

The Civic Side of Tax Compliance: Evidence from Italy

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February 28, 2026

Abstract

This study validates TV fee compliance as a proxy for civic capital in Italy. Using municipality-level data, we show that it strongly correlates with traditional social capital measures such as voluntary associations, referenda, and European elections turnout. The analysis confirms its reliability both at municipal and provincial levels. TV fee compliance provides a scalable, objective, and timely indicator, particularly useful for researchers to examine the socio-economic dynamics of civic capital and its implications for institutional performance and economic development.

JEL Classification: A12, A13, R1, Z1

Keywords: Civic Capital, Tax compliance, Social Capital, Italy

Highlights

- This paper exploits a novel measure of TV fee compliance, a proxy of civic capital, at the municipality level spanning over seven decades.
- It correlates it with other observational measures of social capital, such as turnout to referendum, civic associations and blood donations, both at the municipal and provincial level.
- It finds that TV fee compliance positively correlates with the majority of the measures, validating its use as a proxy for social capital.

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1 Introduction

Social capital is important in institutions’ functioning because it promotes civic engagement and economic growth (Guiso et al., 2004). However, because of its complexity and multifaceted nature, it is still challenging to quantify. Durante et al. (2024) emphasize the complexity of social capital by highlighting its distinct dimensions — interpersonal and institutional trust, civic and political participation — and their unique role in shaping socio-economic outcomes.

Within this broader concept, civic capital is defined as ”*shared beliefs and values that help a group overcome the free rider problem in the pursuit of socially valuable activities*” (Guiso et al., 2011; Nannicini et al., 2013). This definition provides a more focused dimension for empirical analysis since it refers to norms and behaviors that support civic engagement and institutional trust, influencing individual inclination to comply with the law (North, 1990). This is closely related to behaviors like fee compliance and electoral participation. Therefore, measuring civic capital is essential for analyzing institutional performance and its broader economic implications.

Building on Durante et al. (2024) framework, this paper takes a complementary approach by validating a simple proxy for civic capital: TV fee compliance operationalized through *Canone RAI*, the Italian fee related to TV possession. Unlike survey-based measures, which are often subject to self-reporting biases and selective participation, TV fee compliance provides longitudinal, objective data at the municipal level. Its availability across all Italian municipalities over time offers a unique opportunity for robust geographic and temporal analysis.

Tax compliance is a recognized measure of civic culture, reflecting trust in institutions, prosocial attitudes, and fiscal capacity (Luttmer and Singhal, 2014; Galletta and Giommoni, 2024; Putnam, 1995). Indeed, paying the TV fee requires voluntary compliance, reflecting citizens’ sense of civic responsibility. *Canone RAI* fee, inexpensive yet easy to evade, exemplifies this dynamic, so much so that economic literature has identified it as a reliable proxy for the individual propensity to free-ride (Bracco et al., 2015; Buonanno et al., 2023; Bracco et al., 2021). In Italy, all TV owners must pay an annual fee of about €100. Still, enforcement of penalties for non-payment is weak.¹ Public broadcasting is accessible regardless of compliance. This structure makes payment a form

¹An administrative sanction is very weakly enforced on those who do not pay, and typical fines for a household are low relative to cost (up to 516 Euros plus a mandatory 5-year license purchase).

of public benefit contribution, offering little direct incentive to comply. These characteristics make the TV fee compliance a proxy for, more generally, the contribution to the provision of a public good, and hence effectively measure the propensity to free ride. Remarking this is important from an external validity point of view. While not institutional context may have a TV fee, most of them possess a public good provision that can be free ridden by a portion of the population.

While traditional proxies for civic capital, such as referendum turnout or voluntary association density or blood donations², have been widely used, the potential of TV fee compliance as a proxy has been quantitatively validated yet. This paper aims to address this gap by correlating TV fee compliance with established measures of social capital, including electoral participation and membership in voluntary associations. By validating this proxy, we aim to demonstrate its reliability, scalability, and practicality, particularly in contexts where traditional measures are unavailable or costly to collect.

Italy represents an ideal case study for this analysis, given its significant regional variation in civic capital, trust, civic engagement, and institutional performance, particularly between the North and South (Putnam et al., 1992; Cartocci, 2007). The TV fee provides a unique opportunity to study citizens' interactions with the state in this context of regional variation. Its administrative simplicity and widespread applicability make it a promising tool to proxy civic capital in Italy and other countries with similar public broadcasting fees or mandatory contributions.

This paper contributes to the literature in three key ways. First, it complements the existing research on civic and social capital (Guiso et al., 2011; Nannicini et al., 2013; Bracco et al., 2015; Buonanno et al., 2023) by validating TV fee compliance. Compared to traditional measures, it provides an objective, scalable, and geographically detailed indicator that can be exploited in various contexts.

Second, this study builds on the work of Guiso et al. (2011); Luttmer and Singhal (2014); Galletta and Giommoni (2024) on the relationship between tax compliance and institution, demonstrating the broader applicability of TV fee compliance as a tool, particularly in settings where traditional measures are unavailable or costly to collect.

²For instance, Oto-Peralías and Romero-Ávila (2017) utilize blood donation data at the municipal level to explore the impact of persistent inequality on social capital.

Third, it provides new insights into the regional dynamics of civic capital in Italy, expanding on Putnam et al. (1992) and subsequent studies (De Blasio and Nuzzo, 2010; Guiso et al., 2016; Albanese and De Blasio, 2016; Mariella, 2022). The analysis shows a granular perspective on the North-South divide with TV fee compliance that captures the socio-economic and institutional disparities.

The rest of the paper is structured as follows. Section 2 introduces the dataset on existing proxies. Section 3 presents the empirical strategy, detailing how TV fee compliance is validated against other measures of social capital. Section 4 presents the results, and Section 5 concludes with a discussion of the study’s limitations and potential avenues for future research.

2 Data

We gather various data sources that serve as a proxy for social and civic capital, leveraging different periods based on their availability. Our primary measure is TV fee compliance, which reflects the share of households paying the TV fee within a municipality. The data that we employ comes from Calamunci and Frattini (2023), and it is at the municipality-decade level from the 1950s to the 2010s.³ This measure is calculated as the ratio of the number of TV licenses in a municipality and the number of households with at least one device.⁴

We gathered data on the number of voluntary associations per 1’000 inhabitants in a municipality in 1981, 1991, and 2001 from ISTAT censuses. Each year, it proxies for the corresponding decade. This is a widely used measure of social capital associated with higher levels of trust and community engagement (Durante et al., 2019).

Another key proxy is referendum turnout, which captures direct civic participation and is commonly used to proxy civic capital. High turnout in referendums signals a strong sense of civic duty and political involvement, as these votes are generally less subject to manipulations or short-term economic incentives (Bracco et al., 2015). We collect data on turnout for all held referendums

³Data are available yearly from 1955 to 2015. As a result of the relatively wide evasion, in 2016, the Italian government passed new legislation that requires home energy providers to include the TV fee in their bills.

⁴The number of households is calculated yearly with methodological changes to purify the number of resident families from those cohabiting.

from 1946 to 2020 at the municipality level from the ELIGENDO portal of the Italian Ministry of the Interior.⁵

Similarly, we have collected turnout to European elections from the same sources from 1974 to 2014 since it provides an additional measure of civic engagement (Bracco et al., 2015). Participation in these elections reflects broader political awareness and interest in governance beyond the local and national levels. Like referenda, they are less prone to manipulative influences. For both turnouts, a given year proxies for the corresponding decade. If, within one decade, there were more than one referendum/election, we take a simple average.

To complement these municipal-level indicators, we include provincial-level social capital proxies frequently used in the literature (Nannicini et al., 2013). These include: blood donations (2004), the number of EPS (Sports Promotion Bodies) associations/1'000 people (1999), the number of non-sport daily newspapers sold/1'000 people (2001), and a trust-related question from the World Survey (2009).⁶

Tables A1 and A2 provide the definitions and descriptive statistics of all variables used in the empirical analysis.

3 Empirics

We first examine the correlation between the TV fee compliance rate and three alternative proxies of social capital: referendum turnout, European elections turnout and voluntary associations per capita. The empirical model is specified as follows:

$$Y_{it} = \alpha + \beta TV\ Fee\ Compliance_{it} + \gamma \mathbf{X}'_{it} + \eta_i + \tau_t + \epsilon_i \quad (1)$$

Where Y_{it} represents one of the three proxies for social capital in municipality i at decade t , and $TV\ Tax\ Compliance_{it}$ is the TV fee compliance rate in municipality i and decade t . \mathbf{X}'_{it} is a vector of control variables at the municipality-decade it level that include: population, elderly index, gender gap in education, illiteracy index, and workforce participation rate. $\gamma_i \tau_t$ are municipality

⁵However, in this archive, data are not available at the municipal level from 1985 to 2006.

⁶For details see <https://www.tommasonannicini.eu>

and decade fixed effects. The coefficient β captures the correlation between TV fee compliance and each respective social capital measure.

Then, for the provincial-level analysis, we aggregate TV fee compliance at the provincial level and examine the correlation between it and the previously discussed social capital metrics.⁷ Specifically, we compare our findings with historically validated social capital proxies, such as those used by Nannicini et al. (2013). This approach possibly validates the existence of a relationship at a more aggregate level, integrating contemporary and historical data on social capital.

4 Results

Starting from municipality-level correlates, Figure 1 shows evidence of a positive and statistically significant correlation between TV fee compliance and two of the three social capital proxies. It suggests that higher TV fee compliance rates are consistently associated with higher referendum turnout and greater voluntary association density. The correlation related to European election turnout, albeit positive, is not statistically significant. In fact, whereas referendum turnout and the number of voluntary associations are more directly linked to civic engagement, voter turnout in European elections may be driven by factors such as party preferences, attitudes toward the European Union, or political protest. These motivations are not necessarily reflective of civic capital, which could explain the weaker and statistically insignificant correlation observed. These findings are robust to important socio-demographic controls, suggesting that TV fee compliance captures dimensions of civic capital that are reflected in traditional measures of social capital (see Table 1). Additionally, the strength of these correlations indicates that TV fee compliance aligns closely with civic engagement and political involvement dimensions of civic capital.

The analysis corroborates these correlations at the provincial level, as reported in Table 2. Provinces with higher average TV fee compliance rates also tend to exhibit higher values on established social capital measures (Nannicini et al., 2013). Namely, TV fee compliance rate positively correlates with blood donations, CONI associations, newspapers sold and trust (see Figure 2).

Durante et al. (2019) show that dimensions of social capital related to political participation

⁷Due to the reduced statistical power, we do not include any control or fixed effect in the regression.

and general trust, derived from novel survey data, positively correlates with tax compliance at the provincial level. The correlates that this paper unveil corroborate their finding conceptually. Further, this paper extends their validity at the municipal level and for an additional dimension of social capital, that is, social participation, proxied with the number of voluntary associations.

Overall, we value the validation exercise positively. The consistency in the correlation across different levels of aggregation supports the use of TV fee compliance as a viable indicator of civic capital, particularly given its practical advantages in data accessibility and geographic granularity.

4.1 Geographical Heterogeneity

Civic capital and TV fee compliance exhibit marked geographical variation across Italy, mirroring the well-documented socio-economic disparities between the North and South. These disparities are rooted in historical, cultural, and institutional differences that have shaped citizens' trust in the state and the willingness to engage in collective action (De Blasio and Nuzzo, 2010; Albanese and De Blasio, 2016). In Figure 3 we report the geographical distribution of the average TV license compliance rate at the municipality level by decade. From the figure, the North-South divide in terms of TV fee compliance is somewhat notable. This divide is known in the literature on social and civic capital (Putnam et al., 1992; Durante et al., 2024), hence giving it further validity. This divide is also notable in Figure 4, which shows the overtime evolution of TV fee compliance by macro-areas.⁸

5 Potential Mechanism

Our findings show that TV fee compliance represents a good proxy for civic capital. Here, we discuss the potential mechanisms through which it could unfold, focusing on three main channels: trust in institutions, state legitimacy, and social norms. We intend these potential mechanisms not mutually exclusive but they interact and support one another, influencing individuals' decisions to comply with the payment of the TV license fee.

First, compliance may reflect a higher level of trust in institutions. Individuals who trust

⁸For the sake of completeness, we report the map of each of the other proxies (see Figures A1 and A2).

public authorities are more likely to fulfill their tax obligations, as they believe public resources are managed fairly and serve the collective interest (Putnam et al., 1992; Guiso et al., 2011). Empirical research has shown that trust plays a crucial role in fostering voluntary tax compliance, reducing reliance on enforcement mechanisms (Luttmer and Singhal, 2014). This aspect is connected to the legitimacy of the state. Indeed, even without strict enforcement, people are more likely to cooperate when they believe that state authority and tax laws are fair (Torgler, 2007). Accordingly, compliance is an expression of civic responsibility and an understanding of the state’s role in society rather than merely being a reaction to deterrence mechanisms. Lastly, general trust and social norms may play a significant role in determining compliance. Cooperative behaviors and a sense of collective responsibility are deeply rooted in communities with high civic capital (Tabellini, 2008). If paying the TV license fee is considered the standard, breaking the law could result in a social stigma, which would encourage compliance.

6 Conclusion

This study contributes to the growing body of literature on social capital by proposing TV fee compliance as a valid proxy for civic capital in Italy. Our results demonstrate that TV fee compliance is highly correlated with established measures of social capital, including voluntary associations, referendum turnout, and European election turnout, across both municipal and provincial levels. Given the ease of access to this data and its coverage across all Italian municipalities over time, we believe that TV fee compliance presents a valuable tool for researchers studying social capital and civic engagement in Italy.

Future research could explore the applicability of TV fee compliance as a civic capital proxy in other countries with similar public broadcasting fees. Additionally, researchers may investigate the dynamic nature of this proxy over time, analyzing how changes in compliance rates might reflect shifts in civic capital. However, it is important to consider external validity when generalizing these findings beyond Italy. Not all countries have a TV license fee, and in those that do, enforcement mechanisms and compliance incentives may vary significantly.⁹ Weak enforcement or different

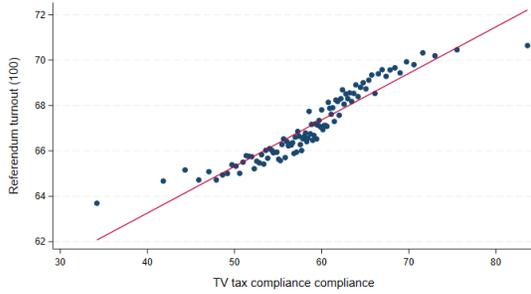
⁹For example, while the UK and Germany enforce them strictly, others like Spain and the Netherlands have

institutional settings could affect the reliability of TV fee compliance as a proxy for civic capital. Exploring these cross-country differences would be an important avenue for future research. Our findings suggest that TV fee compliance can serve as a reliable and scalable indicator of civic capital, with potential applications in economic, social, and political research.

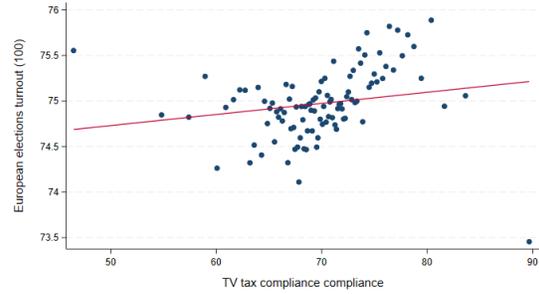
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7 Figures and Tables

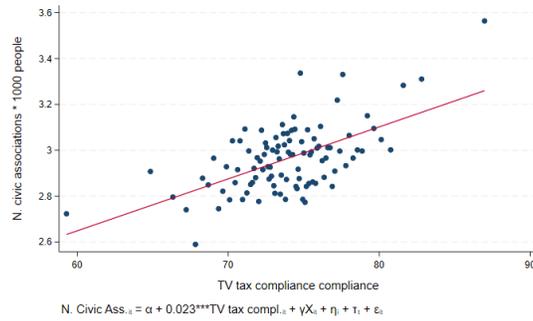
Figure 1: Correlates of TV fee compliance and other municipality social capital measures.



(a) Referendum turnout.



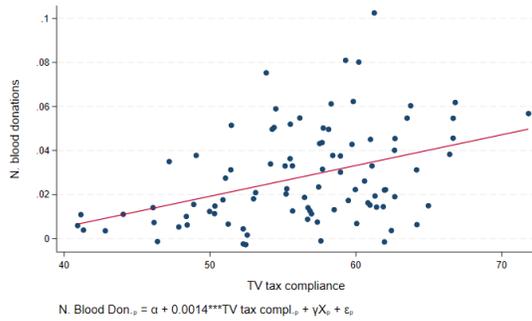
(b) European elections turnout.



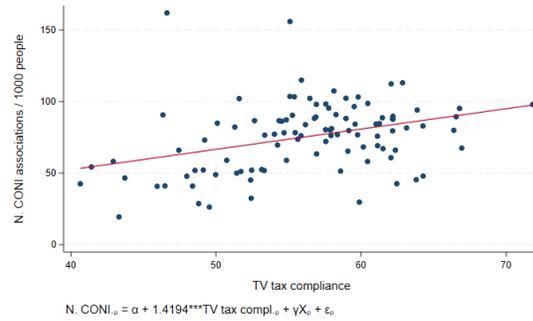
(c) N. vol. assoc. p.1000 people.

Notes. These sub-figures show the correlation between the TV fee compliance proxy of civic capital and other measures of social capital at the municipal level (turnout to referendum (a), turnout to European elections (b), and the number of voluntary associations (c)). At the bottom of each sub-figure we report the estimating equation with the coefficient of interest. Full regression results are displayed in Table 1.

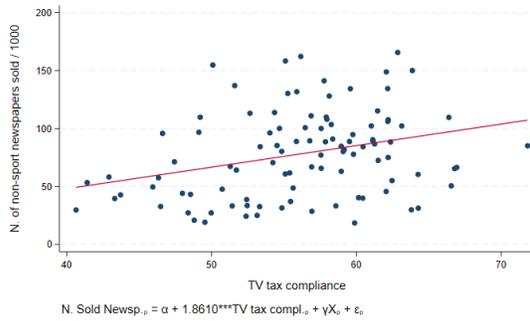
Figure 2: Correlates of TV fee compliance and other provincial social capital measures.



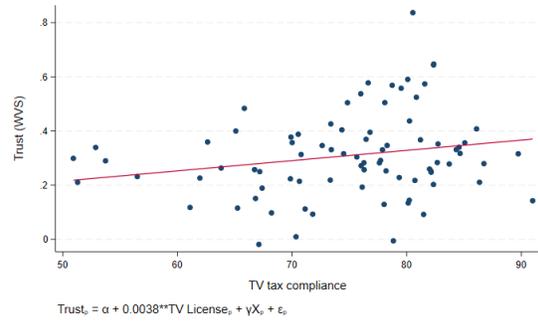
(a) Blood donations



(b) CONI associations



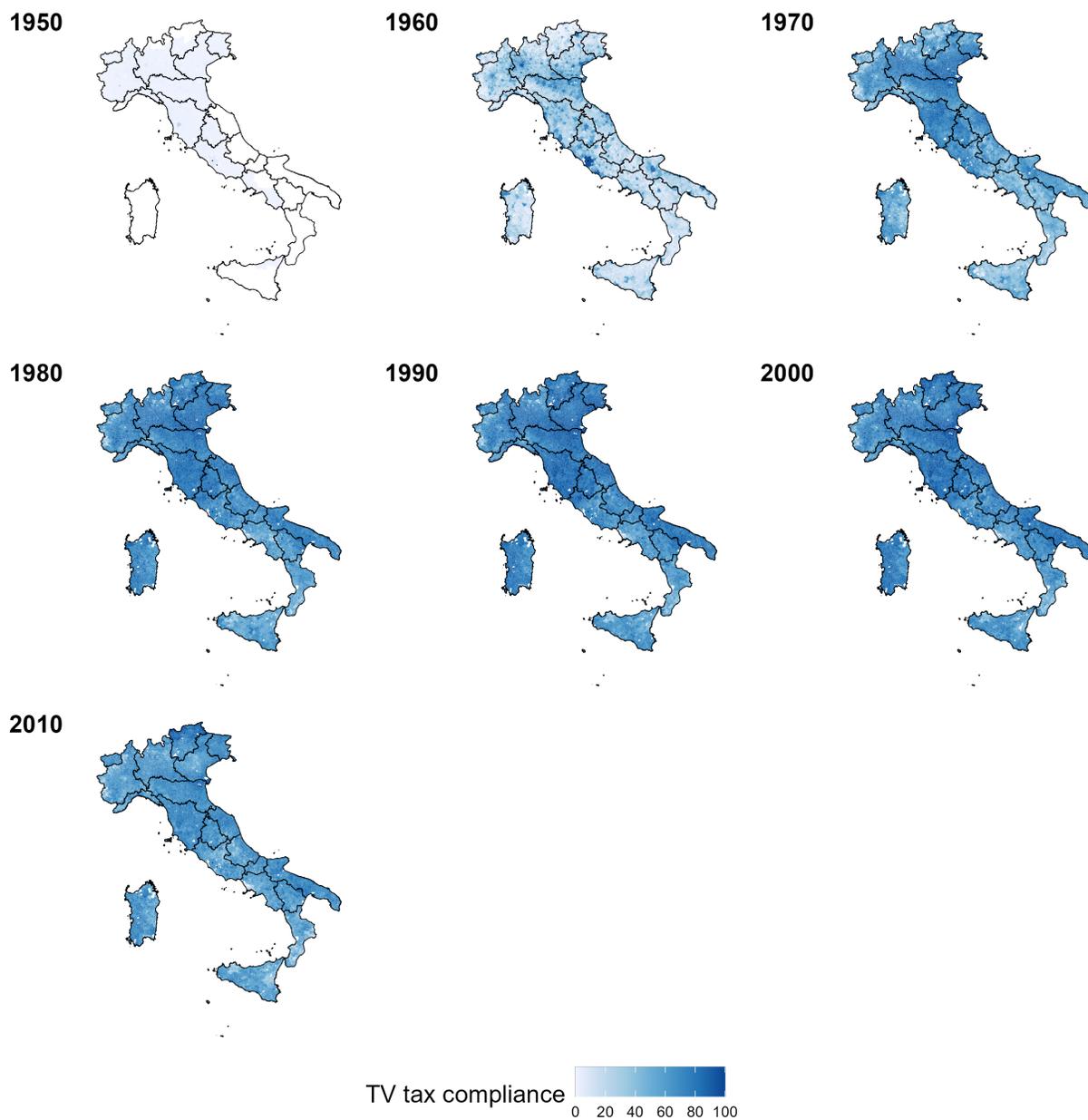
(c) Newspapers sold



(d) Trust

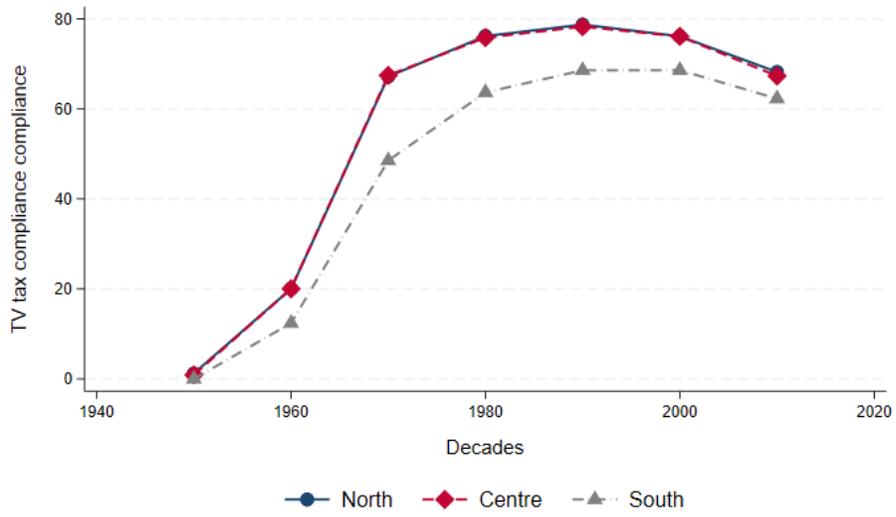
Notes. These sub-figures show the correlation between the TV fee compliance proxy of civic capital and other measures of social capital at the provincial level (blood donations (a), CONI associations (b), non-sport newspaper sold (c), and the answer to the trust question from WVS). At the bottom of each sub-figure we report the estimating equation with the coefficient of interest. Full regression results are displayed in Table 2.

Figure 3: TV fee compliance geographical distribution, by decade.



Notes. These sub-figures show the geographical distribution of the TV fee compliance rate.

Figure 4: TV fee compliance by decade and macro-area.



Notes. This figure shows the evolution over time of the TV fee compliance rate, by macro-area.

Table 1: Social capital measures and TV tax compliance compliance, municipality-level.

	<i>Referendum turnout</i>	<i>European elec. turnout</i>	<i>N. of civic associations</i>
	(1)	(2)	(3)
TV fee compliance	0.2051*** (0.0061)	0.0122 (0.0079)	0.0227*** (0.0055)
Population	0.0000** (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)
Elderly index	0.0055*** (0.0008)	-0.0029*** (0.0011)	0.0043*** (0.0008)
Education gender gap index	0.0062*** (0.0008)	-0.0007 (0.0013)	-0.0038** (0.0019)
Illiterate index	-0.2871*** (0.0153)	0.1491*** (0.0311)	0.2623*** (0.0155)
Workforce participation	-0.0609*** (0.0099)	-0.1183*** (0.0151)	0.0929*** (0.0097)
Observations	37454	40030	23944
Municipality FE	✓	✓	✓
Decade FE	✓	✓	✓

Notes. * p<0.10, ** p<0.05, *** p<0.01.

Table 2: Social capital measures and TV tax compliance compliance, provincial-level.

	<i>Blood donations</i>	<i>CONI associations</i>	<i>Sold newspapers</i>	<i>Trust</i>
	(1)	(2)	(3)	(4)
TV fee compliance	0.0014*** (0.0003)	1.4194*** (0.3803)	1.8610*** (0.4929)	0.0038** (0.0016)
Population	-0.0000* (0.0000)	-0.0011** (0.0006)	0.0003 (0.0007)	0.0000 (0.0000)
Observations	92	103	103	82

Notes. * p<0.10, ** p<0.05, *** p<0.01.

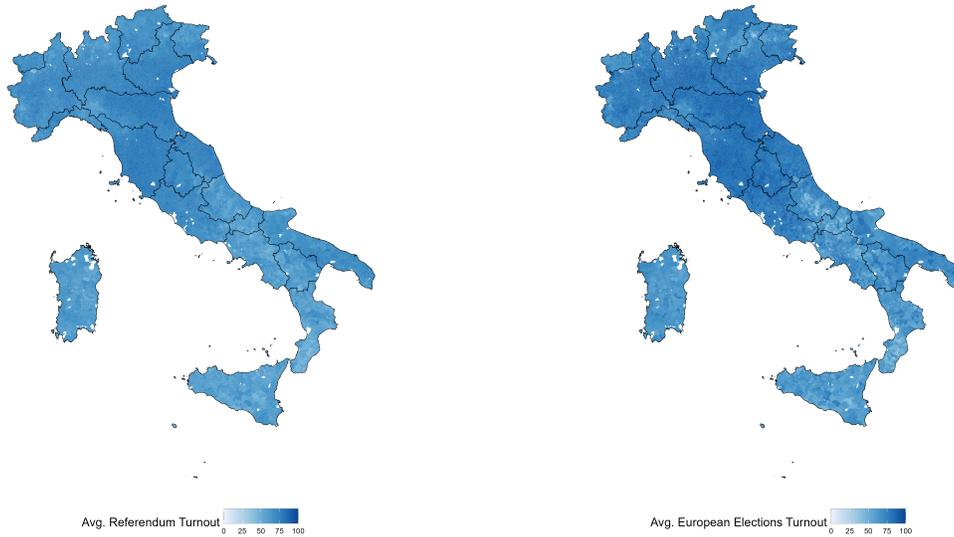
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A Main Appendix

Figure A1: Geographical distribution of social capital measures at the municipal level.



(a) Referendum turnout.

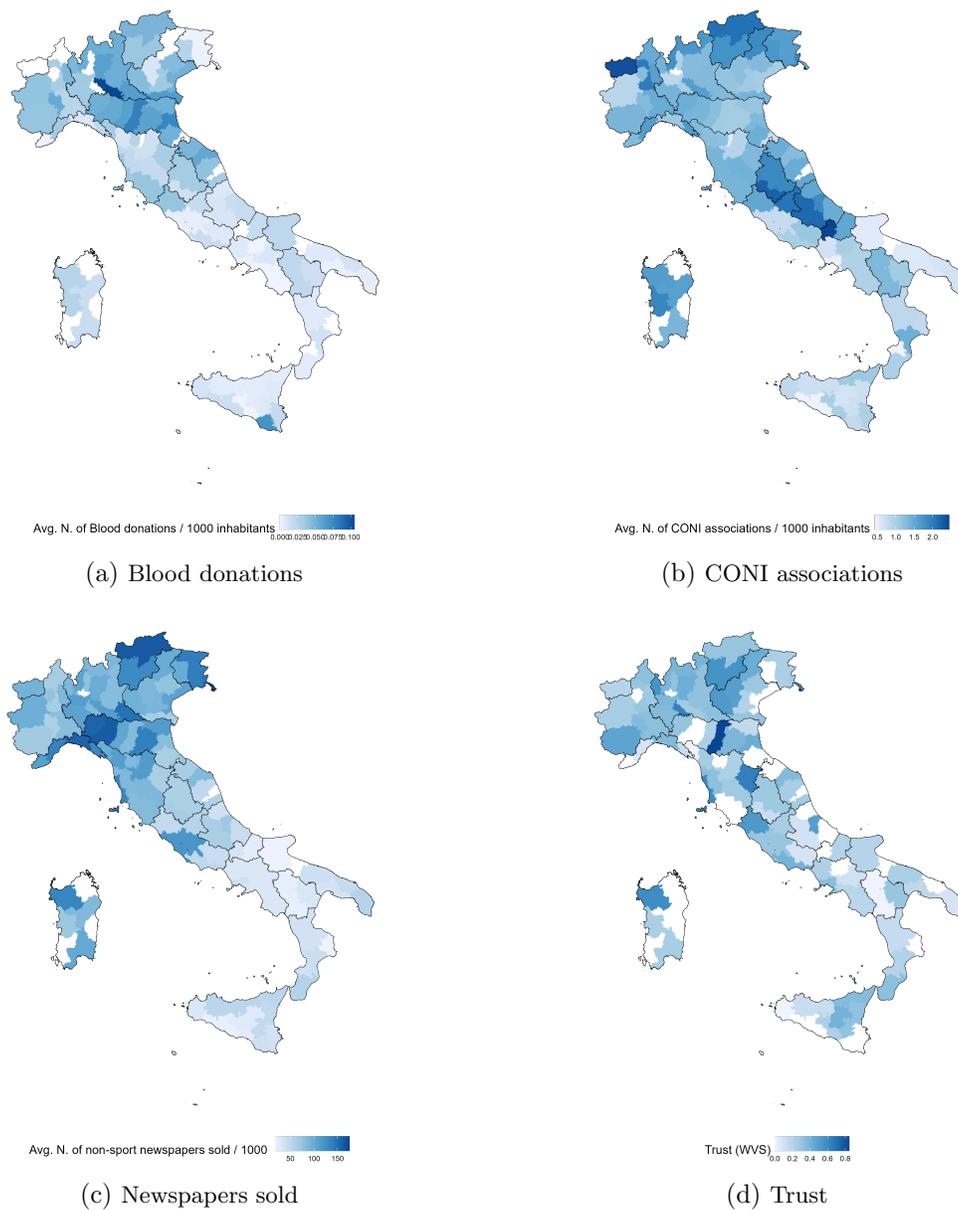
(b) European elections turnout.



(c) N. vol. assoc. p.1000 people.

Notes. These sub-figures show the geographical distribution of the turnout to referendum (a), turnout to European elections (b) and the number of voluntary associations (c).

Figure A2: Geographical distribution of social capital measures at the provincial level.



Notes. These sub-figures show the geographical distribution of blood donations (a), CONI associations (b), non-sport newspaper sold (c), and answer to the trust question in WVS.

Table A1: Description of variables

Variable	Description	Source
TV Tax Compliance	Ratio of the number of TV licenses in a municipality and the number of households with at least one device	Annuari RAI (as elaborated in Calamunci and Frattini (2023))
Referendum Turnout	Ratio of attendees to a referendum and the eligible population	Eligendo (1946–2020)
European Election Turnout	Ratio of attendees to a European election and the eligible population	Eligendo (1974–2014)
N. of civic associations	Number of non-profit organizations	ISTAT Census (1981–1991–2001)
Blood Donations	Number of 16-ounce blood bags collected per inhabitant in the province in 1995	Guiso, Sapienza, and Zingales (2004)
CONI Associations	Number of CONI associations per 1,000 people (1999)	Cartocci (2007)
Sold Newspapers	Number of non-sport daily newspapers sold per 1,000 people (2001)	Cartocci (2007)
Trust	Answer to 'trust' question in the World Value Survey	World Values Survey (also used in Tabellini, 2009)
Population	Resident population	ISTAT Census (1951–2011)
Elderly index	Ratio between population aged 65+ and population aged 0–14, multiplied by 100	ISTAT Census (1951–2011)
Education gender gap index	Percentage ratio between the share of males with at least a high school diploma and the share of females with the same, both over age 6	ISTAT Census (1951–2011)

Variable	Description	Source
Illiterate index	Percentage of resident population aged 6+ who are illiterate	ISTAT Census (1951–2011)
Workforce Participation	Percentage ratio between the active resident population and the total resident population	ISTAT Census (1951–2011)

Table A2: Descriptive statistics.

	Mean	SD	Min	Max
<i>Municipal level</i>				
TV tax compliance	55.0	28.9	0	100.0
Referendum turnout	68.4	21.6	10.3	100
European ele. turnout	75.0	14.0	13.7	100
N. civic association * 1000	2.96	3.42	0	61.2
Population	6779.3	40873.8	30	2840259
Elderly index	113.8	116.2	5.11	4150
Education gender gap index	137.8	77.9	0	2640.3
Illiterate index	5.00	7.16	0	63.6
Workforce participation	50.0	7.45	16.7	89.6
<i>Provincial level</i>				
N. blood donations	0.030	0.022	0	0.11
N. CONI associations / 1000 people	1.30	0.41	0.43	2.45
N. of non-sport newspapers sold / 1000	80.1	35.1	17.9	175.4
Trust (WVS)	0.32	0.14	0	0.85

Notes. This table shows the descriptive statistics of the main variables used in the analysis.