Mafia's infiltration and spillover effects in the construction sector

Massimiliano Ferraresi[1], *Leonzio Rizzo*[2], *Riccardo Secomandi*[3]

Abstract

Literature has mainly focused attention on understanding whether organized crime impacts on economic growth, broadly intended. Yet, at the local level, much little is known as to how crime may affect economic activities. Using a unique geo-localized dataset on Italian firms, we show that in municipalities where the city council is dismissed because of Mafia infiltration, there is a reduction in the added value of firms located in neighboring municipalities and operating in the construction sector. We also find that the effect is larger the longer the absence of the organized crime in the municipal council.

KEYWORDS: mafia, organized crime, local economies, anticorruption policies, corruption, local administration

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[1] Joint Research Centre (JRC), European Commission.
[2] Università degli Studi di Ferrara & IEB.
[3] Università degli Studi di Parma and Università degli Studi di Ferrara.

Introduction

In the last decade there has been a growing interest in the public debate towards anti-corruption policies, as corruption weakens the institutions, the values of democracy, justice and compromising the development and the principle of legality (ONU, 2003). And this is particularly true in Italy, where – according to the Trasparency International's Corruption Index in Figure 1 - the perception of corruption is one of the highest among developed countries.

INSERT HERE FIGURE 1

The criminal organizations in Italy have drained many public resources by interfering in several public contracts (Caneppele and Martocchia, 2014). As a response, the central government promoted legislative actions[4], including the possibility of the central government to dismiss the municipal councils for mafia infiltration.

Together with this evidence on the relevance of mafia infiltration, a large body of literature focuses on the role played by organized crime in shaping economic (Fenizia, 2018; Montoya, 2016; Rozo, 2014[5]) and political outputs (Hess, 1973; Pezzino, 1985; Acemoglu et al., 2009; Buonanno et al., 2016; De Feo and De Luca 2017). In particular, a large amount of literature has sought to identify the deterrent impact of sanctions (Drago et al., 2009; Kessler & Levitt, 1998) and the negative effect of police on crime (Corman & Mocan, 1999; Rafael Di Tella & Schargrodsky, 2004). Other studies emphasize the effect of mafia on the general government (Gennaioli et al., 2011; Daniele & Geys, 2015; Di Cataldo and Mastrorocco 2017). On the contrary, very few works have studied mafia-related spillover effects. Avis et al. (2016) find that measures of auditing have no effects on the level of corruption in neighboring municipalities. In contrast, Silva (2010), using information from an anti-corruption policy in Brazil that randomly chooses cities to be controlled, shows that anti-corruption policy takes a certain time to become effective in the neighbor cities. Yet, Galletta (2017) finds evidence of a reduction of public investments in municipalities of southern Italy, close to those dissolved for the presence of mafia infiltration. However our work differs from Galletta (2017) in a number of ways: we focus our analysis on firm activities and in addition we focus on a different timeframe. Thus, to the best of our knowledge, no one has empirically explored the role of mafia-related spillover effects on the local economic activities.

The aim of this paper is to fill this gap in the literature, by studying the effect of an anti-corruption policy on the level of economic activities of neighboring areas. In particular, we rely on the Orbis database to collect financial information of the budget on more than 500,000 firms. Then, we geo-localize firms, in such a way to match each firm to a specific municipality. We concentrate on 1,350 municipalities belonging to three Italian southern regions, the ones most affected by the mafia phenomenon (Sicily, Calabria and Campania). The source of variation is given by our measure of anti-corruption, that is we exploit the council dismissal occurred for mafia infiltration over the period 2010-2016.

[4] The main ones include the Law n. 575/1965, which first inserted into Italian law special provisions against the mafia; the Law n. 646/1982, that introduced the crime of criminal association in the Italian penal code and the Law n. 356/1992, which introduced the article 41 bis in the Italian prison system, known as "hard prison for mafia".

We concentrate on the construction sector which is historically considered a sector with "high" probability of mafia infiltration (Sciarrone, 1998; Varese, 2011). There is a huge amount of anecdotal evidence confirming this attitude. To begin with, Salvatore Lima, mayor of Palermo between 1958 and 1963, was considered responsible for the so-called "Sacco di Palermo", a dramatic urbanization of the territory by explicitly favoring building societies linked to Cosa Nostra. Yet, Tano Badalamenti, head of the Sicilian mafia, was arrested because he was able to corrupt politicians so as to participate in the bride for the construction of the local airport with his own construction firm. Finally, in 1982 the judge Giovanni Falcone wrote: "*the mafia organizations completely control the building sector in Palermo, from the quarries for the production of aggregates, to the firms for the excavations, to the concrete factories, to the iron deposits for the building, ... entrepreneurs are either mafia or have to undergo, however, the impositions of the mafia organizations*". Furthermore, following the Openregio (2018) [6], a dataset build up by the Ministry of the Interior it can be noticed that among the 712 firms confiscated definitively more than 35% refer to the construction sector. Several mafia groups rely a large part of their control over the territory on the construction sector, such as the Caserta clan, Bidognetti, who actually managed to win the concession for the definitive design, construction and management of the public work in this area[7]. The mafia interest was also found in the post-earthquake reconstruction works in L'Aquila, in the works carried out for the realization of the Expo, in the works of modernization of the Salerno-Reggio Calabria motorway (Commissione parlamentare di inchiesta sul fenomeno delle mafie, 2018).

In fact once controlling for firms and years fixed effects, our results suggest that in the construction sector the valued added generated by firms belonging to a municipality experiencing a council dismissal is associated with a 7% reduction in value added in its neighbors municipalities. To provide a casual interpretation of our results it is crucial to show that the timing of council dismissal of neighboring municipalities is random. To test for this hypothesis, we show that unobservable – taken to be several combination of fixed effects – does not matter in the estimates. In addition, we perform a battery of placebo test that allows anticipatory effects to be excluded. Yet, we provide evidence that council dismissal for mafia infiltration is likely to be the most accredited explanation of the observed reduction in the local economy, as other reasons of dismissal does not lead to any downsizing in the value added. Finally, we use alternative definitions of council dismissal, namely the average number of neighboring council dismissal and the average number of days of council dismissal, which allow to control for a measure of the intensity of the treatment.

Taken together, the results seem to suggest that the presence of anticorruption policies have repercussion on the local economy, especially in the construction sector. One main concern of the analysis is that it focuses on a single country, thus limiting external validity of our results. As a matter of fact, the Italian mafia can be considered as the “prototype” for other criminal organization around the world, such as drug cartels in South America and the Yakuza in Japan (Pinotti, 2015). It follows that the evidence pointed out in this work might eventually shed light on the effects of the presence of criminal organizations, broadly intended, in public administration on local firms.

[6] Source: https://openregio.it/statistiche/visualizza/beni_destinati/aziende.
[7] DIA report – year 2016.

The rest of the work is organized as follows. Section 2 describes the anti-corruption policy and describes the institutional framework. Section 3 illustrates the dataset. The empirical analysis, the results and the robustness checks are in Section 4. Section 5 concludes.

2. Institutional setting

In 1991 the Italian Parliament, in order to combat corruption in local public administrations, approved a Law (D.L. n. 164/1991)[8], which allows the Central Government to dissolve the municipal council if there are potential links with the mafia. The major is then replaced by a commissioner, who is in charge of the overall governance and functioning of the municipality in which she intervenes, including decisions on the budget. The dissolution of municipal councils can take place for other reasons than mafia infiltration,[9] and it usually follows a process slightly different from the one used for mafia.

The Commissioners shall be chosen from people who already have experience in the management of municipalities, and typically are from a different geographic area (Fenizia, 2018) respect the one of the municipality put under commissioner. The Commission should be empowered to revise budgetary choices and decisions of the Council. Such a decisions, often coincide with the reassign of public contracts, regardless the state-of-the-play of the contract, which were due to the infiltration of criminal organizations (Ministry of Interior, 2016). Immediate budget cuts are expected, however, after the first year of compulsory administration there is usually an increase in expenditures, due to the implementation of new decisions (Galletta, 2017).

In addition, there are special obligations foreseen by the mafia code (D.Lgs. n. 159/2011), which obliges municipalities dissolved for mafia infiltration to acquire, during the five years following the dissolution, the anti-mafia information for any contract[10].

Once the period of commissioner finishes, there are local elections and the commissioner is then replaced by the elected mayor and the elected council.

3. Dataset

The empirical analysis is based on a database on both municipalities and firms in the regions of Campania, Calabria and Sicily, for the period 2010-2016[11].

[8] According to Art. 143 D. Lgs. n.267/2000 municipal councils are dissolved when: "concrete, univocal and significant elements emerge on direct or indirect links with organized crime, such as to determine an alteration of the process of formation of the willingness of the elective and administrative bodies and to expose the good performance or impartiality of the municipal administrations, as well as the regular functioning of the services entrusted to them, or that are such as to cause serious and lasting prejudice to the state of public safety".

[9] The dissolution may take place for the accomplishment of acts contrary to the Constitution or for serious and persistent violations of the law, as well as for serious reasons of public order or for the impossibility of ensuring the normal functioning of the organs and services, for example in case of resignation of the mayor or more than half of municipal councilors (TUEL).

[10] The anti-mafia information consists of communications and information within the Public Administration through which the municipality can first become aware of the existence, or otherwise, of prohibitions, impediments and situations of "mafia" to be borne by the subjects who they relate to it.

[11] We also collect data for the years 2008 and 2009 and then proceed with the robustness check.

3.1 Municipal information

Municipal information on dissolution and its length have been collected by complementing the data available at the Ministry of the Interior with the Ancitel database, which provides the cause of municipal dissolution[12]. According to our sample, over the period 2010-2016 were dissolved 730 councils (about 16% of the total). Among these, 186 municipalities were dissolved for mafia infiltration (Figure 2), being the distribution more pronounced in Calabria (Figure 3 – Figure 4 – Figure 5).

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In order to build our main variable of interest, we use the starting and the ending date of the commissioner. Thus, for each municipality, we build the variable *mafia council dismissal* that is equal to 1 if the municipality council has been put under commissioner for mafia related issue, and zero otherwise. In the same way, the variable *council dismissal for another reason* accounts for any other kind of council dismissal than mafia and it is equal to 1 if the municipality has been put under commissioner for not-mafia-related issue and zero otherwise. These variables, are then used to create neighboring values. In particular, we build the variable *neighbors council dismissal*, which equals to 1 when in a nearby municipality, in a given year, there is a commissioner for a dissolution by mafia infiltration and zero otherwise.[13]

In a similar vein, we define the variable *neighbors council dismissal for other reasons* as being equal to 1 when in a nearby municipality, in a given year, it is in charge the commissioner after a dissolution for other reasons than mafia.

3.2 Firms information

The information on the firms are taken from Bureau van Dijk database (Orbis). This database contains financial, personal and commercial information on over 500,000 equity companies operating in Italy. The financial information is imported from all the official financial statements deposited at the Italian Chambers of Commerce. In particular, we use the *value added* as our variable of interest. Such a variable is obtained by subtracting the total costs from the total revenues: the former include costs for gross purchases, for various services and for the enjoyment of third-party services, changes in inventories of materials and goods purchased without transformation and other operating costs; the latter contain the value of gross sales, changes in inventories of finished products, semi-finished goods and work in progress, increases in fixed assets for internal work and revenues management accessories.

[12] See the following link for detailed information on the dissolution http://www.interno.gov.it/sites/default/files/relazione_ministro_enti_sciolti_2015_2016t_0.pdf.

[13] The measure of proximity between municipalities was constructed using data from the National Institute of Statistics (http://www.istat.it/it/archivio/157423).

The variable *number of years* of the firm represents the degree of maturity of the firm and it's measured as the number of years passed since the foundation. The variable *revenue class* captures the size of the company in financial terms. The definition of the classes is taken from ISTAT, as shown in Table 1.

INSERT HERE TABLE 1

Furthermore, we collect general information, such as the reference sector (with the ATECO Code) and the legal form. We use information on the firm's location to geo-localize it and then match to the database of municipalities.

The construction sector, on which we focus our analysis, according to the distribution of firms, it is the one well represented (Figure 6). Finally, is the one more relevant in term of value added, as it represents around 13% of the total value added in the local economy of the three regions (Figure 7).

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4. Empirical analysis

4.1 Econometric specification

Our analysis focuses on the effects of the commissioner for mafia infiltration on the value added of firms in bordering municipalities. In particular we are interested in analyzing the impact of spillover effects, due to the anti-corruption policy, on the local economy.

To begin with the analysis, we use the following model:

$$Y_{ict} = \alpha + \beta neighbors\ mafia\ council\ dismissal_{ct} + \gamma mafia\ council\ dismissal_{ct} + \delta council\ dismissal_{ct} + \rho \boldsymbol{X}_{it} + \tau_i + \mu_t + \varphi_{pt} + \epsilon_{ict}$$

where *i* denotes a firm, *c* the municipality where the firm is located and *t* the year. Y_{ict} is the logarithm of the value added, opportunely deflated[14]. The variable *neighbors mafia-council dismissal*$_{ct}$ is a dichotomous variable that is equal to 1 when the firm is located in a municipality bordering a municipality dissolved for mafia infiltration and 0 otherwise. We also include two indicators accounting for the presence of commissioners in the municipal administration: *mafia council dismissal*$_{ct}$ and *council dismissal*$_{ct}$, with the former capturing for the presence of mafia-related commissioners and the latter for the presence of other commissioners beyond mafia reasons. $\boldsymbol{X}_{it}$ is a set of time-varying variables at the firm level, such as *number of years* and *revenue class*. τ_i denotes the firm fixed effects, μ_t is the year fixed effect and φ_{pt} is a set of province-by-year fixed effects, which aim to capture any pattern of unobserved economic shock within the province. Finally, ϵ_{ict} is the idiosyncratic error term, clustered at the municipal level.

While the coefficients γ and δ account for the direct effect of the council dismissal on the value added of firms, β captures the spillover effect on the local economic activity due to the council dismissal for mafia of neighboring municipalities.

[14] Data deflated by the national consumer price index for the entire community, excluding energy (ISTAT).

According to what we have underlined before where we showed the relevance of the construction sector for the mafia activity, we dig into it by interacting the neighbors' mafia council dismissal with a dummy accounting for the construction sector.

We estimate a modified version of equation (1) where we allow the spillover effect in the construction sector:

$$Y_{ict} = \alpha + (\beta + \lambda construction_i) \times neighbors\ mafia\ council\ dismissal_{ct} + \gamma mafia\ council\ dismissal_{ct} + \delta council\ dismissal_{ct} + \rho \boldsymbol{X}_{it} + \tau_i + \mu_t + \varphi_{pt} + \epsilon_{ict}$$

Differently from eq. (1), equation (2) includes an additional term $neighbors\ mafia\ council\ dismissal_{ct} \times construction_i$ which allows to consider impact of the neighbors' mafia council dismissal on the construction sector. In fact, $construction_i$[15] is a dummy variable that is equal to one if firm *i* belongs to the construction sector, and zero otherwise. The impact of being firm belonging to a neighbors' council mafia dismissal on its own value added can be computed as $\beta + \lambda construction_i$, where λ gives the differential impact on value added of being a firm belonging to construction.

4.2 Baseline results

In Table 2 we show our estimates. In particular, we first estimate equation (1), without including controls variable (col. 1) and then in column (2) we replicate the analysis including firm controls. Results indicate that the neighboring council dismissal for mafia triggered a reduction of the level of value added; nevertheless, the estimated effects are not statistically different from zero in both specifications. While these results seem to suggest that, on average, there is no effect associated to the anti-corruption policy, it might be the case that some sectors, such as the construction one, have been strongly affected.

To explore whether construction firms are affected by the policy, we estimate model (2) by using, as interactions, firms belonging to the construction sector. Results of this analysis are shown in column 3 and indicate that the value added of firms belonging to the construction sector reduces by approximately -6.6% = (0.5 – 7.1)%, as the coefficient of the interaction term, $neighbors\ mafia\ council\ dismissal_{ct} \times construction_i$, turns out to be negative and statistically significant at 1%. A very similar effect is obtained when we repeat the analysis with the inclusion of control variables (col. 4). It is also worth noting that the direct effect of the policy leads to a reduction of the value added, that is the coefficient of *mafia council dismissal* is always negative and statistically significant at the conventional level.

Finally in columns (5), (6), (7) and (8) we replicate the previous regressions by adopting a different definition of the council dismissal variable, that is we create a measure of intensity of commissioner given by the number of days (average) over which neighbors municipalities have been put under commissioner for mafia infiltration[16]. In this case too, we observe a negative and statistically

[15] All ATECO code used is shown in Table A3.

[16] To test for the robustness of our results we also use a third definition of neighboring council dismissal. In particular, we define neighboring council dismissal as the ratio between the number of neighboring municipalities put under commissioner and the total number of municipalities. Results do not change and are available upon request.

significant effect of the neighbors council dismissal on the value added of firms in the construction sector, both in the case of excluding control variables (Table 2, col 7), and in the case when controls are included (Table 2, col 8).

Therefore, it can be noticed that neither the inclusion of control variables, nor the adoption of different measures of council dismissal change the magnitude of the effects, implying that firms may not appear to significantly differ in terms of observables and that the effect is not driven by the definition of the neighboring council dismissal variable.

Taken together, these results suggest that the presence of an anti-corruption policy leads to a reduction of the value added of firms in the construction sector, suggesting that there crime-related links between private firms (in the construction sector) and local officials.

4.3 Robustness test

In this section, we assess the validity of the previous results by performing a set of robustness tests. Firstly, we run checks to detect any anticipatory behaviour by including leads, up to two years, of the variables $neighbors\ mafia\ council\ dismissal_{ct}$ and $neighbors\ mafia\ council\ dismissal_{ct} \times construction_i$ to the fully controlled regression. Results of this analysis are reported in Table 3 and there is no evidence of any effects on the value added associated with the city council dismissal for mafia infiltrations in future years.

Second, there might be some unobservable characteristics linked to council dismissal that bias our results. To tackle this issue, we compare point estimate, and confidence intervals, of our variable of interests in three different combination of fixed effects: i) model with controls, firms and years fixed effects; ii) controls, firms and years fixed effects and province by years specific time trend; iii) controls, firms and years fixed effects and municipal by years specific time trend. Our results shown in Table 4 indicate that point estimates are consistent among the three model and thus, we find no plausible explanation that holds as an argument against a causal interpretation of the identified relationship.

Third, to better strengthen the evidence pointed out so far, we investigate whether using the council dismissal for other reason than mafia leads to the same conclusion. Were it the case, it would imply that the effects found for firms operating in the construction sector are not related only to mafia, but to the commissioner status. Results of this analysis are reported in Table 5 and suggest that being surrounded by municipalities dissolved not for mafia-related reason brings no effects on the added value of firms, as the interaction term *neighbors * construction* is not statistically significant in any specification.

5. Conclusion

In this paper we examined the impact of organized crime on economic activity at local level, in particular we focus on the effects of a strong anti-corruption policy as the commissioner of municipalities for mafia infiltration. Following the theoretical reasoning of Sah (1991) a strong anti-corruption policy affected the activities of criminal organizations even in neighboring municipalities, loosening control by the mafia on the activities of the municipal administration.

A lessening of control of criminal organizations involves for legal firms but related to mafia, less unproductive expenditures, especially less income from investment (Galletta, 2017) and fewer contracts won (Fenizia, 2018) and less competitive advantages, such as the use of poor materials in construction (Rose-Ackerman, 1999).

While all firms are potentially subject to be linked to Mafia, in practice some of them are more vulnerable to criminal infiltration (Rose-Ackerman, 1999). In this respect, Gambetta and Reuter (1995) provide a list of factors that favor the creation of cartels controlled by the mafia: product differentiation and barriers to entry are low; the technology used is not sophisticated and unqualified work; demand is inelastic and the sector consists of a large number of small firms.

A recent analysis conducted on the province of Crotone in the South Italy (Riccardi, Milani and Campedelli, 2016), has identified among the most infiltrated economic sectors those of construction, transport and storage, services for the enterprise, the supply of electricity (even from renewable sources), as well as those of gaming and betting rooms. . These figures, have been also confirmed by a recent study conducted by the Bank of Italy (2017), which registers firms operating in the construction sectors on top of the activities managed by mafia in 2016.

Finally, historically the construction sector is strongly linked to local public tenders, in 2016 the calls for tenders for works published by the municipalities were 9.930, for a total amount of 3.396 billion euros.

We showed that in the construction sector the effect of having had a municipality dissolved for mafia infiltration close to the headquarters of the firm decreases the value added of 7%. The effect found is sensitive to the intensity of treatment, defined by the number of days of commissioner dissolved. Not surprisingly, the effect is driven by the construction sector as is the one heavily dependent on local procurement and thus having the "higher" probability to be involved in mafia-related crime (Sciarrone, 1998; Varese, 2011).

What we bring to emphasize is that in a sector highly controlled by criminal activity and linked to public local procurement, the restoration of legality leads to a reduction in economic results for firms in this sector.

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Figure 1 - Corruption Perception Index in the world, year 2017.

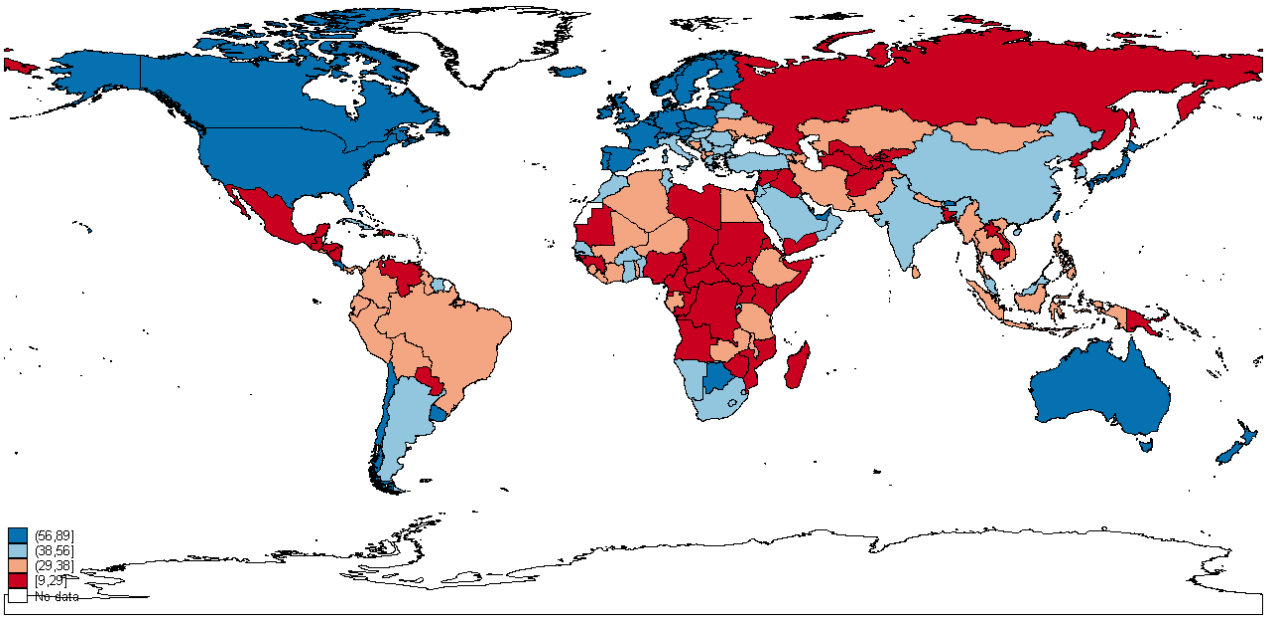

Figure 2 – Distribution of council dismissal for mafia infiltration and for other reasons, by region and year.

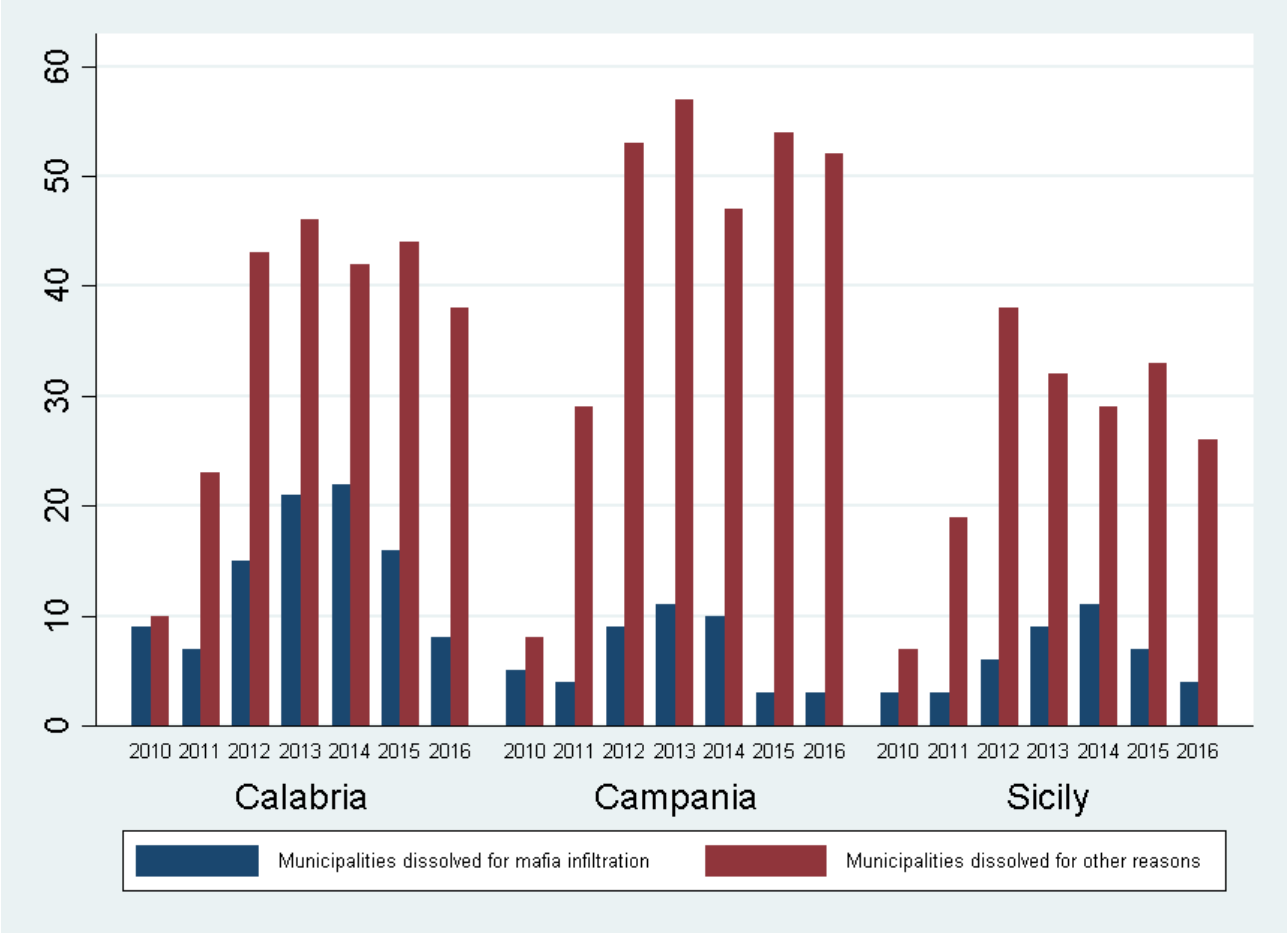

Figure 3 – Municipalities dissolved for mafia infiltration and relative neighbors (2010-2016), Calabria.

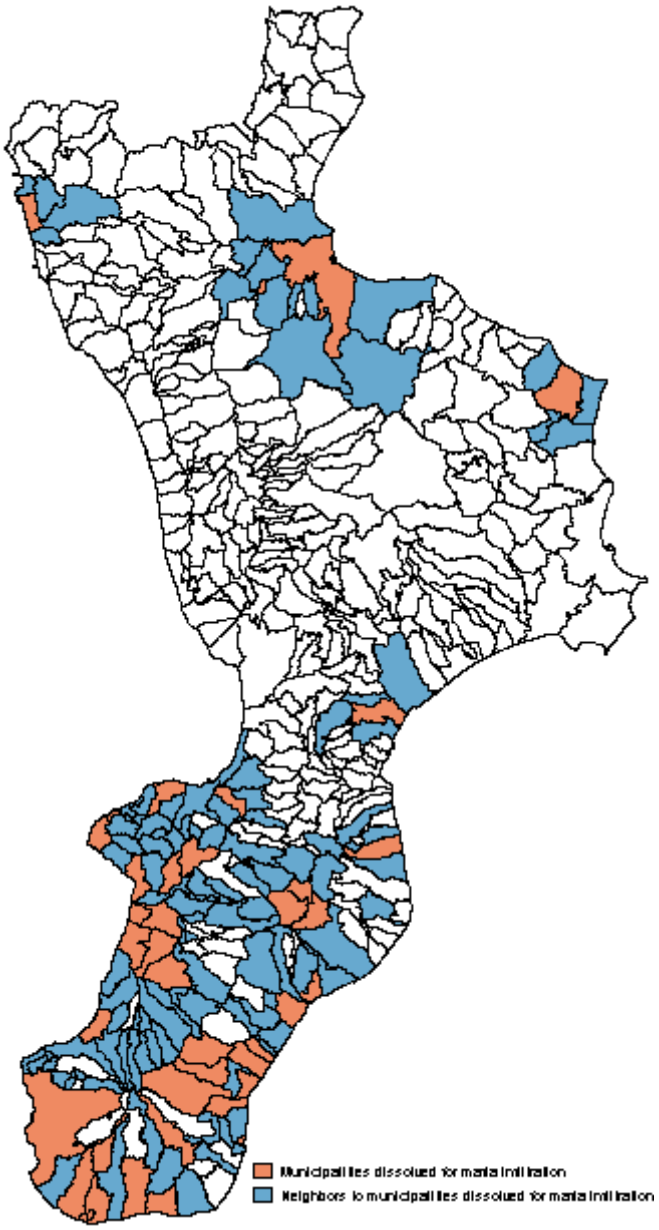

Figure 4 – Municipalities dissolved for mafia infiltration and relative neighbors (2010-2016), Campania.

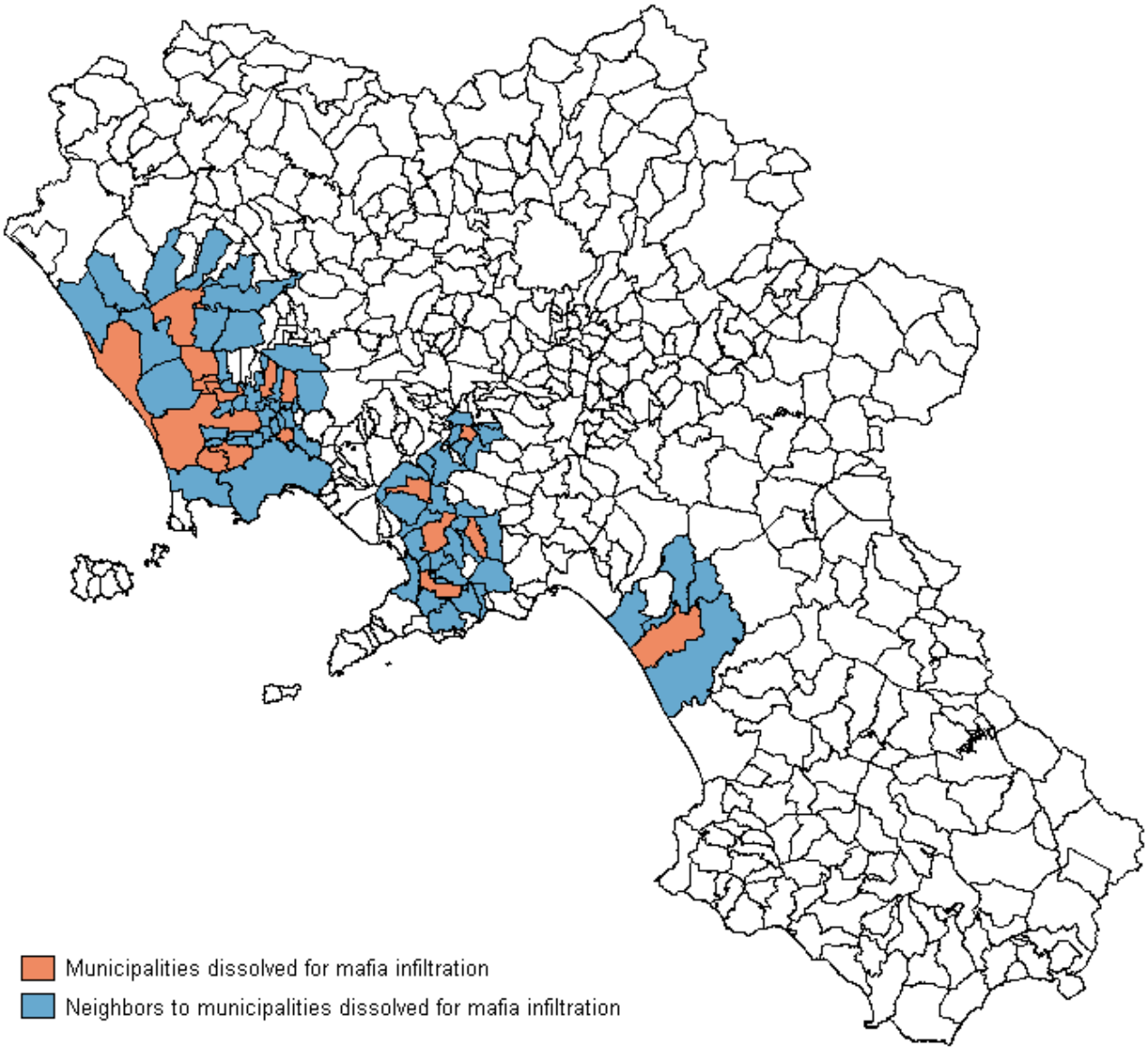

Figure 5 – Municipalities dissolved for mafia infiltration and relative neighbors (2010-2016), Sicily.

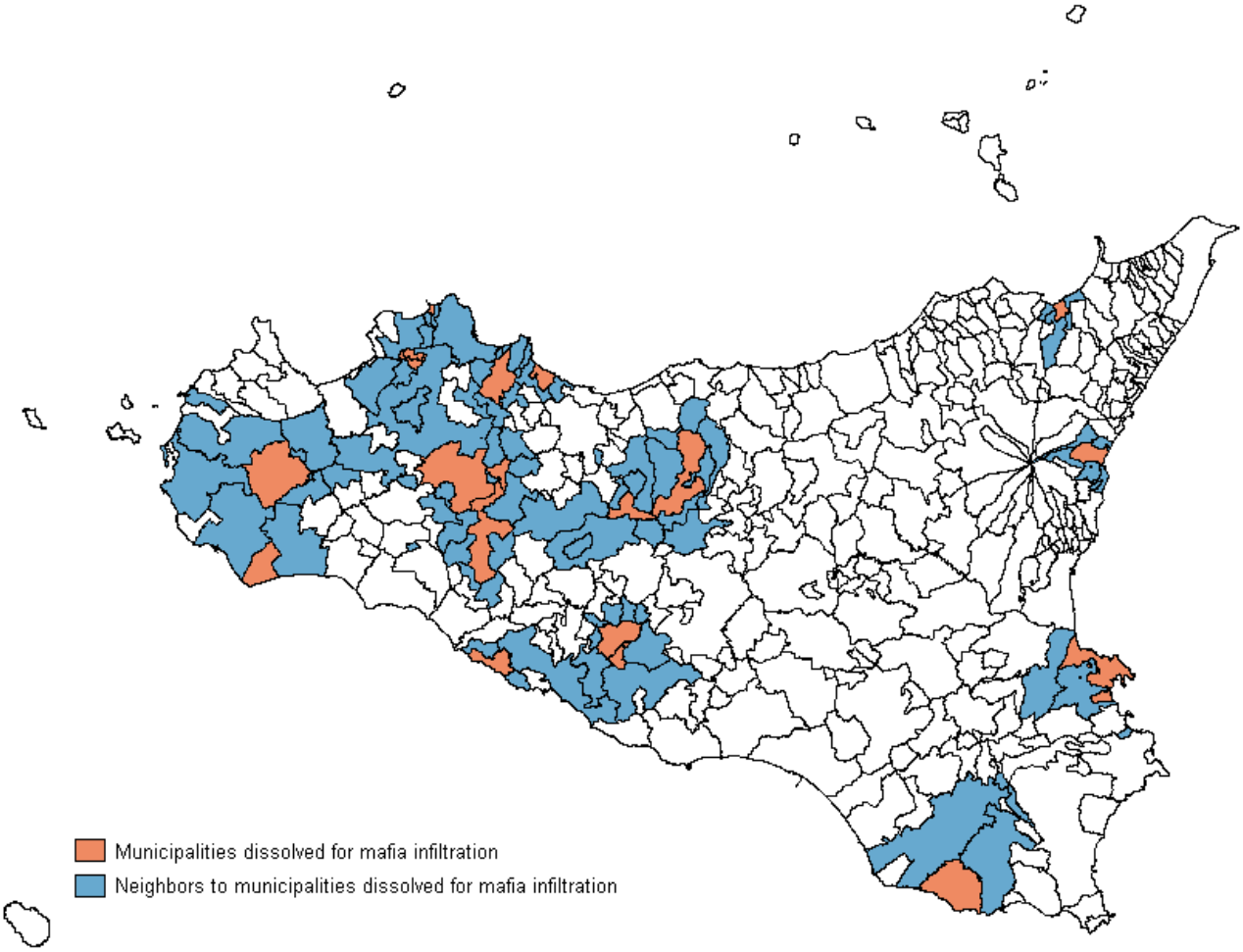

Figure 6 – Percent distribution of the firms by ATECO macro-sector.

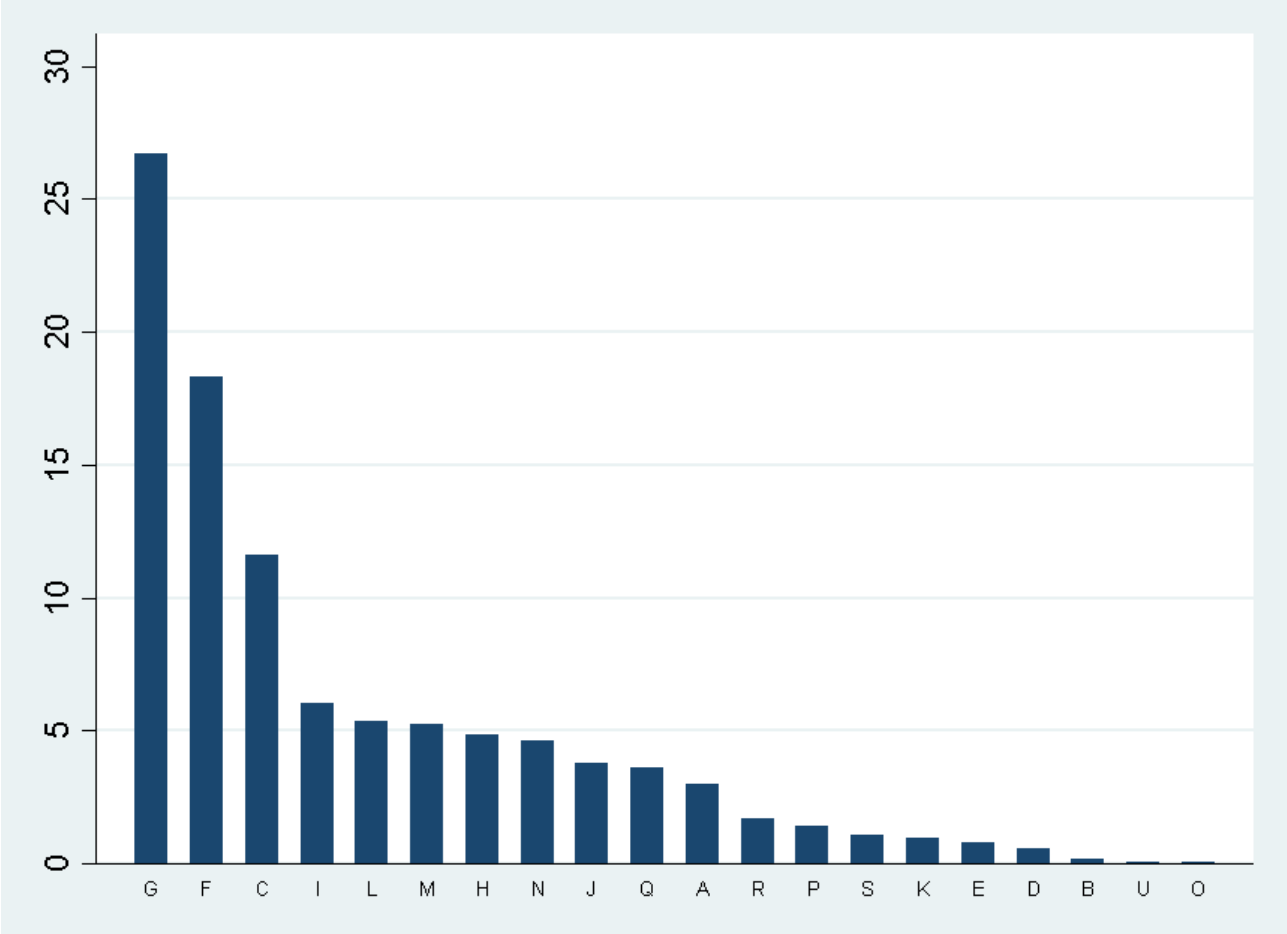

Figure 7 – Percent distribution of the value added (blue) and revenue (red) by ATECO macro-sector.

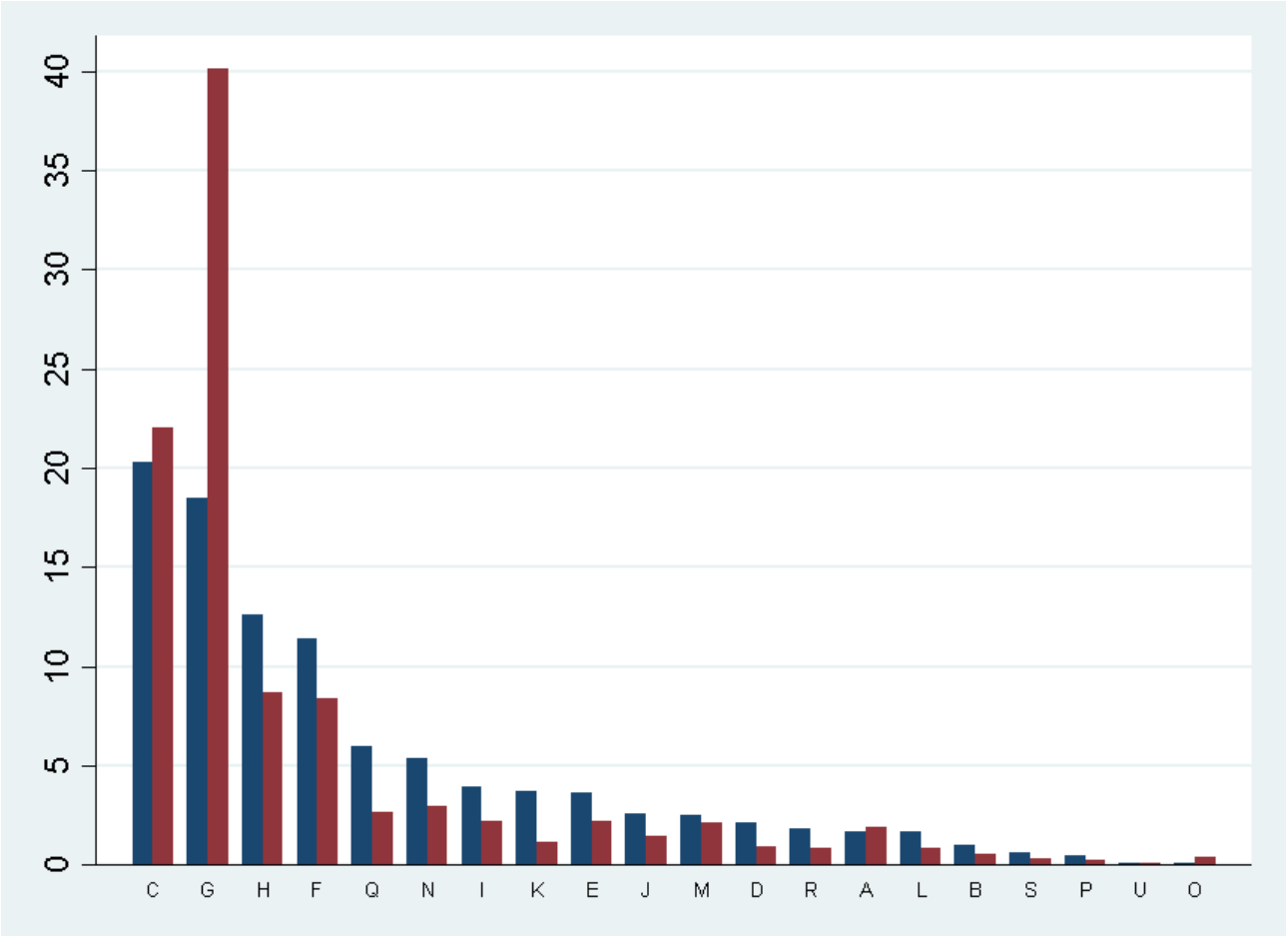

Table 1: Revenue classes.

Revenue class	***Revenue***
0	0-0.499 million
1	0.5-0.999 million
2	1-1.999 million
3	2-4.999 million
4	5-9.999 million
5	10-24.999 million
6	25-49.999 million
7	50-99.999 million
8	100-249.999 million
9	>= 250 million

Table 2: Value added and neighbors council dismissal for mafia infiltration.

	(1) Value added	(2) Value added	(3) Value added	(4) Value added	(5) Value added	(6) Value added	(7) Value added	(8) Value added
	Dummy neighbors council dismissal				**Average number of days of council dismissal**			
Neighbors council dismissal	-0.008	-0.005	0.005	0.006	-0.085***	-0.062**	-0.017	-0.007
	(0.005)	(0.005)	(0.005)	(0.005)	(0.028)	(0.027)	(0.028)	(0.029)
Neighbors council dismissal*construction			-0.071***	-0.060***			-0.316**	-0.248**
			(0.018)	(0.016)			(0.125)	(0.102)
Council dismissal for mafia	-0.025	-0.015	-0.023	-0.013	-0.021	-0.012	-0.019	-0.011
	(0.015)	(0.013)	(0.015)	(0.013)	(0.015)	(0.013)	(0.015)	(0.013)
Council dismissal for other reason	-0.001	-0.003	-0.001	-0.003	-0.001	-0.002	-0.001	-0.002
	(0.006)	(0.005)	(0.006)	(0.005)	(0.005)	(0.005)	(0.006)	(0.005)
Firm fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Province*year fixed effects	YES	YES	YES	YES	YES	YES	YES	YES
Other firm controls	NO	YES	NO	YES	NO	YES	NO	YES
Observations	676,728	653,777	676,728	653,777	674,473	651,564	674,473	651,564
R-squared	0.833	0.849	0.833	0.849	0.833	0.850	0.833	0.850

Robust standard errors in parentheses (cluster at municipal level)

*** p<0.01, ** p<0.05, * p<0.1

Other firm controls: number of years of the firm, revenue class.

Table 3: Value added and neighbors council dismissal for mafia infiltration, falsifying the commissioner's entry to 1 year or 2 years before.

	(1) Value added	(2) Value added	(3) Value added	(4) Value added
F1. Neighbors council dismissal	-0.006	-0.003		
	(0.006)	(0.005)		
F1. Neighbors council dismissal*construction	-0.025	-0.011		
	(0.025)	(0.018)		
F2. Neighbors council dismissal			-0.009	-0.008
			(0.007)	(0.006)
F2. Neighbors council dismissal*construction			0.007	0.021
			(0.020)	(0.016)
Council dismissal for mafia	-0.022	-0.013	0.010	0.016
	(0.016)	(0.012)	(0.018)	(0.014)
Council dismissal for other reason	-0.002	-0.000	-0.007	-0.003
	(0.005)	(0.005)	(0.006)	(0.006)
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Province*year fixed effects	YES	YES	YES	YES
Other firm controls	NO	YES	NO	YES
Observations	554,137	535,261	465,616	450,197
R-squared	0.852	0.868	0.859	0.875

Robust standard errors in parentheses (cluster at municipal level)
*** p<0.01, ** p<0.05, * p<0.1
Other firm controls: number of years of the firm, revenue class.

Table 4: Value added and neighbors council dismissal for mafia infiltration, with different fixed effects.

	(1) Value added	(2) Value added	(3) Value added
Neighbors council dismissal	0.013***	0.006	-195,057
	(0.005)	(0.005)	-466,281
Neighbors council dismissal*construction	-0.060***	-0.060***	-0.061***
	(0.017)	(0.016)	(0.016)
Council dismissal for mafia	-0.012	-0.013	-160,268
	(0.012)	(0.013)	-411,873
Council dismissal for other reason	-0.001	-0.003	-132,481
	(0.005)	(0.005)	-159,284
Firm fixed effects	YES	YES	YES
Year fixed effects	YES	YES	YES
Province*year fixed effects	NO	YES	NO
Municipal*year fixed effects	NO	NO	YES
Other firm controls	YES	YES	YES
95% Conf. Interval			
Neighbors council dismissal*construction	[-0.0928;-0.0263]	[-0.0921;-0.0285]	[-0.0933;-0.0288]
Observations	653,777	653,777	653,159
R-squared	0.849	0.849	0.852

Robust standard errors in parentheses (cluster at municipal level)
*** p<0.01, ** p<0.05, * p<0.1

Other firm controls: number of years of the firm, revenue class.

Table 5: Value added and neighbors council dismissal for other reasons.

	(1) Value added	(2) Value added	(3) Value added	(4) Value added
Neighbors council dismissal for other reasons	-0.000	-0.002	0.004	0.001
	(0.004)	(0.004)	(0.004)	(0.004)
Neighbors council dismissal for other reasons*construction			-0.023	-0.017
			(0.023)	(0.019)
Council dismissal for mafia	-0.025	-0.015	-0.025*	-0.015
	(0.015)	(0.013)	(0.015)	(0.013)
Council dismissal for other reason	-0.001	-0.003	-0.001	-0.003
	(0.006)	(0.005)	(0.006)	(0.005)
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Province*year fixed effects	YES	YES	YES	YES
Other firm controls	NO	YES	NO	YES
Observations	676,728	653,777	676,728	653,777
R-squared	0.833	0.849	0.833	0.849

Robust standard errors in parentheses (cluster at municipal level)
*** p<0.01, ** p<0.05, * p<0.1
Other firm controls: number of years of the firm, revenue class.

Appendix

Table A1: Value added and neighbors council dismissal for mafia infiltration, average number of neighboring council dismissal.

	(1) Value added	(2) Value added	(3) Value added	(4) Value added
Neighbors council dismissal	-0.059**	-0.047	-0.001	-0.000
	(0.029)	(0.029)	(0.028)	(0.028)
Neighbors council dismissal*construction			-0.257***	-0.201***
			(0.073)	(0.065)
Council dismissal for mafia	-0.022	-0.013	-0.020	-0.011
	(0.015)	(0.013)	(0.015)	(0.013)
Council dismissal for other reason	-0.001	-0.002	-0.001	-0.002
	(0.006)	(0.005)	(0.006)	(0.005)
Firm fixed effects	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES
Province*year fixed effects	YES	YES	YES	YES
Other firm controls	NO	YES	NO	YES
Observations	674,473	651,564	674,473	651,564
R-squared	0.833	0.850	0.833	0.850

Robust standard errors in parentheses (cluster at municipal level)

*** p<0.01, ** p<0.05, * p<0.1

Other firm controls: number of years of the firm, revenue class.

Table A2 – Summary statistics

	N. of observation	Average	Std. Dev	Min	Max
Value added	701,288	337.36	3,499.08	0.001	1,181,223
Neighbors council dismissal	701,288	0.225	0.418	0	1
Neighbors council dismissal for other reason	701,288	0.321	0.467	0	1
Average number of neighboring council dismissal	698,960	0.034	0.08	0	1
Average number of days of council dismissal	698,960	0.035	0.077	0	0.904
Council dismissal for mafia	701,288	0.03	0.172	0	1
Council dismissal for other reason	701,288	0.123	0.329	0	1
Number of years of the firm	701,288	11.25	10.364	1	155
Revenue class	680,822	0,697	1,25	0	9

Table A3 – Description of ATECO macro-sector.

ATECO macro-sector	Description
A	Agriculture
B	Cave
C	Manufacturing
D	Electricity and gas
E	Water supply
F	Construction
G	Wholesale trade
H	Transport
I	Accommodation, catering
J	Communication
K	Finance and insurance
L	Real Estate
M	Professionals
N	Rentals and trips
O	Public Administration
P	Instruction
Q	Health
R	Art, sport and entertainment
S	Other services
U	International organizations