education</i>	The percentage of the population with a secondary school diploma	Istat
<i>Population</i>	The size of the city in terms of inhabitants (in thousands)	Istat
<b>Economic variables</b>		
<i>Income</i>	Personal income (in thousands of euro)	Italian Revenue Agency
<i>Gini Income Inequality Index</i>	Gini index calculated on the individual income	Italian Revenue Agency
<i>Digital Divide</i>	The share of people who do not have access to information and communication technology	Ministry of Economic Development
<b>Fiscal variables</b>		
<i>Fiscal autonomy</i>	The percentage of taxes over the total revenues	Istat
<i>Fiscal Efficiency</i>	The capability of disposal of residual liabilities	Istat
<b>Political and Institutional variables</b>		
<i>Age_Mayor:</i>	The age of the Mayor for each Municipality when elected	Ministry of Home Affairs
<i>Gender_Mayor</i>	A dummy variable taking a value of 1 if the ruling municipal government leader is a woman and 0 otherwise	Ministry of Home Affairs
<i>Education_Mayor</i>	A dummy variable taking a value of 1 if the ruling municipal government leader has a Bachelor Degree and 0 otherwise	Ministry of Home Affairs
<i>Political_Party</i>	A dummy variable taking a value of 1 if the ruling local government leader belongs to a left-wing party and 0 otherwise.	Ministry of Home Affairs
<i>Second mandate</i>	A dummy variable taking a value of 1 if the Municipal government is allowed to run for a second term and 0 otherwise	Ministry of Home Affairs

<b>Variables</b>	<b>Description</b>	<b>Source</b>
<b>Geographical variables</b>		
<i>Elevation</i>	The elevation of the municipality (city center)	Istat
<i>Coastal location</i>	A dummy variable taking a value of 1 if the city is located on the coast	Istat

**Table B –Additional Covariates used in Table 4 (column 3)**

<b>Variables</b>	<b>Description</b>
<i>Population density</i>	Total population over surface in sq. km.
<i>Scattered Population</i>	Percent of population living in scattered houses
<i>Elderly dependency index</i>	Ratio (percent) of population over 64 to population aged 15-64
<i>Youth dependency index</i>	Ratio (percent) of population aged up to 14 to population aged 15-64
<i>Fraction of foreigners</i>	Foreign-citizen residents per 1000 Italian residents
<i>Average household size</i>	Ratio of total population resident in households to number of households
<i>Fraction of own-housing</i>	Percent of houses owned by the residents
<i>Potential use of buildings</i>	Ratio (percent) of unused buildings to total buildings
<i>Services availability</i>	Number of inhabited houses with services available over total inhabited houses (services: drinkable water, bathroom, shower, heating, hot water).
<i>Fraction of buildings in bad condition</i>	Percent of residential inhabited buildings in poor condition
<i>Residential mobility</i>	Percent of resident population that changed house in the last year
<i>Index of housing expansion</i>	Percent of inhabited houses that were built in the last decade
<i>Adults in life-long training</i>	Percent of 25-64 population enrolled in education
<i>Adults with diploma or university degree</i>	Percent of 25-64 adults with high school diploma or university degree
<i>Early leave index</i>	Percent of 15-24 population with middle-school diploma (8th grade) that is not enrolled in education
<i>Labor force participation rate</i>	Labor force participation rate (pop aged 15+)
<i>NEET</i>	Percent of 18-29 population not in employment, education or training
<i>Unemployment rate</i>	Unemployment rate (pop aged 15+)
<i>Employment rate</i>	Employment rate (pop aged 15+)
<i>Female employment rate</i>	Female employment rate (pop aged 15+)
<i>Employment in agriculture</i>	Percent of employment in agriculture to total employment
<i>Employment in industrial sector</i>	Percent of employment in the industrial sector to total employment
<i>Employment in trade services</i>	Percent of employment in trade services to total employment

<b>Variables</b>	<b>Description</b>
<i>Employment in non- trade services</i>	Percent of employment in non-trade services to total employment
<i>Employment in medium-high specialization</i>	Percent of employed individuals in types 1,2,3 of occupations (legislators, directors, intellectual scientific occupations with high specialization, technical occupations)
<i>Employment in craftsmen, blue collar, agriculture</i>	Percent of employed individuals in types 6,7 of occupation (craftsmen, blue-collars and agricultural workers)
<i>Employment in low-skilled positions</i>	Percent of employed individuals in type 8 (non-qualified occupations)
<i>Daily mobility (for work or study)</i>	Percent of daily commuters that go outside the municipality
<i>Mobility with public transportation</i>	Percent of the population moving daily that uses public transport
<i>Slow mobility</i>	Percent of the population moving daily by foot or bicycle
<i>Vulnerability index</i>	Average of seven indexes of socio-economic disadvantage