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STRIKE ONE TO EDUCATE ONE HUNDRED: ORGANIZED CRIME, POLITICAL
SELECTION AND POLITICIANS' ABILITY

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Fiscal Federalism

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ABSTRACT: A central question in terms of political (self-)selection relates to the incentives leading high ability individuals to enter – or abstain from entering – into politics. In this article, we use data from Italian municipalities over the period 1985-2012 to empirically assess how changes in individuals' expected payoffs affect political (self-)selection. Identification derives from murders of local politicians by the mafia, and indicates that such a negative shock to politicians' expected payoffs induces a strong decrease in first-time elected politicians' human capital. The effect is not limited to the municipality where a political murder takes place, but also extends to nearby municipalities.

JEL Codes: H7, D72, K42

Keywords: Political selection, organized crime, politicians' ability, human capital, spillover effects

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1. Introduction

Following Besley's (2005) pioneering study, economists have in recent years increased their interest in, and understanding of, the mechanisms driving political (self-)selection. An important topic thereby concerns the incentives leading high ability individuals to enter – or abstain from entering – into politics (and/or be selected as candidates by political parties). Previous work in this developing literature indicates that politicians' remuneration and the degree of electoral competition can be important drivers in the political selection process. For instance, Galasso and Nannicini (2011) show that electoral competition increases parties' incentives to select better candidates, while Gagliarducci and Nannicini (2013) find that higher wages tend to attract better educated individuals into politics. Besides these financial and political factors, the institutional framework of elections has also been found to play a critical role in modifying individuals' expected payoffs and, in turn, political selection. For instance, the temporary introduction of reservation quotas in Italian municipalities has not only strongly increased the share of female politicians (De Paola et al. 2010), but also significantly improved the education level of elected politicians (Baltrunaite et al. 2014) – with lasting effects even after the removal of the quotas.

In this paper, we investigate the impact on political selection of exogenous shocks in individuals' expected payoffs linked to the presence of active criminal organizations in the political arena. Criminal organizations are equipped with substantial economic, military and political resources, and their detrimental economic effects have been extensively documented in a variety of contexts (Pinotti 2015). One mechanism explaining such negative economic effects lies in distortions in the allocation of public funds achieved by criminal organizations (Barone and Narcisio 2012; Acemoglu et al. 2013). Alternatively, however, criminal organizations may also distort the political selection process and induce the (s)election of

lower-ability politicians. Dal Bó et al. (2006) highlight this effect in a two-stage model where individuals in the first stage decide whether to run for public office (where wages are fixed) or join the private sector (where wages reflect individuals' ability). In the second stage, elected politicians might direct a lump sum transfer to organized crime, which can use bribes and/or punishments to obtain such transfers. A central prediction of the model is that politically active criminal organizations reduce politicians' expected payoffs independent of individuals' decisions to accept bribes (and paying the cost of corruption), or reject them (and face punishment by the criminal organization).¹ Consequently, higher ability individuals will self-select into private sector jobs rather than take up public office (for further details, see Dal Bó et al. 2006; Daniele and Geys 2015).

The key contribution of this article lies in an empirical assessment of this theoretical prediction – i.e. politically active criminal organizations affect political (self-)selection by leading to an equilibrium outcome with lower-ability politicians taking office. Our identification of this effect derives from exogenous non-monetary shocks to individuals' expected payoffs of entering politics due to murders of local politicians by criminal organizations in southern Italy. In the period 1975-2011, 132 Italian local politicians were murdered, most of them by criminal organisations (Lo Moro et al. 2015). The risk of being murdered represents an extreme case of 'punishment' in the context of Dal Bó et al.'s (2006) model, which can be credibly delivered by organized crime and arguably reflects a substantial negative expected payoff shock to (prospective) politicians. Matching this information on political murders to a detailed dataset on Italian local politicians' education levels in three Southern Italian regions over the period 1985-2012, we can exploit variation across both time and space in political murders to derive causal inferences using a difference-in-difference

¹ The reason is that organized crime will set the bribe equal to the cost of corruption minus the punishment. Hence, politicians will have the same cost from taking the bribe or the punishment.

approach. We thereby specifically focus on politicians in their first term in office (henceforth referred to as ‘first-time’ politicians) for two important reasons. First, compared to politicians already in power when a local politician is murdered, first-time politicians are less likely to be involved in any dynamic related to this murder. In fact, first-time politicians entering office during the first election *after* a political murder (our main ‘treatment’ group) simply were not politically active yet at the time of the murder, thus reducing any potential endogeneity concerns. Second, Dal Bo et al.’s (2006) model focuses on individuals’ choice to enter (or not enter) into politics, which makes first-time politicians an ideal test-case.²

In line with expectations, our results highlight a sharp decline in first-time politicians’ average ability – as measured by their level of education (see also, for instance, Ferraz and Finan, 2008; Besley and Reynal-Querol, 2011; Besley *et al.*, 2011; Galasso and Nannicini, 2011; Daniele and Geys 2015; Martinez-Bravo 2015) – following the murder of a politician by organized crime within a municipality. We show that this drop in human capital immediately *follows* a political murder and does *not* arise from any already decreasing trend in politicians’ ability in such municipalities. The observed effect is not only statistically significant, but also substantively large (i.e. up to 50% of a standard deviation in first-time politicians’ average education level). Interestingly, the impact of a political murder on political selection is *not* contained to the municipality where a murder takes place, but also extends to neighbouring municipalities. Particularly, first-time politicians’ average education level in neighbouring municipalities shows a statistically significant decline after a political murder, which is about 30% of the effect uncovered in a municipality with a murder. Overall, these findings not only confirm that criminal organizations may distort the political selection process by inducing the (s)election of lower-ability politicians within *and* beyond the

² It might also be that politicians already in office at the time of the murder are less affected by a change in political payoffs, since a hypothetical switch from politics to another sector might be costly. We will return to this in more detail below.

jurisdiction of their actual activity (Dal Bó et al. 2006). They also extend Gagliarducci and Nannicini's (2013) findings on the effect of individuals' expected *financial* payoffs for political selection to arguably *non-monetary* shifts in expected payoffs (i.e. life and death).

In an important extension to our main analysis, we finally illustrate that these results are unlikely to be driven by a change in the “demand side” (i.e. a change in voters' behaviour), and thus most likely reflect “supply side” decisions of the politicians themselves. Such demand side effects might arise if a political murder moves voters towards parties at the extremes of the political spectrum, which, in turn, might select less educated politicians. Our results indicate, however, that *i*) voters do not appear to change their voting patterns following a political murder, and *ii*) the findings are unchanged when controlling for the political party in power.

In Section 2, we present a brief description of the institutional framework, including descriptive statistics on politicians murdered by organized crime. Section 3 discusses our empirical approach, and assesses the hypothesised negative link between politically active organized crime and politicians' ability using mafia-murdered politicians as a source of identification. Section 4 provides a concluding discussion.

2. Institutional Background

2.1. Mafia-related murders

In 2015, the Italian parliament undertook its first-ever survey of Italian local politicians killed since 1975. A parliamentary commission investigated the circumstances of all local politicians who suffered a violent death, and presented the results in a detailed report including all main facts of each incident (Lo Moro et al. 2015). The report indicates that 132

local politicians were murdered in the period 1975-2011, with no less than 97 of these murders showing links to organised crime. Figure 1 shows the distribution over time of these 97 mafia-related murders. We focus on these murders in our analysis below because they most closely reflect the (extreme) ‘punishment’ by criminal organisations in Dal Bó et al.’s (2006) model, and as such can be expected to induce a substantial change in individuals’ (expected) payoffs from their political activities. Figure 1 shows that most mafia-related murders occurred before 1994, even though political murders still occur in more recent years. The years between 1988 and 1992 witnessed a dramatic upsurge in mafia-related murders, which is linked to a period of dramatic conflict between Italian institutions and the mafia. Following the approval of a stricter national-level legislation aimed at fighting organized crime and the massive incarceration of high level criminals, violent attacks against institutions culminated in the murders of two popular anti-mafia judges – Giovanni Falcone and Paolo Borsellino – a few months apart in 1992 (Dickie, 2005).

Figure 2 instead visualizes the geographical distribution of these murders across the 20 Italian regions. It is evident from figure 2 that most of the murders are concentrated in Sicily, Calabria and Campania. This is unsurprising since these are the three southern Italian regions where organized crime has been strongly active in the last decades. The observed concentration of political murders in these three regions also motivates our choice to focus the empirical analysis on these regions (about 1.350 municipalities). Since our identification strategy requires a sufficiently similar ‘control’ group for the municipalities ‘treated’ with a mafia-related political murder, a focus on southern Italy is critical from a theoretical perspective because we effectively include only municipalities that are sufficiently comparable except for the fact that a mafia-related murder occurred in a given jurisdiction. Hence, it leads to a

“more homogenous sample for those unobserved characteristics (political culture, social capital) (...) that can affect the estimation” (Sberna, 2011, p. 15).

Figures 1 and 2 about here

2.2. Local political system

Local government in Italy is organised along a parliamentary system, and consists of a legislative branch (*Consiglio*, or local council) and an executive branch (*Giunta*, or local government). Both local political institutions are headed by the mayor. During municipal elections, citizens directly elect the councillors (*Consiglieri*) and – since 1993 – the mayor (*Sindaco*). Importantly, not all 8000 Italian municipalities hold elections at the same time, but they do operate on an electoral cycle of similar length (i.e. five years). After an election, the mayor is in charge of appointing a certain number of aldermen (*Assessori*) depending on the population size of the municipality. Municipal councils have important powers in terms of local taxes (particularly taxes on property) and the provision of public goods (for instance, culture and recreation, transport, economic development, education, waste management, local police and social welfare).

3. Empirical Analysis

3.1 Estimation Strategy

As explained above, we expect mafia-related murders of a politician to induce a negative shock in individuals’ expected payoffs from entering politics, which leads to a decrease in the average education level of politicians elected *after* the murder. Our empirical analysis to verify this hypothesis relies on a difference-in-difference approach comparing municipalities

with/without a politician murdered before/after a murder, thereby focusing on municipalities in Sicily, Calabria and Campania in the period 1985-2012.³ In our specification, we consider only electoral years since the political selection process works through elections. Yet, given the quasi-randomly distributed five-year electoral cycle across Italian municipalities (see above), each year in our sample has a substantial number of municipal elections taking place. The baseline specification is:

$$Y_{i,t} = \alpha_i + \beta_1 \text{AfterMurder}_{i,t} + \beta_2 \text{Year}_t + \beta_3 \text{Controls}_{i,t} + \varepsilon_{i,t} \quad (1)$$

Where i refers to municipality and t to year. Y measures local politicians' ability level via the average educational attainment among *first-time* elected politicians in municipality i at the end of a certain electoral year. Specifically, following De Paola and Scoppa (2010) and Daniele and Geys (2015), we measure education as the minimum number of years necessary to obtain a certain degree (i.e. no education = 0 years; primary education = 5 years; lower secondary = 8 years; higher secondary = 13 years; university or more = 18 years). The data on politicians' education are available on the website of the Italian Ministry of Interior.

Our main explanatory variable, *AfterMurder*, is an indicator variable set to one in municipalities hit by a murder only in the years after the murder (0 otherwise). Specifically, we focus on the next 10 years following a murder (i.e. the two following electoral rounds). To control for potential sources of heterogeneity across municipalities, we introduce municipality fixed effects (α_i). We also include year fixed effects (Year_t) to control for time varying changes common to all municipalities. Furthermore, we introduce municipality-level time-varying variables to control for important socio-economic changes over the period of our analysis: i.e. population size, unemployment rate and the share of citizens with a

³ The starting point of the dataset is determined by the availability of information on local politicians' socio-demographic characteristics. No such information is available prior to 1985. Note that this restricts the number of murders in our sample to 43 (the total number is 97, see Section 2.1).

university degree. As those variables are collected at the municipality level every ten years, we linearly interpolate them to obtain yearly observations (specifically, we use data from Italian census in 1981, 1991, 2001 and 2011). Finally, in some specifications, we furthermore introduce province-year fixed effects. This allows controlling for time-varying changes, which might take place at the provincial level. Standard errors are clustered at the municipality level (Bertrand et al., 2004).

3.2 Main results

Our main results regarding the impact of a political murder by criminal organizations on the average education level of first-time politicians elected *after* this murder took place are summarized in table 1. The top panel includes the entire sample. In the bottom panel, we again consider the entire sample, but now introduce separate indicator variables for elections taking place more or less than five years after a murder: i.e., *1_to_5_AftMurder* equals one only for the period within five years after the murder (0 otherwise), while *6_to_10_AftMurder* equals one only for the period longer than five years after the murder (0 otherwise). In most cases, there is only one election in these five year periods (since elections generally take place every five years). However, in some cases the early dissolution of the city council can lead to multiple elections in a five year period. In such cases, we include politicians elected for the first time during both these elections in our estimate sample. Columns 1 through 4 differ only in terms of the exact specification employed. In column 1, we exclude municipality-level time-varying controls as well as province-year fixed effects. Columns 2 and 3 include one of these sets of variables, while column (4) presents our most complete specification with municipality-level time-varying controls and province-year fixed effects. Finally, in column (5) of each panel, we replicate the model of column (4) including in the sample only municipalities where a murder took place. Although this drastically

reduces our sample, it represents a very strict test as the control group includes *only* municipalities where a murder will take place, at some point, in the future.

Table 1 about here

The specifications in table 1 confirm a statistically significant and substantively large drop in the average education level of first-time politicians after a mafia-related political murder. The estimated effect size in the first two panels ranges from one to one and a half years of lower education. This is approximately 10% of the average education level of first-time politicians (i.e. 12.95 years) and corresponds to 40%-50% of a standard deviation in these individuals' education levels. These findings provide strong evidence in favour of the idea that criminal organizations distort the political selection process by inducing the (s)election of lower-ability politicians (Dal Bó et al. 2006). Furthermore, the bottom panel of table 1 indicates that this effect tends to be fairly persistent. Although the estimated effects are naturally more pronounced in the first election after a murder, they remain statistically significant and relatively large also for first-time politicians elected during the second election after a murder.⁴ Finally, previous findings are in line with the results in column (5) when we restrict the sample to municipalities where a murder took place. In this case, the coefficient reaches a 10% significance level only in one case. However, this is likely due to the small sample size (i.e. less than 150 observations). Importantly the sign and the size of the coefficients are similar to the ones estimated on the entire sample.

⁴ To preserve space, we do not show the coefficients of the control variables. The only significant control variable turns out to be the level of education of the municipal population, which is positively associated with the average education of first-time politicians.

Clearly, it is important to verify at this point that the drop in first-time politicians' human capital *follows* a political murder rather than reflects an already declining trend in education levels in the affected municipalities. To test this, we check for the presence of a decreasing trend in first-time politicians' education levels *before* the political murder takes place. Specifically, table 2 replicates the estimation model presented in the top panel of table 1, except that we now focus on the period *before* the murder. That is, we introduce indicator variables equal to 1 only in the five years before a murder (*5_to_1_BefMurder*; 0 otherwise) or in the six to ten years before a murder (*10_to_6_BefMurder*; 0 otherwise). The former generally corresponds to the last election before the murder, while the latter looks one election further into the past. Absence of a declining trend in education levels prior to a mafia-related political murder would be reflected in an insignificant difference between the coefficient estimates of both variables.

Table 2 about here

The results from Table 2 are at odds with any decreasing trend in the education level of first-time elected politicians *before* the murder. In all estimations, the difference between the coefficients of *5_to_1_BefMurder* and *10_to_6_BefMurder* remains substantively very small and statistically insignificant (p-values below 0.10 in all cases). This indicates that the drop in education documented in table 1 takes place only *after* the murder of a politician and is not catching a decreasing trend that started *before* the murder occurred.

Another potential concern might arise because our analysis includes only first-time politicians, who obviously represent a subset of all elected politicians. It is important to observe, however, that in our Italian municipal setting such first-time politicians represent a

very significant share of the overall population. Indeed, in the average local election, 14% of all elected politicians are elected for the first time (see also Daniele and Geys 2015). Moreover, since the bottom panel of table 1 indicates a significant degree of persistence beyond the first election after a political murder, the group of affected first-time politicians will be even higher. Even so, one might wonder to what extent our results likewise arise when considering the average human capital of the entire group of elected politicians. Assuming that switching to another sector is costly once individuals have invested in a political career, politicians already in office at the time of the murder could be less affected by a change in political payoffs (see also note 2). To assess this, we replicate the analysis in the top panel of Table 1 using the average education level of *all* elected politicians (rather than first-time politicians) as the dependent variable.

Table 3 about here

The results in table 3 indicate that there is also a statistically significant drop in politicians' human capital after a mafia-related murder when looking at the full sample of politicians. Yet, the estimate effect size is substantially smaller compared to our earlier results for first-time politicians – approximately one third of the effect size observed in table 1. This clearly implies that the main effects observed in table 1 are mostly driven by first-time elected politicians. This is in line with the idea that a political murder has a stronger impact on the expected payoffs from political office among individuals who have not yet entered into politics (compared to those already in office).

3.3 Spillover Effects

So far, our interest has been limited to documenting political selection effects within the municipality where a mafia-related political murder occurred. Prospective politicians in these municipalities are clearly most directly affected by a political murder, and changes in individuals' expected payoffs from a political career will therefore be largest within the affected municipality. Nevertheless, since the average municipality in southern Italy is fairly small (i.e. less than 4000 inhabitants), travel distances are limited and the presence of criminal organizations is widespread across Southern Italian regions, we might expect the effects of a political murder to 'spill over' beyond the boundaries of the affected municipality. Citizens considering a political career might indeed take a political murder in neighbouring municipalities as a signal for the expected payoffs from politics also in their own municipality. In other words, they might infer from the occurrence of a local politician's murder nearby that such events may likewise occur with some positive probability in their own municipality.

To test this hypothesis, we again replicate the analysis in the top panel of table 1, but now focus on any effects of a political murder in neighbouring municipalities. The results are presented in table 4. The central variable of interest in the top panel (*After Murder Neighbour*) equals one for the period after a political murder occurring in a neighbouring municipality (0 otherwise). In the bottom panel, we simultaneously introduce *After Murder* and *After Murder Neighbour* in order to allow for a more direct comparison of their respective effects. Before turning to the results, it should be noted that, from a methodological perspective, the existence of any such spillover effects helps rule out concerns of potential endogeneity issues in our main analysis. The reason is that a political murder in a neighbouring municipality cannot possibly be ascribed to any event taking place within individuals' own municipality.

Table 4 about here

The results in the top panel of table 4 show that a political murder in a nearby municipality negatively affects the average education level of first-time politicians elected after this murder occurs. The drop is statistically significant at the 90% confidence level throughout all specifications, and the estimated effect size equals approximately five to six months of lower education (which is about 30% of the effect observed in a municipality hit by a political murder). The bottom panel of Table 4 confirms that, unsurprisingly, the spillover effect is substantively smaller than the main effect observed in a municipality where the murder occurs (note that the difference between the two coefficients is statistically significant at the 95% confidence level in all cases). Nonetheless, the existence of such spillover effect *per se* highlights that the detrimental effects of a political murder on political selection can spread across municipal borders. Hence, criminal organizations may distort the political selection process by inducing the (s)election of lower-ability politicians *both* within (table 1) *and* beyond (table 3) the jurisdiction of their actual activity.

3.3 Demand- vs. Supply-Side Effects

Our interpretation thus far effectively assumes that our findings are driven by a change in political selection: i.e. in the type of individuals entering in politics. We might call this the “supply side” of this market. However, changes might conceivably also take place on the “demand side”: i.e. in voters’ political preferences. For instance, a political murder may shift voters’ preferences towards more extremist parties, which might select less educated politicians. If so, this could represent an alternative explanation for the observed drop in first-time politicians’ human capital. We assess this possibility in two ways.

First, in table 5, we replicate the analysis using the probability of observing a certain political party in power. Specifically, the dependent variable in this case is an indicator variable equal to one if a certain political party is in power in a city i in year t (0 otherwise). We thereby consider four type of parties: civic lists, centrist parties, left-wing parties and right-wing parties. The results indicate that the coefficient of interest on *After Murder* is not statistically significant in any specification. Therefore, there does not appear to be any observable shift in voters' political preferences following a political murder within the municipality.

Tables 5 and 6 about here

Second, in table 6, we replicate the analysis in the top panel of Table 1 while directly controlling for the political colour of the winning party in the election. Specifically, we include a number of indicator variables equal to one when civic lists, left-wing parties or right-wing parties, respectively, are victorious in the election. The results indicate that when a right-wing party gains power, the average level of education of first-time politicians is slightly lower compared to the control group represented by municipalities ruled by a centrist party. Yet, this results is not robust over the various specifications. More importantly, however, inclusion of these additional control variables leaves the statistical significance and the size of the coefficient estimate for *After Murder* qualitatively unchanged.

4. Conclusion

A central question in terms of political (self-)selection relates to the incentives leading high ability individuals to enter – or abstain from entering – into politics. In this study, using data from Italian municipalities over the period 1985-2012, we empirically assess how changes in

individuals' non-monetary expected payoffs affect political (self-)selection. The identification of this effect exploits exogenous shocks in individuals' expected payoffs of entering politics due to murders of local politicians by criminal organizations in southern Italy.

Our results show that first-time elected politicians' ability (measured by their levels of education) is strongly (up to 50% of a standard deviation) reduced after a shock represented by the murder of a local politician by organised crime. This is in line with Dal Bó et al. (2006), as a murder of a local politician arguably might represent a sudden drop in politicians' expected payoffs, which, in turn, leads to relatively lower-ability individuals entering into politics. To strengthen our findings, we show that: i) the drop precisely follows a political murder and it is not catching up any pre-trend; ii) the results are not driven by a change in voters' behaviors as they do not change political preferences after the shock. Finally, we show that such detrimental effects spread to nearby municipalities where the education level of first-time elected politicians are significantly reduced.

Overall, our results can be read in a pessimistic light, as we show that the mafia has a meaningful negative impact on political selection which might spread in the surrounding geographical areas. However, in a recent study, Daniele and Geys (2015) show that law enforcement might be a useful tool to reduce organized crime's influence on political selection among Southern Italian municipalities. Specifically, following a law enforcement aimed at reducing the impact of criminal organizations on politics, the average education of the elected politicians substantially increase. Therefore, it appears that individuals, when deciding to enter in politics, take into account both negative *and* positive changes in their expected payoffs. This should motivate further studies exploring under which circumstances

political selection can be improved, as “no society can run effective public institutions while ignoring the quality of who is recruited to public office and what they stand for” (Besley, 2005, p. 58).

References

- Acemoglu, D., Robinson, J. A. and Santos, R. J. (2013), The monopoly of violence: evidence from Colombia. *Journal of the European Economic Association*, 11: 5-44.
- Baltrunaite, A., Bello, P., Casarico, A., Profeta, P. (2014). Gender quotas and the quality of politicians. *Journal of Public Economics*, 118, 62-74.
- Barone, G., Narciso, G. (2011). The effect of mafia on public transfers (No. tep2111). Trinity College Dublin, Department of Economics.
- Bertrand, M., Duflo, E., and Mullainathan, S. (2004). 'How much should we trust difference-in-differences estimates?', *Quarterly Journal of Economics*, vol. 119(1), pp. 249-75.
- Besley, T. (2005). Political selection. *The Journal of Economic Perspectives*, 19(3), 43-60.
- Besley, T. and Reynal-Querol, M. (2011). 'Do democracies select more educated leaders?', *American Political Science Review*, 105(3), 552-66.
- Besley, T., Montalvo, J., and Reynal-Querol, M. (2011). 'Do educated leaders matter?', *Economic Journal*, 121(554), 205-27.
- Daniele, G. and Geys, B. (2015). Organised Crime, Institutions and Political Quality: Empirical Evidence from Italian Municipalities. *Economic Journal*, Vol. 125, Issue 586, pp. F233-F255, 2015.
- Dal Bó, E., Dal Bó, P., and Di Tella, R. (2006). 'Plata o plomo?: Bribe and punishment in a theory of political influence', *American Political Science Review*, 100(1), 41-53.
- De Paola, M., and Scoppa, V. (2010). 'Political competition and politician quality: Evidence from Italian municipalities', *Public Choice*, 148(3-4), 547-559.
- Dickie, J. (2005). *Cosa Nostra: a history of the Sicilian Mafia*. Macmillan.
- Ferraz, C. and Finan (2008) Exposing corrupt politicians: The effect of Brazil's publicly released audits on electoral outcomes, *Quarterly Journal of Economics* 123(2): 703-745.
- Gagliarducci, S., and Nannicini, T. (2013). Do better paid politicians perform better? Disentangling incentives from selection. *Journal of the European Economic Association*, 11(2), 369-398.
- Galasso, V. and Nannicini, T. (2011). 'Competing on good politicians', *American Political Science Review*, 105(1), 79-99.
- Lo Moro D., Gualdani M., Zizza V. and Cirinnà M. (2015). Commissione Parlamentare d'inchiesta sul fenomeno delle intimidazioni nei confronti degli amministratori locali, Relazione Conclusiva. Senato della Repubblica Italiana.
- Martinez-Bravo, M. (2015). Educate to lead? The local political economy effects of school construction in Indonesia. CEMFI, mimeo.

Pinotti, P. (2015). The economic consequences of organized crime: Evidence from southern Italy. *Economic Journal*, Vol. 125, Issue 586, pp. F203-F232, 2015.

Sberna, S. (2011). 'Electoral competition and criminal violence in Italy (1983-2003)', paper presented at the ECPR Joint Session Conference Workshop on "Political Institutions and Conflict", Sankt Gallen, Switzerland.

Table 1: Effect of a political murder on first-time politicians' human capital

	(1)	(2)	(3)	(4)	(5)
<i>After Murder</i>	-1.158 (2.45)**	-1.198 (2.52)**	-1.426 (2.88)***	-1.476 (2.95)***	-1.925 (1.64)
<i>Municipality FE</i>	YES	YES	YES	YES	YES
<i>Year FE</i>	YES	YES	YES	YES	YES
<i>Controls</i>	NO	YES	NO	YES	YES
<i>Province-Year FE</i>	NO	NO	YES	YES	YES
<i>R²</i>	0.09	0.09	0.17	0.17	0.80
<i>N</i>	6,338	6,306	6,338	6,306	138
	(1)	(2)	(3)	(4)	
<i>1_to_5_AftMurder</i>	-1.389 (2.16)**	-1.431 (2.20)**	-1.577 (2.55)**	-1.627 (2.59)***	-2.051 (1.33)
<i>6_to_10_AftMurder</i>	-0.971 (1.74)*	-1.009 (1.81)*	-1.288 (2.04)**	-1.337 (2.12)**	-1.769 (1.73)*
<i>Municipality FE</i>	YES	YES	YES	YES	YES
<i>Year FE</i>	YES	YES	YES	YES	YES
<i>Controls</i>	NO	YES	NO	YES	YES
<i>Province-Year FE</i>	NO	NO	YES	YES	YES
<i>R²</i>	0.09	0.09	0.17	0.17	0.80
<i>N</i>	6,338	6,306	6,338	6,306	138

Note: The table shows the results from a difference-in-difference regression analysis using first-time elected politicians' years of education as dependent variable. *AfterMurder* equals one in municipalities where a politician is murder by organized crime in the period after the murder (=0 otherwise). *Controls* includes: *LogPop*, (the logarithm of the population), *Per_Degree* (the percentage of citizens with a university degree) and *Per_Unemployment* (the percentage of unemployed over the municipality population). *1_to_5_AftMurder* and *6_to_10_AftMurder* equal one in municipalities where a politician is murdered by organized crime in the years after the murder (=0 otherwise), respectively one to five years after the murder; five to ten years after the murder. T-statistics based on standard errors clustered at the municipality level in brackets. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table 2: Effect of a political murder on politicians' human capital: pre-trends

	(1)	(2)	(3)	(4)	
<i>5_to_1_BefMurder</i>	0.958 (2.02)**	0.950 (2.00)**	1.106 (2.18)**	1.103 (2.16)**	1.115 (0.85)
<i>10_to_6_BefMurder</i>	0.905 (0.84)	0.900 (0.84)	1.362 (1.17)	1.371 (1.19)	0.204 (0.14)
<i>Municipality FE</i>	YES	YES	YES	YES	YES
<i>Year FE</i>	YES	YES	YES	YES	YES
<i>Controls</i>	NO	YES	NO	YES	YES
<i>Province-Year FE</i>	NO	NO	YES	YES	YES
<i>R2</i>	0.09	0.09	0.17	0.17	0.80
<i>N</i>	6,338	6,306	6,338	6,306	138

Note: The table shows the results from a difference-in-difference regression analysis using first-time elected politicians' years of education as dependent variable. BefMurder1to5 and BefMurder5to10 equal one in municipalities where a politician is murdered by organized crime in the years before the murder (=0 otherwise), respectively one to five years before the murder; five to ten years before the murder. LogPop is the logarithm of the population, Per_Degree is the percentage of citizens with a university degree; Per_Unemployment is the percentage of unemployed over the municipality population. T-statistics based on standard errors clustered at the municipality level in brackets. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table 3 – Effect of a political murder on politicians' human capital (entire sample)

	(1)	(2)	(3)	(4)
<i>After Murder</i>	-0.439 (2.00)**	-0.436 (2.00)**	-0.504 (2.17)**	-0.494 (2.13)**
<i>Municipality FE</i>	YES	YES	YES	YES
<i>Year FE</i>	YES	YES	YES	YES
<i>Controls</i>	NO	YES	NO	YES
<i>Province-Year FE</i>	NO	NO	YES	YES
<i>R²</i>	0.09	0.09	0.17	0.17
<i>N</i>	6,292	6,260	6,292	6,260

Note: The table shows the results from a difference-in-difference regression analysis using politicians' years of education as dependent variable. *AfterMurder* equals one in municipalities where a politician is murdered by organized crime in the period after the murder (=0 otherwise). *Controls* includes: *LogPop*, (the logarithm of the population), *Per_Degree* (the percentage of citizens with a university degree) and *Per_Unemployment* (the percentage of unemployed over the municipality population). T-statistics based on standard errors clustered at the municipality level in brackets. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table 4: Effect of a political murder on first-time politicians in nearby municipalities

	(1)	(2)	(3)	(4)
<i>After Murder Neighbour</i>	-0.408 (1.71)*	-0.422 (1.76)*	-0.506 (1.88)*	-0.525 (1.92)*
<i>Municipality FE</i>	YES	YES	YES	YES
<i>Year FE</i>	YES	YES	YES	YES
<i>Controls</i>	NO	YES	NO	YES
<i>Province-Year FE</i>	NO	NO	YES	YES
<i>R²</i>	0.09	0.09	0.17	0.17
<i>N</i>	6,200	6,168	6,200	6,168
	(1)	(2)	(3)	(4)
<i>After Murder Neighbour</i>	-0.375 (1.60)	-0.390 (1.65)*	-0.460 (1.75)*	-0.478 (1.80)*
<i>After Murder</i>	-1.232 (2.24)**	-1.247 (2.26)**	-1.503 (2.58)**	-1.522 (2.59)***
<i>Municipality FE</i>	YES	YES	YES	YES
<i>Year FE</i>	YES	YES	YES	YES
<i>Controls</i>	NO	YES	NO	YES
<i>Province-Year FE</i>	NO	NO	YES	YES
<i>R²</i>	0.09	0.09	0.17	0.17
<i>N</i>	6,292	6,260	6,292	6,260

Note: The table shows the results from a difference-in-difference regression analysis using first-time elected politicians' years of education as dependent variable. *AfterMurder* equals one in municipalities where a politician is murdered by organized crime in the period after the murder (=0 otherwise). *AfterMurde Neighbour* equals one in the period after a political murder in municipalities neighbouring of the municipality where a political murder occurs (=0 otherwise). *Controls* includes: *LogPop*, (the logarithm of the population), *Per_Degree* (the percentage of citizens with a university degree) and *Per_Unemployment* (the percentage of unemployed over the municipality population). T-statistics based on standard errors clustered at the municipality level in brackets. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table 5: Effect of a political murder on parties' vote shares

	Civic	Left	Right	Centre
<i>After Murder</i>	-0.093 (1.22)	0.031 (0.42)	0.051 (1.11)	0.001 (0.02)
<i>Municipality FE</i>	YES	YES	YES	YES
<i>Year FE</i>	YES	YES	YES	YES
<i>Controls</i>	YES	YES	YES	YES
<i>Province-Year FE</i>	YES	YES	YES	YES
<i>R2</i>	0.48	0.20	0.22	0.37
<i>N</i>	6,876	6,876	6,876	6,876

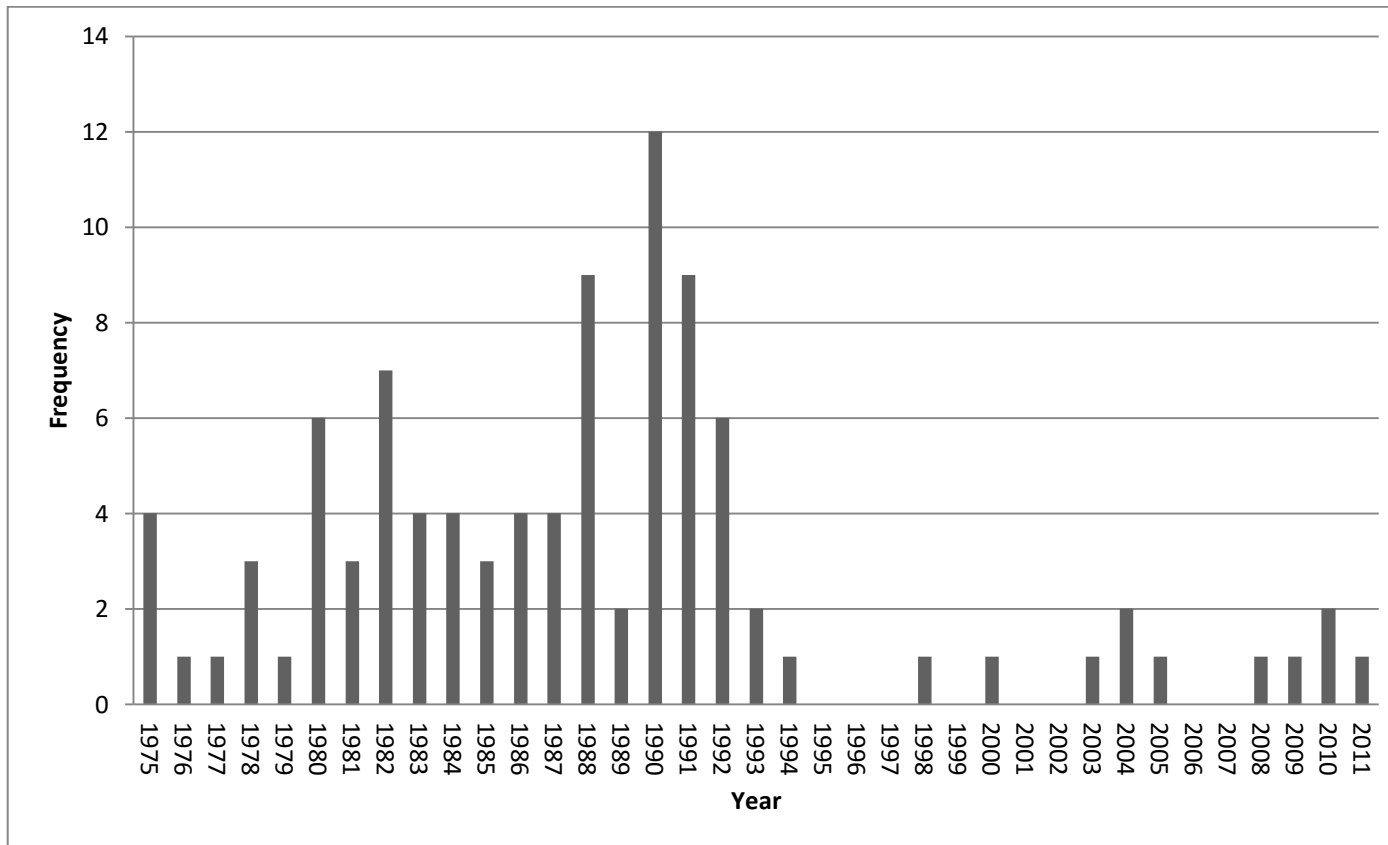
Note: The table shows the results from a difference-in-difference regression analysis using the political colour of the winning party at the municipal as dependent variable (i.e. Civic List, Left Party, Right Party and Centre Party). *AfterMurder* equals one in municipalities where a politician is murdered by organized crime in the five years after the murder (=0 otherwise). *Controls* includes: *LogPop*, (the logarithm of the population), *Per_Degree* (the percentage of citizens with a university degree) and *Per_Unemployment* (the percentage of unemployed over the municipality population). T-statistics based on standard errors clustered at the municipality level in brackets. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table 6: Effect of a political murder on politicians' human capital: Control for winning party

	(1)	(2)	(3)	(4)
<i>After Murder</i>	-1.137 (2.37)**	-1.176 (2.44)**	-1.415 (2.84)***	-1.465 (2.92)***
Civic	0.014 (0.11)	0.012 (0.10)	0.043 (0.31)	0.043 (0.31)
Left	0.035 (0.32)	0.031 (0.28)	0.065 (0.53)	0.058 (0.48)
Right	-0.241 (1.71)*	-0.241 (1.71)*	-0.176 (1.15)	-0.173 (1.13)
<i>Municipality FE</i>	YES	YES	YES	YES
<i>Year FE</i>	YES	YES	YES	YES
<i>Controls</i>	NO	YES	NO	YES
<i>Province-Year FE</i>	NO	NO	YES	YES
<i>R2</i>	0.09	0.09	0.17	0.17
<i>N</i>	6,292	6,260	6,292	6,260

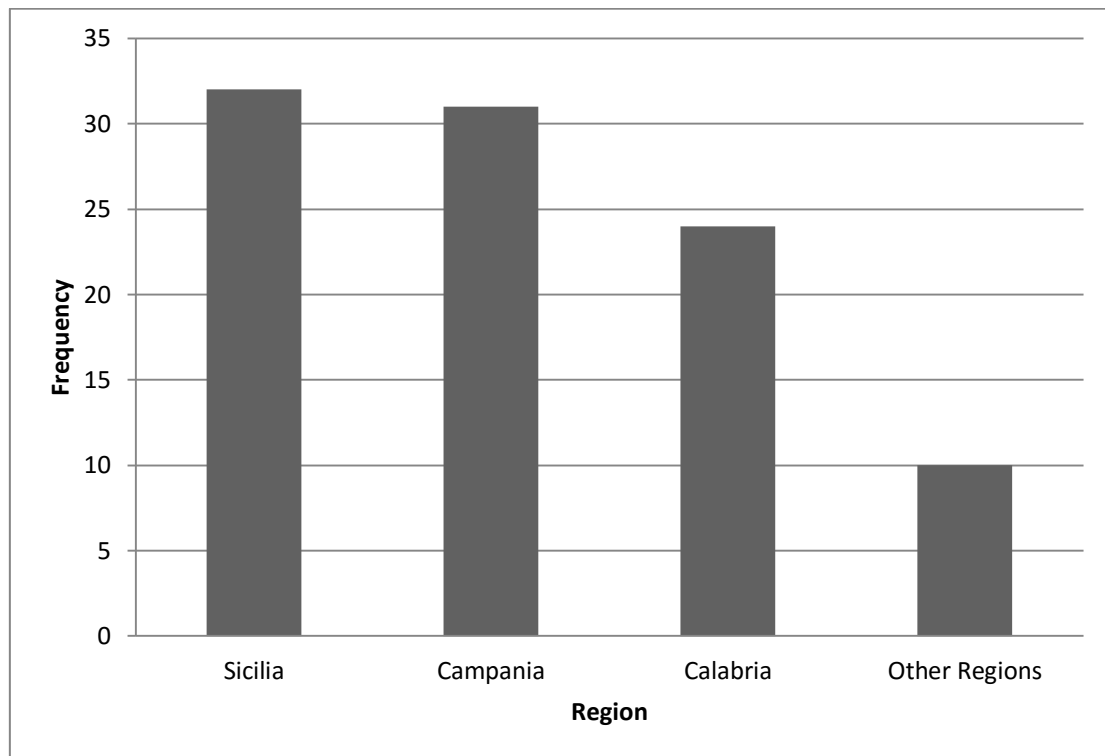
Note: The table shows the results from a difference-in-difference regression analysis using first-time elected politicians' years of education as dependent variable. *AfterMurder* equals one in municipalities where a politician is murdered by organized crime in the period after the murder (=0 otherwise). *Controls* includes: *LogPop*, (the logarithm of the population), *Per_Degree* (the percentage of citizens with a university degree) and *Per_Unemployment* (the percentage of unemployed over the municipality population). T-statistics based on standard errors clustered at the municipality level in brackets. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Figure 1- Politicians killed by organized crime over time



Note: The figure presents the number of local politicians killed by criminals in the period 1975-2011 on yearly basis.

Figure 2- Politicians killed by organized crime across regions



Note: The figure presents the number of local politicians killed by criminals in the period 1975-2011 across regions.

Appendix A: Summary Statistics

<i>Variable</i>	<i>Obs.</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
<i>Education First-Time Elected</i>	6345	12.9486	2.934142	0	18
<i>Education All Elected</i>	6906	13.11656	1.73788	5	18
<i>After Murder</i>	6966	0.009331	0.0961525	0	1
<i>After Murder Neighbour</i>	6967	0.1197072	0.3246421	0	1
<i>Log Population</i>	6924	8.197016	1.10859	5.473111	14.0081
<i>Percent_Degree</i>	6924	3.68683	2.876289	0	42.37724
<i>Percent_Unemployment</i>	6924	5.938084	3.075562	0.0761615	41.7949
<i>Civic List</i>	6919	0.3285157	0.4697074	0	1
<i>Left Party</i>	6919	0.2548056	0.4357834	0	1
<i>Right Party</i>	6919	0.087874	0.283132	0	1
<i>Centre Party</i>	6919	0.210146	0.4074416	0	1

2011

- 2011/1, Oppedisano, V.; Turati, G.: "What are the causes of educational inequalities and of their evolution over time in Europe? Evidence from PISA"
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2014

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